Annual Report

Department of Health Services
2077/78 (2020/21)

Government of Nepal
Ministry of Health and Population

Department of Health Services

Kathmandu

CONTENT

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MESSAGE

The Government of Nepal, Ministry of Health and Population is committed to deliver the highest possible quality of health care to all Nepalese. The ministry is determined to translate the aspirations of theConstitution of Nepal 2072, National Health Policy 2071 and the Fifteen Plan-Health and Nutrition 2019/20-2023/24, in achievingUniversal Health Coverage together with all stakeholders including private and public sector and external development partners. I am pleased to note that several outstanding achievements have been made in the heath sector in the past decade. The health outcomes achieved so far are the results of joint effort of the ministry and all health sector stakeholders.

I am pleased to know that Department of Health Services (DoHS) is bringing out the annual report of fiscal year 2077/78 (2020/2021), 27th report in its series. The annual report is a comprehensive document based on the annual performance of all components of the health care delivery system along with their reviews accomplished at the local, provincial and federal levels. It provides detailed and up to date information with regards to resources, services provided, analytical trends and disease patterns in the country. Data on disease conditions people are suffering from, service utilization and other data related to health care delivery services are very much important for planning purposes. Furthermore, as the country has been transformed from unitary system to federal system of governance; the information provided by the annual report would be very fruitful for each level during planning, implementation and evaluation of health-related activities.

I am hopeful that, this annual report of DoHS will be helpful for policy makers, managers, decision makers, evaluators, researcher and students. I hope this document will be very helpful for further improvement of health services in Nepal.

To conclude, I congratulate all involved in the preparation and publication of this annual report for their technical and financial assistant.

०७८/२/१६

Mr. Birodh Khatiwada
Minister

Hon. Birodh Khatiwada
Minister

भवानी प्रसाद खापुङ
Bhawani Prasad Khapung

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MESSAGE

In line with the article 35 of the Constitution of Nepal 2072, the Nepal Government is committed to provide health care services to its citizens residing all over the country. Universal Health Coverage is one of the priority agendas of the National Health Policy 2071 and the Fifteen Plan-Health and Nutrition 2019/20 – 2023/24. As a signatory to Sustainable Development Goals (SDG), Nepal is also committed to achieve the SDG targets. I am excited to persue the progress that has been achieved during fiscal year 2077/78; the current challenge is to sustain the progress in the days to come.

This annual report of Department of Health Services (DoHS) describes the activities that were conducted in fiscal year 2077/78 throughout the health system of the country. This is a result of the hard work of the entire team of DoHS. I would like to thank all the team members who are directly and indirectly involved during preparation and finalization of this report.

I am very happy and confident that this annual report of DoHS will be helpful for policy makers, public health professionals, researchers and students. This report will play an important role in policy formulation, planning and programming.

I express my sincere appreciation and thank to all health-related cadres; from FCHV level to the top-level policy makers who had tried their level best to improve the health of the Nepalese people. Again, I would like to thank all the key stakeholders including governmental and non-governmental sector for their valuable contribution to the health sector.

Finally, I would like to congratulate to all those who have contributed in the preparation and publication of this annual report.

Bhawani Prasad Khapung
Hon'ble State Minister
Ministry of Health and Population

Hon. Bhawani Prasad Khapung
State Minister

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PREFACE

It is my pleasure to release this annual report of the Department of Health Services (DoHS) for the fiscal year 2077/78 adding to the last 27 years of good practices. As the health sector is one of the priority sectors of government of Nepal. The ministry of health and population has initiated and implemented a number of programs making all possible efforts to ensure prompt and effective health services delivery. This report presents an overall health sectors scenario and I am very much delighted to know that major indicators of the health sector are progressing in the right direction, that is, towards the achievement of the targets of Sustainable Development Goals.

Nepal has been transformed into a federal state from a previous unitary system resulting in federal, provincial and local levels of governance. The health system has also been restructured in line with the federal structure. At this stage in the health sector there are challenges as well as opportunities for uplifting the health status of the Nepali people. I am sure that the data presented in this annual report would play an important role in planning and implementing evidence-based program in the changed context.

The health sector status presented by the report would not have been possible if the lowest level of health cadres, FCHVs to the high-level policy makers had not performed their tasks with their complete dedication and sincerity. I would like to thank more than 52,000 FCHVs, health professionals at the local level, provincial level and federal level for their untiring efforts to bring improvements in the health status of the Nepali people.

Strong collaboration between governmental and non-governmental sectors has played an instrumental role in achieving success in health in the past years. I hope this collaboration continues and the bond will get further stronger establishing better synergy with all stakeholders. The Ministry of Health and Population is committed to develop necessary policies strategies and guidelines to boost this coordination in the days to come.

Finally, I would like to extend my sincere thanks and congratulations to Dr.Dipendra Raman Singh, Director General of DoHS and the in-house team of colleagues to produce this report for their commendable work. I would also like to extend my sincere gratitude to all the stakeholders and development partners for their valuable contributions to the health sector. I hope this annual report will be a valuable resource for all the stakeholders to design and implement evidence-based programs on the sector.

Dev Kumari Guragain
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PREFACE

It is a matter of great pleasure for me to have annual report of the department of Health services for the year 2077/78 (2020/2021) at anticipated time. The report is being published regularly since last twenty-seven years. It is a comprehensive report covering all major activities and achievements of department of health services along with other departments under ministry of health and population. It also includes the contributions of external development partners, non-governmental organizations and private sectors.

This report is the official record of the provided services and the achievements accomplished within the last year in the health sectors. This report provides information as per the federal structure of the country. The information included in this report will thus be instrumental for newly formed provincial and local level governments to understand the issues in the health sector and to plan for providing high quality services to their constituents in the coming year. For researcher, academics and students, I hope that this report provides an opportunity to learn and innovate new approaches to improving the quality of health services in Nepal. This report serves as commendable tool to decide on replicating the good assets on the program and also learn lessons from less successful one. I appreciate the hard work done by department of health services and provincial health directors, health offices, hospitals and all health personnel including Female Community Health Volunteers(FCHVs) working at various level of health systems for achieving these outcomes. Without their effort, the achievement that we have accomplished today would not be possible; they deserve heartfelt thanks for improving health status of the Nepalese citizens.

Finally, I extend my sincere thanks and congratulations to the Dr. Dipendra Raman Singh, Director General of Department of Health Services, Director of Management Division and his team, especially IHIMS section team and all Directors of divisions, centres and other concerned personnel who contributed to this report.

Dr. Roshan Pokhrel
Secretary
Ministry of Health and Population

Jestha, 2079

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FOREWORD

This is the uninterrupted 27th series of Annual Reports published by the Department of Health Services, Ministry of Health and Population. This annual report is one of the outcomes of the annual performance review workshops conducted at various levels. It reflects the performances of all major programs and activities implemented by various health institutions at all levels from community to the centre. This report covers major health issues, challenges and ways forward to improve the health service delivery.

The facts and figures presented in the report are based on the information generated through Health Management Information system (HMIS) and other sources in the health sector. This report provides comprehensive information regarding health policies, strategies, planned and activities, service coverage and achievements made in the last three to five fiscal years, as well as program issues that emerged during the fiscal year 2077/78. This report also covers progress of activities carried out by other departments under the MoHP and External Development Partners during the reference years.

This annual report contains provincial as well as local level information. There is always a room for improvement in the overall quality of routine HMIS data and other data sources included in this report, which we aspire to improve in the days to come. The facts provided in this report will act as the basis for planning health care service delivery for citizens of Nepal in the coming year. Furthermore, based on lesion learnt we will also focus on routine and regular use of data generated at each level in the upcoming year.

I am pleased to state that most of the activities planned by different Divisions/Centres have been carried out successfully. This achievement would not have been possible without the commitment and dedication of the staff of the DoHS working in difficult remote areas. However, more collaborative efforts are required to deliver quality health care services to meet the aspiration of the people as envisaged by the National Health Policy 2076 and the Fifteen Plan- Health Nutrition, fiscal year 2019/20 – 2023/24.

I would like to extend my sincere appreciation to all Female Community Health Volunteers, all categories of health workers working in the health facilities for their untiring efforts in providing health services at the community level. I would also like to thank the Directors of Divisions and Centres, Provincial Health Directors, Chief of Sections, the Municipal health team for their meticulous support to implement the health programs. My appreciation also goes to all the EDPs, INGOs, NGOs, and private health sector for contributing significantly to improve the health status of the people in all corners of the country.

In the end, I wish to place on record my appreciation and also grateful to all the officials of the DoHS for their support and coordination. Finally, I would like to extend my appreciation to the Dr Rudra Prasad Marasini, Director of Management Division and in particular the staff of the Integrated Health Information Management Section (IHIMS) for their meticulous effort to bring out this annual report.

DRSingh

Dr Dipendra Raman Singh
Director General
Department of Health Services, MoHP

Baishak, 2079

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ACKNOWLEDGEMENT

It is my great pleasure to bring forth coming of the 27th Annual Report of the Department of Health Services (DoHS) for the fiscal year 2077/78 (2020/21). This report is also a reflection of annual performance of all components of the health care delivery system along with their reviews conducted at various levels of health service delivery. It is a compilation of major activities carried out by the health institutions at all levels. The data presented in this report is based on the information submitted by the institutions to the Health Management Information System (HMIS) and other sources.

The report includes information about health care services and activities of public and private institutions providing health care to the Nepalese people. It also highlights the trend and patterns in service coverage and continuum of care. Furthermore, it also informs us about the program target and achievement with respect to budget allocation and expenditure. The report not only identifies pertinent issues, problems and constraints but also suggests actions to be taken to address these issues in order to improve the services in the days to come. This imperative publication provides detailed statistical analysis of health program target verses achievement and indicators. DoHS has published excel sheet of raw and analysed data in the webpage of DoHS, so that it can be used by the researchers and program managers effectively.

I express my sincere gratitude to the Hon'ble Minister of Health and Population Mr. Birodh Khatiwada for praiseworthy message. Furthermore, I would like to thank Hon'ble State Minister of Health and Population Mr. Bhawani Prasad Khapung for commendable messages and direction. I am also thankful to the Secretary of Ministry of Health and Population Dev Kumari Guragain and Dr. Roshan Pokhrel for his leadership of the overall health sector and providing a meaningful preface for the report. Similarly, I express my sincere gratitude towards Dr. Dipendra Raman Singh, Director General, DoHS for his leadership, future directions and thoughtful guidance.

I would like to thank the Mr. Anil Thapa, Director (Stat) of the Integrated Health Information Management Section (IHIMS) and his team members for their contribution in preparation and publication of this report. I also take this opportunity to offer my sincere appreciation to EDPs, INGOs and NGOs who have joined us in service delivery programs and submitting their brief annual activity progress report.

To conclude, I fully believe that our stronger focus on making health service information available in public domain and it appreciate use helps us to make our health system more transparent and accountable with this gratefulness. I sincerely hope that this report will be of use in strengthening the health services in Nepal. I also hope that this report will provide valid information to all those, who work for enriching the health status of all citizens, particularly the poor and vulnerable group of the Nepali society.

We welcome your suggestions on how we can further improve in the next fiscal year's annual report.

Dr. Rudra Prasad Marasini
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Baishak, 2079

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ACKNOWLEDGEMENT

It is a matter of great pleasure to present the Annual Report of the Department of Health Services (DoHS) for the fiscal year 2077/78 (2020/2021). The report is being published regularly since the last 27 years. It is a comprehensive report covering all major activities and achievements of the DoHS along with other departments under the Ministry of Health and Population (MoHP). It also includes the contributions of external development partners, non-governmental organizations and private sectors.

This report is the official record of the services provided and the achievements made within the last year in the health sector. This report provides information as per the federal structure of the country. The information included in this report will thus be instrumental for provincial and local level governments to understand the issues in the health sector and to plan for provision of high-quality services to their constituents in the coming year. This annual report will be immense help to planners, managers, researchers, academics, service provider and students, I hope that this report provides an opportunity to learn and innovate new approaches to improve the quality of health services in Nepal. This report can also serve as a tool to assess the areas where we were successful, so that interventions can be replicated and scaled up.

I express my sincere gratitude to the Hon'ble Minister of Health and Population Mr. Birodha Khatiwada and Hon'ble State Minister of Health and Population Mr. Bhawani Prasad Khapung for their commendable messages. I am also thankful to the Secretary of Ministry of Health and Population Dev Kumari Guragain and Dr Roshan Pokhrel for providing a meaningful preface for the report. Similarly, I express my sincere gratitude towards Dr. Dipendra Raman Singh, Director General and Dr. Rudra Prasad Marasini, Director of Management Division of DoHS for his leadership, future directions and thoughtful guidance for the preparation of report.

I also extend my thanks to the Directors of the different divisions, centres and section Chiefs for providing analytical reports. My colleagues working in the Integrated Health Information Management Section's Mr. Puspa Lal Shrestha, Mr Diwakar Sapkota, Mr. Shiva Lal Sharma, Mr. Sushil Prasad Nepal, Mr Puskar Bijukshe, Mr. Chandra Bahadur Sunar, Mr. Chhedi Prasad Yadav, Mr. Sameer Kumar Adhikari, Mrs. Nabina Pradhananga, Mr Siddhartha Dhungana, and Er. Pritesh Singh deserve special appreciation for their meticulous and hard work in bringing out this report. I feel indebted to all those who worked restlessly for recording, reporting, compiling, processing and analysing progress reports timely, without which this report publication would not have been possible.

I look forward to receive valuable suggestions for further perfection in the coming year's annual report.

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Baishak, 2079

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ABBREVIATIONS AND ACRONYMS

ACMD	Advance Course on Management and Development
AEFI	Adverse event following immunization
AES	Acute encephalitis syndrome
AFP	Acute flaccid paralysis
AFR	Adolescent Fertility Rate
AFS	Adolescent-friendly services
AGE	Acute gastroenteritis
AIDS	Acquired immune-deficiency syndrome
AMR	Antimicrobial resistance
ANC	Antenatal care
APD	Acid Peptic Disease
API	Annual parasite incidence
ARI	Acute respiratory infection
ART	Antiretroviral therapy
ARV	Anti rabies vaccine
ARV	Anti-rabies vaccine and antiretroviral
ASBA	Advanced skilled birth attendant
ASCEND	Accelerating the Sustainable Control and Elimination of Neglected Tropical Diseases
ASRH	Adolescent sexual and reproductive health
ASVS	Anti snake venom serum
BCC	Behaviour change communication
BCG	Bacillus Calmette–Guérin
BD	Brought Dead
BMEAT	Biomedical equipment assistant training
BMET	Biomedical equipment training
bOPV	Bivalent oral polio vaccine
BTSC	Blood transfusion service centre
CBO	Community-based organisation
CCA	Critical capacity analysis
CCE	Comprehensive centres of excellence
CDD	Control of diarrheal disease
CEONC	Comprehensive emergency obstetric and neonatal care
CHX	Chlorhexidine
CITC	Client-Initiated Testing and Counselling
CME	Complete Medical Education
cMYPI	Comprehensive Multi-year Plan for Immunization
cMYPoA	Comprehensive multi-year plan of action
CNR	Case notification rate
CoFP	Comprehensive family planning
CPA	Critical path analysis
CPD	Continuous Professional Development
CPR	Contraceptive prevalence rate
CRS	Congenital rubella syndrome
CSDS	Climate-sensitive disease surveillance
CTEVT	Council for technical education and vocational training
CTS	Clinical Training Skills
DALYs	Disability Adjusted life years
DAMA	Discharged against medical advice
DBMEE	Diploma in Biomedical Equipment Engineering
DBN	Drug Bulletin of Nepal
DHF	Dengue haemorrhagic fever
DHIS	District health information system
DLR	Disbursement Linked Results
DOPR	Discharge on Patient Request
DOTS	Directly observed treatment short course
DPT	Diphtheria, Pertussis, Tetanus
DQSA	Data quality self-assessment
DSS	Dengue shock syndrome
ECCT	Essential Critical Care Training
EHC	Extended hospital services
EHCS	Essential health care services
EHR	Electronic hospital records
EID	Early infant diagnosis
EmOC	Emergency obstetric care
EMT	Emergency Medical Technician
EOC	Essential obstetric care
ERB	Ethical Review Board
EPI	Expanded programme on immunization
EQA	External quality assurance
ES	Environmental Surveillance
EVM	Effective Vaccine Management
eVT	Elimination of Vertical Transmission
EWARS	Early warning and reporting system
FCDO	Foreign Commonwealth Development Office
FCHV	Female community health volunteer
fIPV	Fractional Dose Inactivated polio vaccine
FND	Foreign national doctor
FNG	Fill the Nutrient Gap
FSW	Female sex worker
G2D	Grade 2 disability
GBD	Global burden of disease
GGBV	Geriatric and gender based violence
GGBVMS	Geriatric and Gender Based Violence Management Section
GIS	Geographic information system
GISRS	Global Influenza Surveillance and Response System
GIZ	Gesellschaft für Internationale Zusammenarbeit
GMP	Good manufacturing practice
GPELF	Global Programme to Eliminate LF
HCAI	Health Care Associated Infection
HEOC	Health emergency operation centres
HFOMC	Health facility operation and management committee
HIB	Health insurance board
HIP	Health insurance program
HIV	Human immunodeficiency virus
HLC	High Level Committee
HMC	Hospital management committee
HMSP	Hospital management strengthening program
HMT	Hospital Management Training
H-NAP	Health national adaptation plan
HNCU	Special new-born care unit
HO	Health Office
HPV	Human Papilloma Virus Vaccine

HTS	HIV Testing Services
ICD	International classification of diseases
ICT	Immune Chromatographic Test
ICT	Information communication technology
ICU	Intensive Care Unit
IDA	Iron deficiency anaemia
IDD	Iodine deficiency disorder
IEC	Information, education and communication
IFA	Supplementary iron folic acid
IMAM	Integrated management of acute malnutrition
IMCI	Integrated management of childhood illness programme
IMIS	Insurance management information system
IMNCI	Integrated management of neonatal and childhood illness
INF	international Nepal Fellowship
IPV	Inactivated polio vaccine
IRC	Institutional Review Committee
IRS	Indoor residual spraying
ISMAC	Iodized salt social marketing campaign
IUCD	Intrauterine contraceptive device
IVM	Integrated Vector Management
JE	Japanese encephalitis
JFA	Joint Financial Agreement
KA	Kala Azar
LAMA	Left against medical advice
L-AmB	Liposomal Amphotericin B
LAPM	Long acting and permanent methods
LARC	Long acting reversible contraceptive
LIS	Laboratory Information System
LLIN	Long lasting insecticidal (bed) nets
LMN	Leprosy Mission Nepal
LNOB	Leave no one behind
lRP	Learning Resource Package
LTF	Lost to follow-up
LWG	Logistics Working Group
MA	Medical abortion
MAM	Management of acute malnutrition
MB	Multibacillary leprosy
MCH	Maternal and child health
mCPR	Modern contraceptive prevalence rate
MCV	Measles-containing vaccine
MDA	Mass drug administration
MDG	Millennium development goal
MDGP	Doctor of medicine in general practice
MDIS	Malaria disease information system
MDR	Multi-drug resistant
MDT	Multi-drug therapy
MDVP	Multi-dose vaccine vials
MELESON	Medico-legal Society of Nepal
MIYCN	Maternal infant and young children nutrition programme
MLM	Male Labor Migrants
MMDP	Morbidity Management and Disability Prevention
MNCH	Maternal newborn and child health
MNH	Maternal and newborn health
MNP	Micro-nutrient powder
MPDSR	Maternal prenatal death surveillance and response
MR	Measles/rubella
MSAP	Multi-sector Action Plan
MSM	Men who have sex with men
MSNP	Multi-sector nutrition plan
MSS	Minimum Service Standards
MVA	Manual vacuum aspiration
NAHD	National adolescent health and development (strategy)
NBBT	National Bureau for Blood Transfusion
NBoD	Nepal burden of disease
NBP	National Blood Program
NCD	Non-communicable disease
NCDR	New case detection rate
NCP	Integrated management of newborn care programme
NDHS	Nepal demographic and health survey
NDVP	National Deployment and Vaccination Plan
NELRA	Nepal Leprosy Relief Association
NEQAS	National external quality assurance scheme
NHCP	National health communication policy
NICU	Newborn intensive care unit
NMNR	Non-Measles Non-Rubella
NNT	Neonatal tetanus
NTD	Neglected Tropical Disease
OPD	Outpatient
OPV	Oral polio vaccine
ORS	Oral rehydration solution
OTTM	Operation theatre technique and management
PB	Paucibacillary leprosy
PBC	Pulmonary bacteriological confirmed
PCD	Pulmonary clinically diagnosed
PCR	Polymerase chain reaction
PCV	Pneumococcal conjugate vaccine
PDR	Prenatal death review
PEC	Primary Emergency Care
PECC	Paediatric Essential Critical Care
PEM	Protein energy malnutrition
PEN	Package of essential non-communicable disease
Pf	*Plasmodiumfalciparum*
PHEIC	Public health emergencies of international concern
PKDL	Post-Kala-azar Dermal Leishmaniasis
PLHIV	People living with HIV
PMTCT	Prevention of mother to child transmission
PNC	Postnatal care
PNL	Partnership for New Life
POP	Pelvic organ prolapsed
PPH	Postpartum haemorrhage
PSBI	Possible severe bacterial infection
PUO	Pyrexia of unknown origin
Pv	Plasmodium vivax
PWID	People who inject drugs
QI	Quality improvement
RDT	Rapid diagnostic tests

RMNCAH	Reproductive Maternal, Child, Neonate and Adolescent Health
RRL	Regional Reference Lab
RTI	Reproductive tract infection
SARC	Short acting reversible contraceptive
SARI	Severe acute respiratory infection
SAS	Safe Abortion Services
SEIA	Social and environmental impact assessment
SHSDC	Social health security development committee
SIMH	Special Initiative for Mental Health
SNCU	Special Newborn Care Unit
SRH	Sexual and reproductive health
SS+	Smear positive
STI	Sexually transmitted infections
STP	Standard Treatment Protocol
SUN	Scaling-up-nutrition
SWAP	Sector wide approach
TABUCS	Transaction accounting and budget control system
TAS	Transmission assessment survey
TCV	Typhoid Conjugated Vaccine
Td	Tetanus and diphtheria
TT	Tetanus toxoid
TTI	Transfusion transmissible infection
UHC	Universal health coverage
UMN	United Mission to Nepal
UTRI	Upper Respiratory Tract Infection
VA	Verbal autopsy and visual acuity
VAD	Vitamin A deficiency
VBDs	Vector borne diseases
VDP	Vaccine derived poliovirus
VPD	Vaccine-preventable disease
VSC	Voluntary surgical contraception
WARUN	Walter Reed/AFRIMS Research Unit
WASH	Water, sanitation and hygiene
WHA	World Health Assembly
WI-HER	Women Influencing Health, Education, and Rule of Law
WPV	Wild poliovirus
WRA	Women of reproductive age
WVI	World Vision International
YLDs	Years lived with disabilities
YLLs	Years of life lots

Department of Health Services

Trend of Health Service Coverage Fact Sheet

Fiscal year 2075/76 -2077/78 (2018/19 – 2020/21)

Programme Indicators	National			FY 2077/78 (2020/21) by Province							National Target*	
	2075/76 (2018/19)	2076/77 (2019/20)	2077/78 (2020/21)	Pradesh 1	Madhesh Pradesh	Bagmati	Gandaki	Lumbini	Karnali	Sudur Paschim	2020	2030
NUMBER OF HEALTH FACILITIES												
Public hospitals	125	134	201	31	16	63	19	30	27	15		
PHCCs	196	194	189	39	33	36	25	28	12	16		
HPs	3806	3767	3794	639	743	638	486	569	342	377		
Non-public facilities	2168	2277	2082	141	172	1406	96	168	57	42		
HEALTH FACILITIES & FCHVs REPORTING STATUS (%)												
Public facilities:												
Public hospitals	88	82	80	78	96	57	98	87	96	99	100	100
PHCCs	99	100	100	100	100	100	100	99	100	100	100	100
HPs	99	100	100	100	100	100	100	100	100	100	100	100
Non-public facilities:												
FCHVs	95	90	90	93	98	64	96	100	100	99	100	100
IMMUNIZATION PROGRAMME (%)												
BCG coverage	91	86	91	79	118	78	63	94	107	90		
DPT-HepB-Hib3 coverage	86	78	87	79	108	71	72	94	101	89	90	>95%
MR2 coverage (12-23 months)	73	71	81	74	83	63	80	94	92	85		
Fully Immunized children*	68	65	78	87	89	57	67	83	89	79	90	95
Dropout rate DPT-Hep B-Hib 1 vs 3 coverage	4.3	8.9	1.0	-1.1	6.5	-2.1	-5.1	-0.7	2.7	0.2	< 10 %	< 5 %
Pregnant women who received TD2 and TD2+	64	59	60	49	81	42	41	68	73	70		
NUTRITION PROGRAMME (%)												
Children aged 0-11 months registered for growth monitoring	84	77	84	``74	90	71	79	90	118	92	100	100
Underweight children among new GM visits (0-11month)	3.0	2.5	2.5	1.1	4.4	1.8	0.7	2.6	3.0	2.2		
Children aged 12-23 months registered for growth monitoring	58	54	61	50	70	48	70	63	82	62	100	100
Underweight children among new GM visits (12-23month)	4.5	3.4	3.4	1.4	6.5	1.5	0.9	3.1	4.5	3.8		
Pregnant women who received 180 tablets of Iron	51	44	45	35	44	28	45	55	74	64		
Postpartum mothers who received vitamin A supplements	65	57	61	48	83	38	40	64	93	80		
INTEGRATED MANAGEMENT OF NEONATAL & CHILDHOOD ILLNESS (IMNCI) PROGRAMME STATUS												
Incidence of pneumonia among children U5 years (per 1000) (HF and PHC/ORC only)	50	43	27	32	23	18	17	22	66	35		

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% of children U5 years with Pneumonia treated with antibiotics (HF and PHC/ORC only)	136	156	150	170	206	149	133	122	102	132		
% of children U5 years with Pneumonia treated with antibiotics (Amoxicillin)	117	115	117	124	142	126	110	106	93	102	100	100
Incidence of diarrhea per 1,000 under five years children	375	350	339	298	339	213	235	356	653	547		
% of children under 5 with diarrhea treated with ORS and zinc	95	95	96	92	97	94	102	97	96	97	100	100
SAFE MOTHERHOOD PROGRAMME STATUS (%)												
Pregnant women who attended first ANC visit (any time)	110	107	101	102	120	91	75	98	125	98		
Pregnant women who attended four ANC visits as per protocol	56	53	70	67	66	64	53	75	91	81	70	90
Institutional deliveries *	63	66	65	60	54	62	42	80	87	83	70	90
Deliveries conducted by skilled birth attendant*	60	62	61	58	50	60	41	77	70	72	70	90
Mothers who had three PNC check-ups as per protocol*	16	19	25	22	15	22	20	29	40	46	50	90
FAMILY PLANNING PROGRAMME STATUS (%)												
Contraceptive prevalence rate (CPR-unadjusted)*	40	37	39	41	44	35	34	40	37	41	56	60
CPR (Spacing methods)	19	18	11	10	8	8	10	15	19	17		
FEMALE COMMUNITY HEALTH VOLUNTEERS PROGRAMME (FCHVs) STATUS												
Number of FCHVs	51420	49481	49605	8401	7426	8622	5795	9120	4243	5998		
% of mothers' group meeting held	9581	81	89	88	93	86	81	86	94	99	100	100
COVID-19 OUTBREAK STATUS (date from 21 Magh 2076 to 31 Ashar 2077)												
Total COVID cases		17177	645393	77526	39669	337463	56010	84718	17882	32125		
Total Recovered cases		11025	615443	71465	39337	322549	51536	81240	16511	32805		
Total Death cases		39	9424	1276	732	4030	986	1558	406	435		
Total RT-PCR Lab-test		298829	3147757	350321	146023	1878850	198853	322675	96681	164354		
Total Isolation cases		6113	26639	4825	1499	11350	3856	2571	1285	1253		
People in Quarantine		24527	292									
Case Recovery Rate (CRR)		64.2	95.4	92.2	99.2	95.6	92.0	95.9	92.3	100.0		
Case Fatality Rate (CFR)		0.23	1.5	1.6	1.8	1.2	1.8	1.8	2.3	1.4		

Programme Indicators	National			FY 2077/78 (2020/21) by Province							National Target*	
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MALARIA AND KALA-AZAR PROGRAMME												
Annual blood slide examination rate per 100	1.6	2.1	1.3	1.6	1.1	0.7	0.4	2.7	0.5	1.5		
Annual parasite incidence (API) per 1,000 pop risk	0.09	0.05	0.03	0.00	0.01	0.01	0.01	0.04	0.02	0.08		
% of PF among Malaria Positive case	5.4	9.1	13.5	0	27.3	70.0	25.0	31.0	10.0	4.5		
Number of new Kala-azar cases	216	186	212	59	50	8	13	6	21	55		
TUBERCULOSIS PROGRAMME												
Case notification rate (all forms of TB)/100,000 pop.	109	93	95	72	105	103	74	115	65	96	NA	NA
Treatment success rate	91	89	91	90	93	92	91	90	93	89	>90	>90
LEPROSY PROGRAMME												
New case detection rate (NCDR) per 100,000 pop	11	6.2	7.2	7.8	11.8	1.7	4.2	10.8	3.7	7.0	10	7
Prevalence rate (PR) per 10,000 pop	0-9	0.7	0.7	0.7	1.1	0.4	0.4	1.0	0.4	0.8	0.1	0.4
HIV/AIDS and STI PROGRAMME												
Number of new positive cases	2298	2416	2944	254	475	1211	222	473	30	279		
HIV incidence rate	0.03	0.03	0.03								0.03	
Adult HIV prevalence	0.15	0.13	0.12								0.030	0.029
% of TB patients had HIV test result	**69**	51	72	58	56	91	84	74	60	72	100	
CURATIVE SERVICES												
% of population utilizing outpatient (OPD) services	78	84	77	80	61	70	97	82	103	81		
% of Emergency attendances at hospitals	7.2	8.0	6.9	7	3	12.5	8	6.4	3.2	5.1		
% of population utilizing inpatients services at hospitals	4.5	4.5	3.8	5.1	1.6	6	3.9	3.9	2.4	1.9		
% of inpatients who referred in	4.8	5.6	8.1	14.2	6.4	3.5	1.1	15.5	3.1	5.7		
% of inpatients who referred out	3.9	1.3	1.9	1.8	2.0	1.1	2.2	2.8	3.0	3.1		
Bed occupancy rate	51	41	35	36	14	36	33	46	36	23		
Average length of stay at hospital	4	3	3	3	1	4	4	4	3	2		
Note: *NHSS RF and/or SDG indicators												

Source: HMIS/DoHS

Executive Summary

Introduction

The annual report of the Department of Health Services (DoHS) for fiscal year 2077/78 (2020/2021) is the twenty-seven consecutive report of its kind. This report focuses on the objectives, targets and strategies adopted by Nepal's health programs and analyses their major achievements and highlights trends in service coverage over three fiscal years. This report also identifies issues, problems and constraints and suggests actions to be taken by health institutions for further improvements.

The main institutions that delivered basic health services in 2077/78 were the 201 public hospitals including other ministries, the 2,082 non-public health facilities, the 189Primary Health Care Centers (PHCCs) and the 3,794 Health Posts (HPs) primary health care services were also provided by 11,699 Primary Health Care Outreach Clinic (PHCORC) sites. A total of 16,950 Expanded Program of Immunization (EPI) clinics provided immunization services. These services were supported by 49,605 Female Community Health Volunteers (FCHV). The information on the achievements of the public health system, NGOs, INGOs and private health facilities were collected by DoHS's Health Management Information System (HMIS).

Progress of other departments under MoHP:

Department of Drug Administration (DoA)

Government of Nepal has promulgated the Drug Act 1978, to prohibit the misuse or abuse of medicines and allied pharmaceutical materials as well as the false or misleading information relating to efficacy and use of medicines and to regulate and control the production, marketing, distribution, export-import, storage and utilization of those medicines which are not safe for the use of the people, efficacious and of standard quality. To implement and fulfill the aim of Drug Act 1978 and various regulations under it, Government of Nepal established Department of Drug Administration (DDA) in 1979.

In accordance with the objectives of the National Health Policy 1991, the National Drug Policy 1995 has been formulated and implemented. It focuses on establishing co-ordination among government, non-government and private organizations involved in the activities related to medicine production, import, export, storage, supply, sales, distribution, quality assessment, regulatory control, rational use and information flow. Achieving the aims and objectives of National Drug Policy is another important area for DDA.

Department of Ayurveda and Alternative Medicine (DoAA)

Department of Ayurveda and Alternative Medicine (DoAA) primarily manages the delivery of Ayurveda & Alternative Medicine Services and promotes healthy lifestyles through its network facilities all across the country. The Department of Ayurveda & Alternative Medicine, one of the three departments of the Ministry of Health& Population (MoHP), is responsible for programming, management of information, and supervision, monitoring and evaluation of the Ayurveda Service programs.

Fifteen Five Year Plan of government of Nepal (2019/20-2023/24) has guided planned development & expansion of Ayurveda, Naturopathy, Homeopathy & other alternative medicines. More specifically, it says: 1) Structural development suitable for identification, prevention, collection & promotion of locally available medicinal herbs, minerals & animal origin medicines. 2) Management & regulation of other alternative medicines based on standards & norms. 3) Establishment of Ayurveda, Yoga & Naturopathy Center and utilization of Ayurveda for promotion of health tourism.

Ayurveda is an ancient medical system and indigenous to Nepal with deep roots. The sources of Ayurvedic medicine are medicinal herbs, minerals and animal products. The system works through simple and therapeutic measures along with promotive, preventive, curative and rehabilitative health of people. Ayurveda health services are being delivered through one Central Ayurveda Hospital (Nardevi), Provincial Hospital (Dang), 75 Provincial Ayurveda Chikitsalaya/ Health Centers and 305 Ayurveda dispensaries (Aushadhalaya) across the country. The Ayurveda and Alternative Medicine unit in the Ministry of Health & Population (MoHP) is responsible for formulating policies and guidelines for Ayurveda and other traditional medical system.

Programs under Department of Health Services:

National Immunization Program (NIP)

National Immunization Program (NIP) was started in 2034 BS and is a priority 1 program of Government of Nepal. It is one of the successful public health programs of Ministry of Health and Population, and has achieved several milestones contributing to the reduction in child morbidity and mortality associated with vaccine-preventable diseases. In 2019, Nepal along with Bangladesh, Bhutan, Nepal and Thailand become the first countries in WHO South-East Asia Region to achieve Hepatitis B control among children through immunization, with prevalence of the deadly disease dropping to less than one per cent among five-year-old children. Even during the COVID-19 pandemic situation in 2020 (second half of FY 2076/77), Nepal was able to complete its nation-wide vaccination campaign, as well as introduce Rota vaccine in the National Immunization Program and achieve high coverage in FY 2077/78. Nepal is going to introduce Typhoid Conjugate Vaccine in routine immunization in next fiscal year as well as HPV vaccine in the near future.

In routine immunization, national administrative coverage of BCG as reported in the HMIS is 91% which has increased by 5 percentage points, DTP-HepB-Hib3 is 88% which has increased by 10 percentage points, and OPV3 is 82% which has increased by 5 percentage points in FY 2077/78 compared to the previous fiscal year. Similarly, the PCV 3 coverage is 80% which has increased by 2 percentage points, whereas the coverage of MR1 is 82% which has increased by 2 percentage points compared to 2076/77. MR2 coverage is 81% which has increased by 10 percentage points compared to the previous FY 2076/77. For measles elimination, high coverage of both MR 1 and 2 are required (≥ 95%). Therefore, coverage of both MR 1 and MR 2 is still not high to achieve elimination though it's increasing in FY 2077/78 even during the COVID-19 pandemic. There has been increase in vaccination coverage of all antigens from the last fiscal year while the coverage of DTP-HepB-Hib3, MR2 and JE vaccines has improved even before its pre-pandemic level in this FY 2077/78.

Nepal started COVID-19 vaccination campaign from January 2021 and became one of the early countries to start COVID-19 vaccines and completed vaccination for first and second priority group by the end of fiscal year 2077/78. So far, six types of COVID-19 vaccines have been rolled out in the country received from COVAX facility, direct government procurement and donations from various countries.

For vaccine-preventable diseases surveillance, during the FY 2077/78, Nepal was able to maintain the cardinal surveillance performance indicators for polio surveillance and measles-rubella surveillance which were above the global standards. The achieved Non-Polio Acute Flaccid Paralysis (NP AFP) rate was 2.67 and Non-Measles Non-Rubella (NMNR) rate was 3.48 for FY 2077/78.

Integrated Management of Neonatal and Childhood Illnesses

IMNCI is an integrated approach that focuses on the health and well-being of the child. IMNCI aims to reduce preventable mortality, minimize illness and disability, and promote healthy growth and development of children under five years of age. The IMNCI strategy promotes the accurate identification of New born & Childhood illnesses in outpatient settings, ensures appropriate integrated treatment of all major conditions that affect a young child, strengthens the counselling of caretakers, and speeds up the referral of severely ill newborns and children. In the home setting, it promotes appropriate care seeking behaviors, improved nutrition and support for early childhood development, prevention of illness, and correct implementation and adherence to treatment. This integrated package of child-health intervention addresses the major problems of sick newborn such as birth asphyxia, bacterial infection, jaundice, hypothermia, low birth-weight, counseling of breastfeeding. It also maintains its aim to address major childhood illnesses like Pneumonia, Diarrhea, Malaria, Measles and Malnutrition among under 5 year's children in a holistic way.

In FY 2077/78, a total of 21,813 newborns cases were registered at health facilities and PHC/ORC which is less than that of previous FY by 21,084 cases. Lumbini province had highest number of registered cases (6,361) with least in Gandaki province (1,701). Out of total registered cases in FY 2077/78, 10.63% cases were classified as Possible Severe Bacterial Infection (PSBI), 39.91% cases were classified as LBI, 3.9% as Jaundice, and 5.9 % as Low Birth weight or Breast-Feeding Problem. The proportion of PSBI was highest in Lumbini Province and least in Gandaki Province. Among the total registered cases at the national level (HF and PHC-ORC level), the proportion of LBI decreased from than that of previous years from 50.9 % to 39.9%) while the proportion of Jaundice and LBW increased compared to last year. Among total cases, 4.5% percent

cases were referred and 0.52 percent was reported dead from health facilities and PHC-ORC level. 9,197 sick newborn were identified by FCHVs. Among them 1588 were treated with amoxicillin and referred. 1515 newborn death were identified by FCHV.

A total of 37,700 children's cases (0-2 months) were registered and treated at Health Facility and PHC-ORC clinic in FY 077/78, with highest cases (9,830 cases) at Lumbini Province and least (2,400 cases) at Gandaki Province. Among them, 9.66% cases were found PSBI, 45.42% cases were LBI, 3.06% were jaundice and 6.1% cases were with low weight or feeding problem. Highest proportion of PSBI cases were reported at Lumbini while LBI cases were more reported at Madhesh Province among under 2 months children. Only 4 % of total cases were referred and 0.42% deaths were reported in FY 077/78.

A total 988,163 cases of diarrhea were identified by HF, PHC-ORC and FCHVs out of which 319,182 were identified at HF and PHC-ORC and 668,981 by FCHV on 2-59 months children. A total of 3,028,588 children of age 2-59 months were estimated to have been prone to diarrhea. The incidence of diarrhea was 339/1,000 and the case fatality rate was 0.16/1,000 among children under 5. About 96/18% of diarrheal cases children were treated with zinc and ORS including HF, PHC-ORC and FCHVs. Among 612 were severe dehydration cases, 0.24% needed IV fluids during treatment at HF.

Similarly, a total of 3,028,588 under 5 children were estimated to have been prone to ARI. Total 644,445 children were identified to have ARI in HF and PHC-ORC in FY 2077/78 which is 533/1,000 under 5 year children. Among total ARI cases found in HF and PHC-ORC, 12.48% were identified having pneumonia whereas 0.16% has severe pneumonia. The case fatality rate of ARI was found to be 0.13 per 1000. In FY 2077/78, 970,913 ARI cases were identified by FCHV.

Nutrition

The National Nutrition Strategy, 2077 (2020), which is based on the National Health Policy, 2076 (2019), aims to address all forms of malnutrition by implementing nutrition specific and sensitive interventions through the health sector and provide strategic and programmatic direction for nutrition interventions in Nepal through the health sector. Similarly, the Multi-sector Nutrition Plan (MSNP-II 2018-2022) which is a broader national policy framework for nutrition, within and beyond the health sector, coordinated by the National Planning Commission (NPC), provides national policy guidance for nutrition specific and nutrition sensitive interventions as well as creating an enabling environment for nutrition interventions throughout the country.

This section takes a brief look at the performance of the various nutrition programs as reflected by the data over the past 5 years including this FY 2077-78. The 5-year trend shows that the percentage of children registered for growth monitoring, nationally remains in and around 70%. We can see an improvement in this FY 2077/78 as coverage increased to 72.7% from 65.2% during the last FY 2076/77. The average number of growth monitoring visits per child has remained around 3 visits for the last 5 years and we can see a slight increase from 3.1 in FY 2076/77 to 3.3 in this FY 2077/78. In the FY 2077/78, out of the total number of children who were registered for growth monitoring, nationally, 3.4% were underweight.

The 5-year trend shows that around 3-6% of children registered for growth monitoring are underweight. The proportion of new-born with low birth weight, nationally, has reduced marginally from 12.8% in FY 2076/77 to 11.2% in this FY 2077/78. The data shows that the percentage of new-born with low birth weight has remained stagnant around 11-12 % over the last 5 years. Nationally, the 5-year data trend shows an increase in exclusive breastfeeding among children aged 0-6 months from 25.1% in FY 2073/74 to 36.9% in this FY 2077/78. The percentage of children aged 6-8 months who received complementary food, nationally, has increased from 30.6% in FY 2073/74 to 35.7% in this FY 2077/78. In terms of progress for the treatment of severe acute malnutrition 8,964 children under-five years with SAM were treated in the 863 outpatient therapeutic centers, inpatient therapeutic centers and 22 nutritional rehabilitation homes across the country in this FY 2077/78. Among the 8,694 children admitted, 77.68% recovered, less than 0.23% died and 11.30% were defaulters.

In this FY 2077/78, 44.8% of pregnant women received 180 IFA tablets which are similar to 44% during the last FY 2076/77. The 5-year data trend also shows the percentage to be around 45%. Over the last 5 years, the percentage of post-partum women receiving 45 IFA tablets has varied between 37-40%, nationally.

We can see a small improvement this FY 2077/78, 40.7% post-partum women received 45 IFA tablets as compared to the last FY 2076/77 where 37.6% post-partum women received 45 IFA tablets. The 5-year data trend shows that the percentage of children who received at least one cycle of MNP is at its lowest this FY 2077/78 at 29.6%. It was at 34.3% in FY 2073/74 and at its highest during 2075/76 it was at 50.8%. Nationally, the percentage of children who received 3 cycles of MNP is 4.7%. The coverage of the national bi-annual Vitamin A supplementation campaign for all children aged 6-59 months has remained above 80% over the last 5 years. The total coverage of Vitamin A capsule distribution in FY 2077/78 was 90.6%. The national coverage of the biannual distribution of deworming tablets to children aged 12-59 months during this FY 2077/78 was 85% which is on an increasing trend over the last two fiscal years. During the FY 2077/78 a total of 58,733 pregnant and lactating mothers and 93,688 children aged 6-23 months received fortified super cereal and directly benefited from the Mother and Child Health and Nutrition Program which is being implemented in 6 food insecure districts, namely Humla, Jumla, Dolpa, Mugu, Kalikot and Solukhumbu. In addition to the regular programs, the Family Welfare Division also provides essential and high-quality nutrition services during emergencies. During this FY 2077/78 emergencies preparedness and response plans for COVID-19, monsoon, earthquake and cold wave situation were revised and implemented in all 7 provinces. Essential nutrition commodities were prepositioned in 8 strategic locations, namely, Central Medical Store Pathalaiya and Provincial Health Logistic Management Centers of all 7 provinces. In the changed context of COVID-19, during this FY 2077/78, SBCC messaging regarding IYCF and maternal nutrition reached more than 1.5 million households through SMS services and messages on COVID-19 and nutrition were broadcasted through 210 FM radio stations.

Safe Motherhood and Newborn Health

Family Welfare Division (FWD) has been implementing National Safe Motherhood Program to reduce maternal and neonatal morbidity and mortality and to improve maternal and neonatal health through preventive and promotive activities and, by addressing avoidable factors that cause death during pregnancy, childbirth and the postpartum period.

The percentage of pregnant women attending at least 4 ANC visits as per the protocol is 55.4 percent in Fiscal Year 207/78, a slight increment of previous Fiscal Year (52.4%). The visit percent are 52.8, 49.7, 55.9 and 52.6 percent in FY 2073/74, 2074/75, 2075/76 and 2076/77 respectively. The Institutional deliveries as percentage of expected live births also has little bit increased to 55.4 percent in 2077/78 from 52.6 in FY 2076/77. The percentage of deliveries conducted through cesarean section (CS) is in increasing trend which is 17.6 percent in FY 2073/74, 18.57 percent in FY 2074/75, 18.88 percent in FY 2075/76 and 20.53 percent in FY 2076/77. There is a slight decerase in FY 2077/78 (20.49 %). The percentage of births attended by SBA increased to 62.3 percent in FY 2076/77 from 60 percent FY 2075/76 and 52 percent from FY 2074/75. The proportion of mothers attending three PNC visits as per the protocol increased remarkably from 18.8 percent in FY 2076/77 to 25.1 percent in FY 2077/78.

The safe abortion service has slightly decreased in FY 2077/78 in comparison to last FY 2076/77. Abortion statics shows a decreasing trend from FY 2074/75. A total of 79,952 women have received safe abortion service in FY 2077/78. The figures were 87,869 in FY 2076/77; 95,746 in FY 2075/76 and 98,640 in 2074/75 showing the decreasing trend over the years.

Family Planning and Reproductive Health

National family planning (FP) program in 2077/78 has been successful to improve the service access and utilization and uplift the service statistics following downturn despite of persistence of COVID-19 pandemic. The modern contraceptive prevalence rate (unadjusted mCPR) for modern FP at national level is 39% compared to 37% in FY 2076/77. Although in decreasing trend, Madhesh still has the highest mCPR of 43% while Gandaki Province has the lowest (33%). The number of districts with mCPR below 30% is in decreasing trend since FY 2074/75. In the FY 2077/78, there are 9 districts with CPR less than 30 compared to 12 in FY 2076/77. This indicates performance improvement among the low mCPR districts. Among the total VSC users, Female sterilization has the greatest share in Madhesh Province, Province 1 and Lumbini Province.

Depo (40%) occupies the greatest part of the contraceptive method mix for all method new acceptors, followed by condom (23%), pills (21%), implant (14%), IUCD (2%), female sterilization (ML 1.8 %) and lastly male sterilization (NSV 0.8%) in 2077/78. Immediate Postpartum family planning uptake as proportion of

total facility delivery is in decreasing trend. Postpartum IUCD uptake as proportion of total facility delivery is also in decreasing trend, while that of Contraceptive uptake among total reported abortion services is 76%, but only 15% have used LARCs indicating women after abortion are relying on less effective methods.

Adolescent sexual and reproductive health

Adolescent Sexual and Reproductive Health (ASRH) one of the priority programs of Family Welfare Division is guided by National Adolescent Health and Development Strategy, 2018. The National ASRH program has been gradually scaled up to all 77 districts covering Khotang, Chitawan, Tanahu, East Nawanparasi, and Parsa in Fiscal Year 2077/78. So far, 1355 health facilities has been listed and 108 health facilities has been certified as adolescent friendly site.

The number of adolescents receiving temporary contraceptive methods (excluding condom) is in decreasing trend except in Karnali. Among four temporary contraceptive methods, Depo is the most preferred contraceptive method accounting to 58% of contraceptive method mix. Compared to FY 2076/77, the share of implants in method mix has increased. Similarly, utilization of abortion services is also in decreasing trend. This data need to be cautiously interpreted as the adolescents prefer to utilize the sexual and reproductive health (SRH) services from the private sector due to several reasons. It is interesting to note that the share of medical abortion services is in increasing trend. Almost, two-thirds of adolescent clients (64%) who terminated the pregnancy used medical abortion. In the FY 2077/78, Madhesh Province has the highest number of adolescents who received first ANC services and First ANC visit as per protocol. Gandaki Province has the lowest number of adolescents who received ANC services. At national level, the dropout rate between ANC 1st and ANC 4th visit is around 32% in FY 2077/78 which is lower than the previous year. Functionality of AFHS sites, high rates of adolescent birth rate, low contraceptive use among adolescent population still remains the strong challenges for the adolescent health.

Primary Health Care Outreach Clinics

Primary health care outreach clinics (PHC/ORC) extend basic health care services to the community level. PHC/ORCs are conducted every month at fixed locations of the local government on specific dates and time. The clinics are conducted within half an hour's walking distance for the population residing in that area. In 2076/77, a total of 2.2 million people were served from outreach clinics. Out of total 147,835 planned clinics, only 80% were conducted. There has been slight increase in the conduction of PHC-ORC Clinics and clients served compared to previous year. However, the number of clients who received temporary methods is in decreasing trend.

Malaria

Nepal has surpassed the Millennium Development Goal 6 by reducing malaria morbidity and mortality rates by more than 50% in 2010 as compared to 2000. Therefore, Government of Nepal has set a vision of Malaria free Nepal by 2025. Current National Malaria Strategic Plan (NMSP) 2014-2025 was developed based on the epidemiology of malaria derived from 2012 micro-stratification. The aim of NMSP is to attain “Malaria Free Nepal by 2025”. For assessing the risk areas, program has been conducting micro-stratification on annual basis.

Total positive cases of malaria slightly decreased from 619 in 2076/77 to 377 in 2077/78 to, where 66 cases are indigenous cases and 311 are imported. The trend of indigenous is decreasing trend however, the number of imported cases is still high.

As compared to the previous year, the proportion of P. falciparum infections has increased from 9.05% in FY 2076/77 to 13.53 in 2077/78. This proportion is high which is due to high number of imported P. falciparum cases. The trend of indigenous pf malaria cases are decreasing while imported cases of pf are in increasing trend. The trend of clinically malaria cases and major indicators for malaria program; Test positivity rate (TPR), Annual Parasite Incidence Rate (API) and Annual Blood Examination Rate (ABER) are in positive trend. In addition, pf and pi malaria cases also decreasing year by year, mainly due to increased coverage of RDT, microscopic laboratory service at peripheral level, active surveillance, coverage of vector control measures (LLINs & IRS) in high and moderate areas and increased socio-economic status of community people.

Kala-azar

Kala-azar is one of the high priority public health problems of Nepal. Most of the districts have been continuously reported new cases of Kala-azar in recent years. Therefore, to eliminate Kala-azar from Nepal, strategies to improve health status of vulnerable and risk population has been made focusing on endemic areas of Nepal, which leads to elimination of Kala-azar, and it no longer becomes a public health problem. The incidence of kala-azar at national and district level has been less than 1/10,000 population since 2013. The trend of KA cases has been decreasing significantly for the last several years. In 2077/78, there has been slight increase in reported cases (212 Kala-azar cases) compared to previous year (203).

Lymphatic filariasis

Lymphatic (LF) is a public health problem in Nepal. The goal of lymphatic filariasis is the people of Nepal no longer suffer from lymphatic filariasis. As of March 2022, MDA has been stopped and post MDA surveillance is ongoing in 48 districts. All endemic districts completed 6 rounds of MDA in 2018 except Rasuwa which has been recently considered from confirmatory survey. Triple Drug Regimen (IDA: Ivermectin, Diethylcarbamazine and Albendazole) has been introduced in 5 districts from 2078. The LF elimination program has also indirectly contributed to strengthening of health system through training and capacity building activities. The transmission assessment survey in 18 districts in 2021/2022 found that prevalence of infection has significantly decreased. Since 2003 more than 115 million of doses of lymphatic filariasis drugs have been administered to at risk population. A total number of 10,477 hydrocele surgeries have been performed since 2073/74 to 2077/78.

Dengue

Dengue, a mosquito-borne disease emerged in Nepal in since 2005. The goal of national Dengue control program is to reduce the morbidity and mortality due to dengue fever, dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). The number of reported dengue cases has decreased significantly since 2010 but cases of dengue were increased in recent years. During FY 2077/78, a total of 489 dengue cases were reported from 51 districts. The majority of cases have been reported from Myagdi (89), Sindhuli (43), Surkhet (40) and Kailali (30).

Leprosy

During the FY 2077/78 (2020/21), total number of 2,173 new leprosy cases were detected and put under Multi Drug Therapy (MDT). A total of 2,197 cases were under treatment and receiving MDT at the end of the fiscal year with the registered prevalence rate of 0.73 cases per 10,000 populations at national level. A total of 95 (4.37%) new leprosy cases of Grade 2 Disability (G2D), 101 (4.65 %) new child leprosy cases and 796 (36.63%) new female leprosy cases were recorded. The low prevalence rate of leprosy might be due to COVID-19 pandemic but early and active case detection activities, verification and validation of records/ reports of local health facility level/municipalities and capacity building of health workers are mandatory and need to be amplified to obtain the goal of Zero Leprosy Nepal.

Health related Rehabilitation and disability management

During the FY 2077/78 (2020/21), Rehabilitation clinical protocols and national standards, and national assistive technology standard were developed. The clinical protocol is already endorsed by Ministry of Health and Population (MoHP) and available on EDCD website while remaining two testimonies are at the verge of endorsement. Likewise, IEC materials on disability inclusive health and rehabilitation were developed and international disability day 2021 was celebrated. Government physiotherapist staff and medical recorder from the provinces were trained on HMIS rehabilitation module. Similarly, decision was made to deploy Rapid Assistive Technology Assessment survey at the national level, through the collaboration among NHRC, EDCD and WHO-Nepal. All these developments in disability inclusive health, rehabilitation and assistive technology were facilitated in collaboration with the concerned stakeholders from federal, provincial and local level. It was found that total 29,814 clients had received rehabilitation services from various hospitals and rehabilitation centers in 36 districts.

Zoonoses

Nepal has dual burden of disease and zoonotic diseases of epidemic, endemic and pandemic potentials are major public health concerns. Globally more than 300 zoonotic diseases are identified among which about 60 have been identified in Nepal as emerging and re-emerging diseases. No people die of rabies or poisonous snake bites due to unavailability of anti-rabies vaccine (ARV) or anti-snake venom serum or timely health care services and to prevent, control and manage epidemic and outbreak of zoonosis is the is the goal of zoonosis program. Around 30,000 cases in pets and more than human rabies cases occur each year with highest risk are in the terai. During the fiscal year 2076/77, a total of 59,414 dog and other animal bites cases have been reported throughout Nepal and a total of 7,902 cases of snake-bites cases have been reported. Among cases 6,935 were non-poisonous and 967 were poisonous

Tuberculosis

Tuberculosis (TB) remains a major public problem in Nepal. During this FY 2077/78, a total of 28,677 cases of TB were notified and registered at NTP. Among these, 98% (28,182) were incident TB cases (New and Relapse). Among all form of TB cases 70.5 %were pulmonary TB, and out of them, 80.4 % were bacteriologically confirmed. Bagmati Province holds the highest proportion of TB cases (23.24%). Kathmandu district alone holds around 44% (2,982 TB cases) of the TB cases notified from the Bagmati Province while its contribution is around 10% in the national total. In terms of eco-terrain distribution, Terai belt reported more than half of cases (17,310; 60.4%). Most cases were reported in the middle age group with the highest of 48% in 15-44 years of age. The childhood TB is around 6.6%. Out of total registered TB cases, there were 10,891 (38%) female and 17,786 (62%) male.

The burden of TB can be measured in terms of incidence (defined as the number of new and relapse cases), prevalence and mortality. WHO estimates the current prevalence of all types of TB cases for Nepal at 117,000 (416/100,000) while the number of all forms of incidence cases (newly notified cases) is estimated at 69,000 (235/100,000).

Case notification rate (CNR) of all forms of TB is 95/100,000 whereas CNR for incident TB cases (new and relapse) is 93/100,000 population. Among drugs sensitive TB cases registered in Fiscal Year 2075/76, 90% were treated successfully.

There are estimated around 2,200 cases of DR TB annually. However, 687 MDR TB cases are notified annually. In Fiscal Year 2077/78, 418 RR/MDR-TB cases were registered for treatment. Among them, Lumbini Province has found to have higher burden followed by Province-1, Madesh Province, Bagmati Province, Gandaki Province, Sudurpaschim province, and Karnali Province respectively have RR/MDR-TB enrolled on treatment. Similarly, the burden of Pre-XDR and XDR TB patients was found more at Lumbini Province followed by Bagmati Province, Province 1, Sudurpaschim province, Gandaki province and province 2 respectively.

TB services were provided through 5,503 treatment centers. Regarding diagnostic services, there are 896 Microscopic centers and 84 GeneXpert centers throughout the country. DRTB services were provided through 22 treatment centers and 81 Treatment Sub-centers. Though the DRTB services are ambulatory, facility-based services were also provided through 2 TB treatment and referral management center 6 hostels and 1 DR home

HIV/AIDS AND STI

In Nepal, a total of 9,292 women; 10,144 men; 277 transgender people and 1,170 children are being treated for HIV up to Ashar of FY 2077/078.There are total estimated people living with HIV (PLHIV) (31,144), out of total estimated 4% are children (1,322) aged up to 14 years who are living with HIV in Nepal in 2021, while the estimated adults aged 15 years and above male are 15,451 and female are 15,693.The prevalence of HIV among 15-49 years of age group is 0.12% in 2021. A total 20,883 PLHIV are on ART treatment and total PLHIV are 33,827 by the end of FY 2077/78.

Non Communicable Diseases

Non-communicable Diseases (NCDs) are emerging as the leading cause of deaths in Nepal due to changes in social determinants like unhealthy lifestyles, urbanization, demographic and economic transitions. The deaths due to NCDs (cardiovascular, diabetes, cancer and respiratory disease) have increased from 60% of all deaths in 2014 to 66% in 2018 (WHO Nepal Country Profile 2018). They are already killing more people than communicable diseases. Thus, Nepal has adapted and contextualized the PEN intervention for primary care in low resource setting developed by WHO. The epidemic of non-communicable disease is recognized by UN and addressed in Sustainable Development Goal 3 i.e. "ensure healthy life and promote well-being for all at all ages" of this goal 3.4 targeted to "reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and well-being". PEN Implementation Plan (2016-2020) has been developed in line with the Multi-sectoral Action Plan for prevention and control of NCDs (2014-2020).

Mental Health

Mental health and substance abuse recognized as one of the health priorities and also addressed in Sustainable Development Goals (SDG). Within the health goal, two targets are directly related to mental health and substance abuse. Target 3.4 requests that countries: "By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being". Target 3.5 requests that countries: "Strengthen the prevention and treatment of substance abuse and harmful use of alcohol". Nepal has high burden of mental illness but there are limited interventions to address the epidemic of mental diseases

Epidemiology and outbreak

Epidemiology and Outbreak Management involves workings in the area of preparedness and response to outbreaks, epidemics and other health emergencies occurring in different parts of the country. It aligns with the organizational objective to reduce the burden of communicable diseases and unwanted health events through preparedness and responses during outbreak and epidemic situations by using the existing health care system and provides support to Ministry of Health and Population (MoHP) for drafting national laws, policies, and strategies related to epidemiology and outbreak management. It prepares standards, protocols and guidelines regarding epidemiology and outbreaks/epidemics management and coordinates with provincial and local level for epidemics and outbreak management. Besides, it provided support for preparation and implementation of annual work plan at federal level related to epidemics and outbreak management.

Surveillance and Research

Disease surveillance and research is an integral part of Epidemiology and Disease Control Division. The mission of the communicable disease Surveillance program is to protect and improve the health of Nepalese citizens by tracking and responding to the occurrence of disease in the population across the country. In 2075/76, an additional 36 sentinel sites were established as a EWARS sentinel sites to include 118 medical colleges and non-public hospitals. DHIS2 event capture is initiated for reporting from sentinel sites. Since 2075/76, there is no increment in sentinel sites however the distribution of sentinel sites are not distributed covering all districts based on populations' composition.

Similarly, Water Quality Surveillance Central Committee (WQSCC) meeting with stakeholder and organized water quality surveillance workshop at different districts. Surveillance of reportable diseases is responsible for collecting, analyzing, interpreting and reporting information for infectious diseases.

Curative Service

Curative Service Division (CSD) is one of five divisions under Department of Health Services (DoHS). The overall purpose of this division is to look after curative health service activities throughout the country. According to the institutional framework of the DoHS and MoHP, the Basic Health service Center (from an institutional perspective) is the first contact point for curative services. The major responsibility of CSD is to provide the Basic Health Service free of cost guaranteed by Constitution of Nepal (Article 35). CSD regulate

and co-ordinate to establish, operate and upgrade of specialized tertiary hospitals. CSD also co-ordinate and provide Eye, ENT and Oral health services.

Minimum Service Standards (MSS) health facilities are the service readiness and availability of tool for optimal requirement of the hospitals to provide minimum services that are expected from them. This tool entails for preparation of service provision and elements of service utilization that are deterministic towards functionality of hospitals to enable working environment for providers and provide resources for quality health service provision. MSS has implemented in 111 different levels of hospitals all over the country. Minimum Service standard program has been also started in Health posts (Basic Health Service centers).

Nursing and Social Security Division

The Nursing and Social Security Division was established in 2075 B.S and is responsible for delivery quality health services through capacity development of nurses and midwives, the evaluation of geriatric and gender-based violence program; along with treatment and management facilities for selected diseases to impoverished Nepalese citizens at listed hospitals. This division is also responsible for development and revision of FCHV and other health related volunteer's policy, strategy, standard, protocol and guideline.

Nursing Capacity Development

The main responsibility of the nursing capacity development section is to facilitate in the process of development of plans, policies, strategies and programs for strengthening various specialties of nursing of nursing and midwives' services. The major activities and achievements of NSSD in the fiscal year 2077/78 were school health and nursing program, development of five CPD modules and three clinical protocol, implementation of training on infection prevention and control based on blended learning approach. Advance Course on management and development (ACMD) training for 9th/ 10th level health professional (35days) and Senior Executive Development Program for 11th level health professional (6 months) were done in co -ordination with Nepal administrative staff college. In the fiscal year 2077/78 leadership and management training package was developed and implemented. For the reduction of maternal and neonatal mortality and morbidity in the fiscal year 2077/78 ten midwives were recruited.

Geriatric and Gender Based Violence

The constitution of Nepal has ensured the right of public to free basic health care service and emergency services. It has also ensured that the elderly people will be entitled to special protection from nation and are entitled to right to social security. So, to ensure the accessibility and utilization of health services by older people, the Ministry of Health and Population is extending the geriatric health care services to hospitals with more than 100 beds in this fiscal year. The geriatric services along with establishment of separate geriatric ward have been expanded to 8 new hospitals in this fiscal year. Geriatric care centre implementation guideline and standard has been developed in which older people with the many chronic health problems who need nursing care are the major service consumers. Policy dialogue program related to geriatric health was conducted in Province 1, Madhesh Province, Bagmati Province, Gandaki Province and Sudurpaschim Province .This section trained 60 Primary Health Care Professionals (Health assistants and staff nurse) related to Integrated care for elderly people.

Gender-based Violence (GBV) is a grave human rights issue and public health concern which impacts the physical and mental health of the individual survivor and his/her children, and carries a social and economic cost to society. Office of Prime Minister and Council of Ministers developed a multi sectoral action plan to address the GBV issues in 2010 with celebration of international GBV years. In line with the action plan and to address needs of GBV survivors in an effective and efficient way MoHP established a hospital based One Stop Crisis Management Center. By the end of 2077/78, a total of 80 OCMCs had been established in 77 districts. OCMCs are mandated to provide seven services to GBV survivors i.e. health services, medico-legal examination and reporting, psycho-social counselling to survivors and perpetrators, legal service-counselling and support,safe homes, security – by working with the police and district administration offices and rehabilitation

Bipanna Nagarik Aushadhi Upchar Program

The Impoverished Citizens Service Scheme of Social Health Security Section provides the funding for impoverished Nepalese citizens to treat serious health conditions. Free treatment up to NPR 100,000 per patient via listed hospitals for severe diseases including cancer, heart disease, traumatic head injuries, traumatic spinal injuries, Alzheimer disease, Parkinson's and sickle cell anaemia diseases once in life time. Pre-transplant (HLA & cross match) test support up to NPR 50,000; Renal transplantation costs up to NPR 400,000 per patient; medication costs up to NPR 100,000 for post-renal transplant cases; Free haemodialysis and peritoneal dialysis services; andFree medical treatment for acute kidney infections up to NPR 100,000. In FY 2077/078, twenty-nine thousand three hundred thirty (29,330) patients were managed in the provision of free treatment to impoverished citizens' services scheme.

Female Community Health Volunteer (FCHV)

Government of Nepal initiated the Female Community Health Volunteer (FCHV) Program in 2045/46 (1988/1989) in 27 districts and expanded it to all 77 districts thereafter. 51,423 FCHVs recruited a total of 49,605 (as reported in HMIS) FCHVs are actively working in Nepal. In the fiscal year 2077/078 biannual FCHV review meeting was held at local and FCHV day was celebrated. The major role of FCHVs is to advocate healthy behavior among mothers and community people to promote safe motherhood, child health, for family planning and other community-based health issues and service delivery. FCHVs distribute condoms and pills, ORS packets and vitamin A capsules, treat pneumonia cases (only in the selected remote area where referral is not possible), refer serious cases to health facilities and motivate and educate local people on healthy behavior related activities. They also distribute iron tablets to pregnant women.

Inpatients/OPD services

Curative care services are provided to a patient with the main intent of fully resolving an illness and to bringing the patient to their status of health before the illness presented itself. These services are given at outpatient, emergency and inpatient care at different level of health facilities. The government of Nepal is committed to improving the health status of people by delivering high quality health services. The increased burden of non-communicable disease and mental health problems, accidental and disaster-related health problems, existence of infectious and non-infectious diseases are the major barriers to fulfill the people's expectation on quality health services. To address the health necessity of all age groups the national policy aims to expand and established at least one BHSC in every ward of the local level, one primary hospital for basic emergency operation and primary trauma care in every local level, a secondary level hospital, provincial hospital and a highly specialized hospital under each province and at least a highly specialized hospital and academy of health science in every province under the authority of federal level.

Curative health services are expected to provide from all health facilities including outpatient, emergency and inpatient care. These services are the collective activities of all departments and all personnel of the hospital, which end-up in satisfactory patient care. For the fiscal year 2077/78, curative services were provided at all level of hospitals including private medical colleges as well.In the fiscal year 2077/78, 77% of the total population received outpatients (OPD) services. A total of 1,112,249 patients were admitted for hospital services and 1,769,925 patients received emergency services from the public / non-public hospitals.

Health Training

A competent, motivated healthy workforce forms the core of a high quality, effective and efficient health system. In line with the national policies, plans and programs of Ministry of Health and Population (MOHP), National Health Training Centre (NHTC) runs as an apex body for coordination and management of all health trainings in Nepal. It develops the training packages based on the program needs in collaboration with various divisions, centers and supporting partners and delivers the various trainings through an efficient training network which includes 7 provincial health training centers and 62 clinical training sites. It is also responsible for accrediting clinical and competency-based training sites to regulate and maintain the quality of the health trainings so as to strengthen the capacity of health service providers across the country.

Vector Borne Disease Research & Training

Vector Borne Disease Research and Training Center is to fill the knowledge gap and generate scientific evidences in the field of Vector Borne Diseases. Therefore, VBDRTC is responsible for research and trainings that relate with VBDs such as Malaria, Kala-azar, Dengue, Chikungunaya, Zica, Westnyl diseases, Lymphatic filariasis, Scrub typhus and Japanese encephalitis. In the FY 2077/78, Vector Borne Diseases Trainings (VBDs) for VBDs focal persons/health workers, malaria microscopic basic and refresher trainings for lab technicians and lab assistants were conducted to enhance their level of knowledge and skills related with prevalent vector borne diseases.

Study conducted in this fiscal year include outcome monitoring of first line drug LAMB for the treatment of visceral leishmaniasis, susceptibility test on Anopheles annularis and fluviatiliswith Alphacypermethrin in Sindhuli and Makawanpur districts, susceptibility Test (CDC Bottle Bioassay) on Dengue vector Aedes aegypti with Lambda-cyhalothrin in Chitwan district. VBDRTC also conducted Pre TAS in Lamjung, Parbat and Baglung, Dhankutta, Jhapa, Bara and Bardia and TAS I survey in Kanchanpur district in January 2021 with the guidance of MOHP and financial and technical support of USAID and WHO.

Health, Education, Information and Communication

National Health Education, Information and Communication Centre (NHEICC) is responsible for health promotion activities and delivery of health information and messages using multimedia, methods and channels up to individual level to promote healthy behavior, prevention and control of diseases and increase use of available health services in Nepal.

In coordination with concern divisions and centers, evidence based annual plans and programs are formulated and implemented by NHEICC in line with the national health policy and sustainable development goals. Modern digital media as well as print, audio-visual and social media are used in promoting health behaviors in the areas of communicable and non-communicable diseases, reproductive and child health, mental health, birth defect, organ donation and environmental sanitation. Social behavior change communication approaches are applied with community engagement through health volunteers and communication channels at the door step of target audiences. The health promotion activities are currently more focused on capturing hard to reach areas and marginalized populations through new technology and programs.

Health Laboratory Services

The National Public Health Laboratory (NPHL) is an apex body that assists MoHP for preparing medical laboratory related policy, legislation and guidelines, Support and regulates laboratory services with activities i.e. licensing, supervision, monitoring and quality assurance of laboratories as well as it is also the national authority for implementing the National Blood Program (NBP) in the country.

In the fiscal year 2077/078, major public health related activities were carried out from NPHL are laboratory-based surveillance [AES/Japanese encephalitis, measles/rubella, polio, antimicrobial resistance (AMR), influenza)], HIV reference unit, National Influenza Centre, BSL-3 laboratory and outbreak investigation). It has also conducted routine and specialized diagnostic services including services of referral laboratory for communicable and non-communicable diseases, decreasing outsourcing of tests. It has improved the test result qualities by implementing automated reporting system i.e., Laboratory Information System (LIS) to minimize the human errors. National External Quality Assessment Scheme (NEQAS) ran and functioned since 1997 by NPHL for proficiency test panel for biochemical, hematological tests and grams strain are prepared and dispatched to participating laboratories within the country, in addition to this NPHL also participated in international External Quality Assessment Scheme (IEQAS) for overall improvement of quality of tests result. It supports and regulates blood transfusion service as well as organized various workshops on planning, capacity building and conduction of various training etc. for overall development and management of public health laboratories with introduction of latest technology.

Health Service Management

The Management Division (MD) is responsible for DoHS's general management functions. DoHS's revised Terms of References (ToR) of MD describing it as the focal point for information management, planning,

coordination, supervision, and the monitoring and evaluation of health programs. The division is also responsible for monitoring the quality of air, water and food products. It also monitors the construction and maintenance of public health institution buildings and supports the maintenance of medical equipment. More activities assigned to this division include including policy and planning related to health infrastructure and logistics management The current HMIS software system (DHIS 2 software) meet the basic requirements of revised HMIS. Existing software related errors have been resolved with upgrading of System to DHIS 2.3. Few problems related to Nepali Calendar are on the progress of sorting out with the help of DHIS-2.

Logistics Management

The main role of Logistics Management (LM) is to support in delivering quality health care services providing by program divisions and centers through logistics supply of essential equipment's, vaccines, family planning commodities and free health drugs to all regional /district stores and health facilities. The major function of MD is to forecast, quantify, procure, store and distribute health commodities, equipment's, instruments and repairing & maintaining of the bio-medical equipment's/instruments and transportation vehicles. The quarterly LMIS and monthly Web-based LMIS have facilitated evidence-based logistics decision making and initiatives in annual logistics planning, quarterly national pipeline review meetings, the consensus forecasting of health commodities and the implementation of the pull system. MD has formed a 23 member Logistics Working Group (LWG) under the chaired of MD Director with representation of Divisions, Centers, supporting partners and other stakeholders. LWG address all issues and challenges on procurement and supply chain on health commodities and materials in center, region and district level.

According to the Government of Nepal's ministerial decision, LMIS/e-LMIS is the most important domain among health information management systems. The average quarterly reporting rate in FY 2077/78 is 97.32 percent. In comparison to the previous FY, reporting timeliness improved to 86 percent at the end of the quarter in FY 2077/78. As part of the integrated data management policy, SDPs have been expanded to 1126 sites, including 753 LLGs.

Personnel Administration

The Personnel Administration Section (PAS) is responsible for routine and program administrative function. Its major functions include upgrading health institutions (O&M), the transfer of health workers, level upgrading of health workers up to 7th level, capacity building as well as internal management of human resources of personnel.

Financial Management

The preparation of annual budgets, the timely disbursement of funds, accounting, reporting, and auditing are the main financial management functions needed to support the implementation of health programs. Finance Administration Section is the focal point for financial management for all DoHS programs. Out of total National Budget of Rs. 1,474,645,400,000.00 a sum of Rs. 90,691,000,000.00 (6.15%) was allocated for the health sector during the fiscal year 2077/78. Of the total health sector budget, Rs. 15,012,813,000.00 (16.55%) was allocated for the execution of programs under the Department of Health Services.

Monitoring and Evaluation

Monitoring and evaluation plays the significant role for operative and persuasive execution of plans, policies, programs and projects. Recognizing the need for a methodical, simplified, result-driven, reliable and effective monitoring and evaluation system, Nepal Health Sector Strategy (NHSS) 2015-2020 directed to improve access and operation of the health information with the use of Information Communication Technology (ICT).It also emphasize for better and interoperable routine health information systems, prioritizes surveys and research. Correspondingly, it endeavors for improved and integrated health sector reviews at different levels that feed into the planning and budgeting process. Towards achieving Universal Health Coverage (UHC) and Leave No One behind (LNOB), the NHSS and Sustainable Development Goals (SDGs) place an emphasis on monitoring and reducing the equity gap in the health outcomes of different population sub-groups. The details can be obtained from result framework of National Health Sector Strategy 2015-2020.

Human Organ Transplant Services

Shahid Dharma Bhakta National Transplant Center (SDNTC) was established in 2012 by the Ministry of Health and Population (MoHP) to strengthen and expand organ transplantation services in the country. This center started its services merely with the OPD services, but within a few years of its establishment, it has extended its services beyond organ transplantation.

The number of patients in all these aspects has increased remarkably in the FY 2077/78. There were 27,529 patients served in outpatient department, while the rate of admission and discharge were almost similar with 1,287 and 1,275 respectively. There were 801 minor surgeries and 367 major surgeries in the FY 2077/78. The number of kidney transplantation decreased from 49 to 45 in FY 2077/78. The number of sessions of paid dialysis increased from 2,042 in FY 7076/77 to 2,940 in fiscal year 2077/78. There has been a slight increase also in the free dialysis sessions from 18,478 in FY 2076/77 to 24,023 in FY 2077/78.

Medico-legal Services

Medico-legal field or field of Forensic Medicine in Nepal is still waiting for its proper identity. This field has a great wish to grow up in normal way to address and to provide help for Nepali people as there is high degree suffering in society because of improper and inadequate medico-legal service to needy population. This service sector which is supposed to be developed by state is not yet addressed adequately and remains as one of the unrecognized sectors. As a result of improper, incomplete and nonscientific application of forensic evidences the justice system is suffering directly and “Rule of law” or “Law and order” are suffering indirectly. There are more than enough examples of several year imprisonment for an innocent person and release as reward for a criminal in court cases related with crime against human body because of insufficient evidences and weaknesses in medico-legal evidences.

Constitution of Nepal 2072 in its article 35 guarantees Right to Health for all Nepali citizen and in articles 20, 21 and 22 Right to justice, Right of victim of crime and Right against Torture and in violation of such fundamental rights there are provisions of proper remedy or compensation. There are other articles like article 42 Right to social justice, article 44 Right of consumers which are partially or completely related with medico-legal field for their proper implementation in real life of people. For effective application of above constitutional rights, medico-legal sector in Nepal must be addressed adequately with priority.

Health Councils

The six professional health councils (Nepal Medical Council, Nepal Nursing Council, Nepal Ayurvedic Medical Council, Nepal Health Professional Council, Nepal Pharmacy Council and Nepal Health Research Council) accredit more effective the health services, training, research and regulate care providers managed in a scientific manner.

Health Insurance

Health Insurance happens to be a social health security program from the Government of Nepal which aims at enabling its’ citizens with the access of quality health care services without placing a financial burden on them. In the beginning of 2072/073, it was run under the social health development committee, however since 2074/75 it has been running under the Health Insurance Board (HIB) guided by Health insurance Act and regulation. Health insurance program prevents people from falling into poverty due to health care costs i.e., catastrophic expenditure due to accidents or disease by combining prepayment and risk pooling with mutual support. This program also advocates towards quality and dedicated health services. Moreover, the program attempts to address barriers in health service utilization and ensures equity and access to the poor and disadvantaged groups so as to achieve Universal Health Coverage

The total number of enrolled people are 4,570,533 and total renew insures are 2,030,795 at the end of FY 2077/78. A total 1,196,168 peoples dropped from the program at end of 2077/78. During this FY, the total population coverage of the health insurance program is 18.87 percent. Among the total insures about 1,626,244 people have taken health services from listed health institutions in FY 2077/78. The leading top five districts based on the number of enrollments are Jhapa, Morang Sunsari, Chitwan and Palpa. The percentage of total renew among all enrollment is about 63%.

Development Partners Support in Health Programs

The outcomes discussed in the previous chapters are the results of combined efforts of the Ministry of Health and Population (MoHP), various development partners (multilateral, bilateral) and other supporting organizations including international organizations and national NGOs and private sectors. The Department of Health Services acknowledges its partnership with these organizations and their large contributions to Nepal's health sector. This chapter lists the focus of these organizations' various programs. Partners have also provided technical assistance in their areas of expertise.

Development partners support the government health system through a sector-wide approach (SWAp). The SWAp now supports the implementation of the new Nepal Health Sector Strategy (NHSS, 2016–2022). The Joint Financing Arrangement (JFA) has been signed by various partners and the government. The JFA describes in detail the arrangement for partners' financing of the NHSS. The JFA elaborates the pool funding arrangement and parallel financing mechanism as bilaterally agreed between the government and the donor partners. In the current sector program, the World Bank has allocated all its commitment through a Program-for-Results, a tool which disburses fund against a verifiable set of results, called Disbursement Linked Results (DLRs). UKAid and GAVI are also disbursing part of their commitments against some DLRs identified and agreed with the MoHP. In addition, in the Fiscal Year 2020/2021, Development Partners have provided additional funding, in-kind and technical support to the MoHP for the preparedness and response to COVID-19 pandemic.

National Health Policy, 2019

1) Background

The constitution of Nepal has established basic health care as a fundament right of its citizens. As the country has moved to federal governance system, it is the responsibility of the state to ensure the access to quality health services for all citizens based on contextual norms of federal system. This National Health Policy, 2019 has been formulated based on the lists of exclusive and concurrent powers and functions of federal, state and local levels as per the constitution. Also amalgamated with reference to the policies and programmes of the Government of Nepal; the international commitments made by Nepal at different times; and the problems, challenges, available resources and evidences in the health sector.

2) Review

With the establishment of *Singhadarbar Vaidyakhan*a in the seventeenth century, Ayurveda treatment system began in Nepal. Institutional development of modern medical system started in Nepal with the establishment of *Bir* Hospital in 1889. The planned development in the health sector began with the inception of periodic planning in 1956. The first 15-year long-term health plan was introduced in 1975 and the second 20-year long-term health plan, in 1997.

After the political change in 1990, National Health Policy 1991 was introduced to address the aspirations of people. Under this policy, sub-health posts in all erstwhile village development committees, health posts in all areas (the then Ilakas - administrative unit) and one primary health centre in each electoral constituency were established in order to expand primary health services to the village level. The policy also promoted structural development and expansion, and involvement of private sectors to invest in the health sector. Similarly, the National Health Policy, 2014 stressed on participatory free basic health services in line with the spirit of the interim constitution of Nepal, 2007.

Begun with the International Conference on Primary Health Care Alma-Ata in 1978, the global campaign on primary health services has been reinforced by the Millennium Development Goals and the Sustainable Development Goals. These international commitments have contributed to the development and expansion of Nepal's health system. Similarly, Nepal expressed its commitment to the global campaign of expanding people's access to quality primary health care in the Global Conference on Primary Health Care that took place in Astana, Kazakhstan in October 2018 to review the achievements of Alma-Ata Conference.

3) Current Situation

Local and state governments have also started delivering social services including health services after the implementation of federalism in Nepal. Although the central government expanded a network of primary health care throughout the country so far, there is a need to enhance the quality of services, classify services, distribute skilled technical human resources, and add new service centers to improve the quality as per the expectations of people. Most of the private sector hospitals are concentrated in urban areas and there is a need of collaboration in monitoring and regulating them. Human resources required for almost all levels of health care are being produced within the country with the investment of public and private sectors. However, there again is a need of quality assessment and regulation in the production of human resources since they are the foundation of quality health services. Around 40 percent of drugs required for the county are being supplied internally. Since there is no difference between the prices of domestically produced and imported drugs, it is necessary to technically regulate and scientifically monitor the production, distribution and management of drugs. Similarly, numerous super-specialized treatment facilities relating to eye, heart, kidney, neurology, orthopedic, organ transplant, plastic surgery and cancer have been established in Nepal. International partnership is essential for development and expansion of modern technology in diagnostic and laboratory services for those treatments.

Owing to effective continuation of public health activities, maternal and newborn tetanus, leprosy and trachoma have been eradicated. Similarly, the major health problems seen in the past such as kala ajar, filariasis, malaria, tuberculosis, HIV, measles, whooping cough, diphtheria, Japanese encephalitis, diarrhea, respiratory infections, and typhoid are being controlled and the morbidity is decreasing. Public health activities need to be made more effective and sustained to improve maternal health, child and newborn health.

Several regulatory bodies (Medical Council, Nursing Council, Pharmacy Council, Health Professional Council, Ayurvedic Medical Council and National Health Research Council) are active in ensuring quality of and regulating production of human resources, health services, and health researches. It is essential to develop such regulatory bodies and make them more effective.

With the increase in public awareness and expectations about health and treatment services, it is essential to make such services accountable to the people and develop and expand health institutions, hospitals and health science academies in a contemporary manner. For this, it is necessary to make partnerships with supporting countries, donor agencies and international organizations. Such partnership should be transparent and responsive to people.

Similarly, it is essential to collaborate and coordinate with concerned agencies to control and regulate environmental pollutions (air, sound, food, and water) which have been directly or indirectly affecting public health and causing chronic diseases like cancer. It is imperative to develop quality control methods to test, monitor and regulate the effects of agricultural produces, food grains and consumable goods on human health.

4) Problems, Challenges and Opportunities

4.1. Problems

Main problems in promoting and availing quality health services at all levels include: inability to ensure consistent access to quality health services as expected by the people; inability to develop services and human resources accountable to public health and services; no proportionate return from investment in the health services; unavailability of necessary modern equipment and specialized doctors in public health institutions; prevalence of health problems related to communicable and non-communicable diseases, malnutrition, accidents and disasters; and increase in the burden of non-communicable diseases and mental health problems generated from globalization and changes in food habits and lifestyles.

The other problems include imbalance between the production and use of human resources in health services; humanitarian health problems stemmed from increased food insecurity and natural disasters; increase in the incidences of antimicrobial resistance due to inappropriate use of antibiotics; slow pace of decrease in maternal mortality ratio; absence of adequate nutrition in more than one-third of children of 0-5 age and women of reproductive age; and absence of reasonable partnership with and effective regulation of the private sector in community level health services.

4.2. Challenges

The challenges in health sector include ensuring equal access of all citizens to all health sectors; providing free, quality basic health services through all local levels; providing health services with priority to ultra-poor and vulnerable citizens; reducing the existing high level of out of pocket expenditure for health care; ensuring required financial resources; establishing and operating health institutions in line with the federal system; effectively implementing health insurance policy; making the health sector responsible towards human health by transforming it from profit-orientation to service-orientation; managing skilled human resources with a blend of skills in health services and social responsibility in the health sector; becoming self-reliant on drugs production; solving health problems associated with climate change, urbanization and changes in lifestyles; managing and regulating medicines and medical products effectively; increasing the use of data in monitoring, evaluation, review, policy making and decision making processes by making the health management information system more effective, integrated and technology-friendly to address the needs of all levels; developing a system to record the causes of deaths and continually conducting researches on them; and to maintain good governance in overall health and nutrition sectors by means of conforming quality health services and regulation.

4.3. Opportunities

The existing opportunities in health sector include sharing of responsibilities in health services among the federal, state and local levels as per the constitution; implementation of health insurance through policies and laws; operation of health programmes funded by state and local governments; increase in the availability of new information technologies, drugs and equipment; development of infrastructure and continuous increase in public awareness; expansion of health network up to the community level; stress of current health policies and programmes on management and quality; use of statistics in policy making and decision making processes and prioritisation of health services by all levels of the government.

5) Relevance, Guiding Principles, Vision, Mission, Goal and Objectives

5.1. Relevance

In order to address existing problems and challenges and to ensure the constitutional rights of citizens to quality health services, it is relevant to amend existing health policy, strategies and programmes and formulate a National Health Policy in accordance with the federal context. It is indispensable to continue existing health services and to sustain their achievements as well as to guide the development and expansion of health service infrastructure as per the federal context, given mandates and responsibilities. This policy is also imperative to address the national and international commitments made by Nepal and to achieve the Sustainable Development Goals while safeguarding the achievements of Millennium Development Goals.

5.2. Guiding Principles

In order to ensure constitutional rights of citizens to health services through a federal health system and to ensure universal access to quality health services, this policy has been formulated on the basis of the following guiding principles:

a. Universal access to, continuous availability of, transparency and comprehensiveness in quality health services;
b. Multi-sectoral involvement, collaboration and partnership in health system in accordance with the federal structure;
c. Special health services targeted to ultra marginalized, Dalit and indigenous communities;
d. Good health governance and assurance of adequate financial investments;
e. Diversification of equitable health insurance;
f. Restructuring in the health services;
g. Health and multi-sectoral coordination and collaboration in all policies;
h. Professionalism, honesty and occupational ethics in health service delivery.

5.3. Vision

Healthy, alert and conscious citizens oriented to happy life.

5.4. Mission

To ensure the fundamental health rights of citizens through optimum and effective use of resources, collaboration and partnerships

5.5. Goal

To develop and expand a health system for all citizens in the federal structures based on social justice and good governance and ensure access to and utilization of quality health services

5.6. Objectives

5.6.1. To create opportunities for all citizens to use their constitutional rights to health;

5.6.2. To develop, expand and improve all types of health systems as per the federal structure;

5.6.3. To improve the quality of health services delivered by health institutions of all levels and to ensure easy access to those services;

5.6.4. To strengthen social health protection system by integrating the most marginalized sections;

5.6.5. To promote multi-sectoral partnership and collaboration between governmental, non-governmental and private sectors and to promote community involvement; and

5.6.6. To transform the health sector from profit-orientation to service-orientation.

6) Policies

6.1. Free basic health services shall be ensured from health institutions of all levels as specified;

6.2. Specialized services shall be made easily accessible through health insurance;

6.3. Access to basic emergency health services shall be ensured for all citizens;

6.4. Health system shall be restructured, improved, developed and expanded at federal, state and local levels as per the federal structure;

6.5. In accordance with the concept of universal health coverage, promotional, preventive, curative, rehabilitative and palliative services shall be developed and expanded in an integrated manner;

6.6. Collaboration and partnerships among governmental, non-governmental and private sectors shall be promoted, managed and regulated in the health sector and private, internal and external investments in health education, services and researches shall be encouraged and protected;

6.7. Ayurveda, naturopathy, Yoga and homeopathy shall be developed and expanded in an integrated way;

6.8. In order to make health services accessible, effective and qualitative, skilled health human resources shall be developed and expanded according to the size of population, topography and federal structure, hence managing health services;

6.9. Structures of Health Professional Councils shall be developed, expanded and improved to make health services provided by individuals and institutions effective, accountable and qualitative;

6.10. Domestic production of quality drugs and technological health materials shall be promoted and their access and proper utilization shall be ensured through regulation and management of efficient production, supply, storage and distribution;

6.11. Integrated preparedness and response measures shall be adopted to combat communicable diseases, insect-borne and animal-borne diseases, problems related with climate change, other diseases, epidemics and disasters;

6.12. Individuals, families, societies and concerned agencies shall be made responsible for prevention and control of non-communicable diseases and integrated health system shall be developed and expanded;

6.13. In order to improve nutritional situation, adulterated and harmful foods shall be discouraged and promotion, production, use and access to qualitative and healthy foods shall be expanded;

6.14. Health researches shall be made of international standards and the findings and facts of such reports shall be effectively used in policy formulation, planning and health system development;

6.15. The health management information system shall be made modern, qualitative and technology-friendly and integrated health information system shall be developed;

6.16. Right to information related to health and right of a beneficiary to know about the treatment shall be ensured;

6.17. Mental health, oral, eye, ENT (ear, nose and throat) health services shall be developed and expanded;

6.18. Quality of health services provided by all health institutions including hospitals shall be ensured;

6.19. Good governance and improvement shall be ensured in policy-related, institutional and managerial structures in the health sector through timely amendments;

6.20. In accordance with the concept of health across the lifecycle, health services around safe motherhood, child health, adolescence and reproductive health, adult and senior citizen shall be developed and expanded;

6.21. Necessary financial resources and special fund shall be arranged for sustainable development of the health sector;

6.22. Urbanization, internal and external migration shall be managed and public health problems associated with such phenomena shall be resolved;

6.23. Demographic statistics shall be managed, researched and analyzed to link them with the policy decisions and programme designing;

6.24. Antimicrobial resistance shall be reduced, one-door health policy shall be developed and expanded for the control and management of communicable diseases, environmental pollution such as air pollution, sound pollution and water pollution shall be scientifically regulated and controlled;

6.25. Necessary arrangements shall be made to reduce the risks of immigration process on public health and to provide health protection to Nepalese staying abroad.

Strategies for each policy

6.1. Free basic health services shall be ensured from health institutions of all levels as specified;

6.1.1. Basic health services shall be provided by health institutions free of cost.

6.1.2. The government of Nepal shall arrange resources and provide basic health services to people through the local levels. The state and local governments may include additional services to the specified ones as per the need. However, expenditures for such additional services shall be borne by concerned governments.

6.1.3. Necessary policy, legal and institutional arrangements shall be made by state and local governments to make basic health services effective.

6.2. Specialized services shall be made easily accessible through health insurance;

6.2.1. Treatment services that are not included in the basic health services shall be strengthened and integrated into the insurance system.

6.2.2. Based on the principles of social justice, poor and prioritized target groups shall be linked with the state-subsidized health insurance system.

6.2.3. Formal sectors shall be compulsorily brought into the health insurance system and ultimately, all citizens shall be covered by the health insurance system.

6.2.4. The access of poor people to special health services specified by the state shall be gradually ensured.

6.3. Access to basic emergency health services shall be ensured for all citizens;

6.3.1. Specified emergency health services shall be regularly provided through health institutions of all levels including basic health service centres and primary hospitals. Two-way referral system shall also be arranged.

6.3.2. Targeting possible road accidents in the main highways, trauma service centres shall be built and made operational for immediate treatment services.

6.3.3. At least one ambulance with minimum facilities shall be arranged for each local level and ambulance services with specified standards, classification and modern technologies shall be arranged.

6.3.4. Air ambulance shall be arranged with specified norms to rescue people from ultra-remote areas with critical health conditions.

6.3.5. Emergency treatment fund shall be arranged and mobilized as specified in the guidelines.

6.3.6. In order to make the quality of emergency treatment at par with the international standards, training for doctors, nurses and other health workers shall be given compulsory life support training.

6.4. Health system shall be restructured, improved, developed and expanded at federal, state and local levels as per the federal structure;

6.4.1. Existing structure of the health sector shall be amended as per the need and necessary structures shall be established including National Disease Control Centre for disease control, epidemic control and research.

6.4.2. Necessary legal and institutional arrangements shall be made to strengthen the health system in line with the federal structure.

6.4.3. Hospitals and health institutions, health services and human resources at the federal, state and local levels shall be developed and expanded in accordance with the demographic distribution, geographic situation and needs. Basic health service centres shall be established under each ward of the local levels, primary hospitals under each local level, secondary hospitals and provincial hospitals under the state level and super specialized hospitals under the federal level shall be established. Similarly, at least one

tertiary hospital and one health science academy in each state under the federal government shall be established.

6.4.4. Two-way referral system from community level to the super specialized service providers shall be effectively implemented to make the treatment service more systematic.

6.4.5. E-health shall be institutionalized and modern technologies such as mobile health; telemedicine shall be developed, expanded and regulated. Health services, health education, medical services and health systems shall be digitalized.

6.4.6. Diagnostic services shall be made modern and technology-friendly and the national public health laboratory shall be strengthened to the international standards. A reference laboratory and a diagnostic centre shall be established in each state.

6.4.7. In order to improve the quality of health services provided by all governmental, non-governmental, community and private health institutions, Nepal Health Infrastructure Development Standards and Minimum Service Standards shall be implemented. Similarly, specified standards for non-governmental, community and private health institutions shall also be gradually implemented.

6.4.8. Partnership, collaboration between governmental and non-governmental sectors and community shall be promoted and blood transfusion services shall be institutionally developed and expanded to all state and primary hospitals.

6.4.9. With public-private partnership and through volunteer blood donors, availability of safe blood and blood-related items shall be ensured.

6.4.10. Human organ transplant, organ donation services and organ donation of brain-dead persons shall be managed, developed and expanded.

6.4.11. Medico-legal services shall be developed and expanded to all states and primary hospitals.

6.4.12. Home health service, school health service and health services provided by various institutions shall be managed and regulated.

6.4.13. Relevant modern technology shall be used or modernized to make health services qualitative and cost-effective

6.5. In accordance with the concept of universal health coverage, promotional, preventive, curative, rehabilitative and palliative services shall be developed and expanded in an integrated manner;

6.5.1. People's responsibility to keep them healthy and healthy lifestyle shall be promoted through health awareness programmes.

6.5.2. In coordination with the education sector, school health programme and health awareness campaigns shall be gradually expanded to higher secondary schools ensuring the availability of at least one health personnel in each school.

6.5.3. Contemporary vaccination services shall be adopted depending on prevalence of disease and cost-effectiveness. Right of target groups to receive vaccination shall be ensured and compulsory vaccination shall be implemented.

6.5.4. In order to promptly identify health hazards among various population groups, regular health check-ups shall be arranged.

6.5.5. Universal and equitable access to health services shall be ensured with priority to population of various age groups, genders, classes and regions.

6.5.6. Private and non-governmental organizations shall be promoted to establish rehabilitative and palliative service centres with physiotherapy services at federal, state and local levels.

6.5.7. In order to address local health needs and behaviors, the production, broadcasting and dissemination of health-related messages and materials shall be made scientific, managed, effective and regulated.

6.5.8. Surveillance system shall be implemented on environment, sanitation, drinking water and food items, etc. in coordination with concerned stakeholders.

6.5.9. Standards, mechanisms and level-wise mandates for public health impact assessment of specified industries, professions or projects shall be determined to identify, prevent and minimize their adverse effects on public health.

6.5.10. In order to address social determinants of health, multi-sectoral partnership and cooperation among various state mechanisms shall be made more effective. Inclusion of policies from other sectors in the health policies and plans shall be encouraged and advocated for.

6.6. Collaboration and partnerships among governmental, non-governmental and private sectors shall be promoted, managed and regulated in the health sector and private, internal and external investments in health education, services and researches shall be encouraged and protected;

6.6.1. Partnerships with private and non-governmental organizations shall be done based on specified parameters to ensure health and treatment facilities for targeted groups and areas.

6.6.2. Professionalism, efficiency, entrepreneurship, technical skills and financial resources of the private sector shall be utilized for the development and expansion of health services, and social responsibility shall also be promoted.

6.6.3. Parameters for approval of hospitals shall be equal and practical for governmental, non-governmental or private sectors. Similarly, private hospitals shall be encouraged to open outside the Kathmandu valley and in rural communities. Regular reports from hospitals and health institutions on their services shall be made mandatory and effective monitoring and regulation shall be put in place.

6.6.4. In order to ensure access of quality health services to all, fees shall be determined depending on the classified facilities of treatment and health services provided by all levels and types of hospitals and health institutions.

6.6.5. Health tourism shall be promoted by developing specialized and super-specialized health services and through partnership between the governmental, private and non-governmental sectors.

6.6.6. Volunteerism in health services shall be promoted and female health volunteers shall be mobilized and managed through local levels.

6.7. Ayurveda, naturopathy, Yoga and homeopathy shall be developed and expanded in an integrated way;

6.7.1. In line with the federal structure, level-wise institutions related with Ayurvedic healthcare shall be systematically developed and expanded.

6.7.2. Other healthcare systems, such as Yoga and naturopathy, homeopathy, Unani, acupuncture shall be developed and expanded as per the federal structure.

6.7.3. Locally available medicinal herbs, minerals and animal substances shall be identified, conserved, collected and promoted. Those items shall be used in scientific researches on Ayurvedic healthcare and self-reliance shall be promoted.

6.7.4. Existing and traditional healthcare systems shall be enlisted, managed and regulated as per specified parameters.

6.7.5. A national Ayurveda, Yoga and Panchakarma Centre with specialized services such as Ayurveda, Panchakarma, Yoga and naturopathy shall be established to support health tourism and such initiatives shall be gradually expanded as per the federal structure.

6.7.6. Ayurveda health science academy and Ayurveda University shall be established and studies, treatment and researches shall be carried out on Ayurveda science and naturopathy system.

6.8. In order to make health services accessible, effective and qualitative, skilled health human resources shall be developed and expanded according to the size of population, topography and federal structure, hence managing health services;

6.8.1. Necessary health human resources shall be obtained, developed and utilized based on short-term and long-term plans for the federal structure.

6.8.2. In collaboration with concerned agencies, integrated national curriculum shall be developed to produce necessary health human resources at all levels.

6.8.3. The concept of 'one doctor/health professional - one health institution', in which a doctor or a health professional stays only in one government health institution, shall be gradually implemented in all government health institutions. In order to make it more effective and to expand access to health services, extended hospital services shall be implemented in government hospitals with financial and other incentives.

6.8.4. In order to ensure availability of basic health services in all basic health centres at all wards, integrated treatment services shall be implemented which shall include primary treatment for emergencies, primary lab services and other basic services.

6.8.5. An MDGP doctor and necessary posts shall be created and arranged for emergency treatment, lab, pharmacy, nursing and public health services shall be availed at the primary hospitals of all local levels.

6.8.6. Clear pathways and opportunities for the professional growth of health human resources through higher education, in-service training, continuous professional training, and professional development shall be put in place and professional researches shall be encouraged and promoted.

6.8.7. Arrangements shall be made for the production of specialized human resources required for contemporary genres of quality health services (e.g. midwife, hospital management, medical leadership, health economics, etc.).

6.8.8. An umbrella act shall be formulated and implemented for the development and expansion of health science academies. The concept of teaching district shall be implemented throughout the country.

6.8.9. Information technology-friendly documentation of health institutions and human resources of all levels and types shall be maintained and updated.

6.9. Structures of Health Professional Councils shall be developed, expanded and improved to make health services provided by individuals and institutions effective, accountable and qualitative;

6.9.1. An integrated umbrella act for health-related professional councils shall be implemented and expanded to the state levels.

6.9.2. Institutional and technical capacity of health-related councils shall be increased.

6.9.3. Code of conduct shall be enforced to make the service providers professional and accountable to the health of beneficiaries.

6.9.4. Performance based pay and incentives shall be arranged to make the health professionals responsible to their work and services.

6.10. Domestic production of quality drugs and technological health materials shall be promoted and their access and proper utilization shall be ensured through regulation and management of efficient production, supply, storage and distribution;

6.10.1. Mechanisms shall be developed as per the federal structure to determine price and quality of drugs, equipment and technological health materials and to regulate them. Generic prescription and hospital pharmacies with skilled technicians shall be implemented.

6.10.2. National production of essential drugs and technological health materials shall be encouraged and self-reliance shall be increased.

6.10.3. Medicines and food items management divisions shall be set up at the federal Health Ministry and the Ministry of Social Development at the state level as per the food security policy and drugs quality and price control policy. National standards for domestically produced and imported drugs and medical supplies shall be prepared to ensure their quality.

6.10.4. Procurement, transportation, quality storage and distribution system shall be made more effective and systematic by preparing specifications of drugs and medical supplies.

6.10.5. Guidelines and standards shall be developed to receive and utilize medicines, equipment, medical supplies as per the need from international, national and local government, non-government and private entities.

6.10.6. National medical surveillance shall be extended to all levels and made effective to manage import and export of drugs.

6.10.7. Surveillance and research shall be strengthened to address antimicrobial resistance and preventive and control measures shall be applied in coordination with livestock, agriculture and food sectors.

6.10.8. Effective regulation shall be put in place to ensure quality of Ayurvedic medicines and herbal products.

6.11. Integrated preparedness and response measures shall be adopted to combat communicable diseases, insect-borne and animal-borne diseases, problems related with climate change, other diseases, epidemics and disasters;

6.11.1. Effective programmes shall be implemented for study, researches, surveillance, prevention, control, elimination and eradication of communicable diseases including tuberculosis, HIV/AIDS and malaria.

6.11.2. Notification system for classified diseases shall be developed and implemented.

6.11.3. Capacity and mechanisms shall be developed at federal, state and local levels to gradually prevent, eliminate and eradicate diseases as per the International Health Regulations, 2005.

6.11.4. Environment and health-friendly technologies shall be encouraged; state and local levels shall be made responsible for proper management, regulation and continuous monitoring of waste and medical garbage produced by hospitals, health institutions and laboratories.

6.11.5. Coordination and advocacy shall be done to promote domestic and community waste management and environment cleanliness.

6.11.6. Programmes to minimize climate change-induced health problems shall be revised and developed in collaboration and coordination with stakeholders.

6.11.7. Mechanisms shall be set up at all levels to immediately address disasters and epidemics; their capacity development, response plans, preparedness and mobile hospital services shall be arranged.

6.11.8. Citizen and community participation and contribution in overall health services including in disaster management, risk reduction and health promotion shall be encouraged.

6.12. Individuals, families, societies and concerned agencies shall be made responsible for prevention and control of non-communicable diseases and integrated health system shall be developed and expanded;

6.12.1. Programmes to promote healthy life style shall be developed and extended through health institutions of all levels.

6.12.2. Multi-sectoral coordination with institutions related with drinking water, environmental cleanliness, food security, education and so on shall be strengthened to promote health.

6.12.3. Multi-sectoral partnership shall be implemented and necessary standards shall be developed and implemented to reduce adverse effects and risks caused from enterprises and to make workplace secure and healthy.

6.12.4. Proper systems shall be developed to prevent and treat hereditary diseases.

6.12.5. Processed and readymade food items that are harmful to human health shall be discouraged and use of hazardous chemicals, pesticides, adulteration during the production, storage, processing and sales shall be controlled and regulated.

6.12.6. Use of stimulating drugs and alcohol shall be discouraged through multi-sectoral coordination and sales, spread and use of tobacco products shall be effectively regulated.

6.12.7. Promotional programmes and structural arrangements shall be implemented to prevent road accidents and other disasters (fire, lightning strike, etc.).

6.12.8. Coordination and advocacy with concerned stakeholders shall be done for construction of cycle lane, public parks, etc. to promote healthy lifestyle and to reduce adverse effects of environmental pollutions and development works on public health.

6.13. In order to improve nutritional situation, adulterated and harmful foods shall be discouraged and promotion, production, use and access to qualitative and healthy foods shall be expanded;

6.13.1. Multi-sectoral nutrition policy and programmes including food security shall be updated and implemented with priority.

6.13.2. In order to improve micronutrient situation of women, children and people of different age groups, food diversification and balanced diet shall be emphasized and short-term, medium-term and long-term measures at all levels shall be adopted.

6.13.3. School health programme and nutrition education programmes shall be strengthened, developed and implemented.

6.13.4. Consumption of nutritious and healthy food items shall be promoted and domestic production shall be encouraged.

6.14. Health researches shall be made of international standards and the findings and facts of such reports shall be effectively used in policy formulation, planning and health system development;

6.14.1. Institutional structure, capacity and scope of Nepal Health Research Council shall be updated, developed and expanded to federal structures and made as per international standards.

6.14.2. Capacity of all levels shall be developed in health researches; and health researchers and technical human resources shall be motivated to researches in coordination with academic and educational institutions.

6.14.3. Results of health research conducted by all sectors and entities shall be integrated and those facts, reports and conclusions shall be used in formulation of policies and plans and health system development and expansion.

6.14.4. Books, knowledge, skills on indigenous medicinal herbs, minerals, animal substances, Ayurveda and traditional healthcare shall be researched and recorded, protected and promoted as intellectual property.

6.15. The health management information system shall be made modern, qualitative and technology-friendly and integrated health information system shall be developed;

6.15.1. Health management information systems of all levels as per federal structure shall be developed and managed in an integrated manner.

6.15.2. Health management information system shall be made integrated, technology-friendly, contemporary and regular and capacity of all levels shall be enhanced to use the information.

6.15.3. The facts and information obtained from health management information system, researches, surveys and surveillance shall be used in monitoring, evaluation, policy formulation, programme development and decision making processes at various levels.

6.15.4. Security of health information shall be ensured and health information of beneficiaries shall be maintained in e-recording system.

6.15.5. Existing surveillance system in the health sector shall be strengthened and an integrated surveillance system shall be developed and implemented.

6.16. Right to information related to health and right of a beneficiary to know about the treatment shall be ensured;

6.16.1. The service providers shall be made responsible in health information flow, health institutions shall be developed as information-friendly and the rights of beneficiaries to informed consent, privacy and information shall be ensured.

6.16.2. Communication materials that may directly or indirectly have adverse effects on people's health and on society shall be discouraged and regulated.

6.17. Mental health, oral, eye, ENT (ear, nose and throat) health services shall be developed and expanded;

6.17.1. Primary treatment of eyes shall be integrated into basic health services.

6.17.2. Eye health services shall be developed and expanded with public-private partnership and an eye health unit shall be set up in the federal Ministry of Health for coordination, partnership and regulation.

6.17.3. Oral health services and control and treatment of dental diseases shall be developed and expanded at all levels including basic health centres.

6.17.4. Ear, nose, throat treatment services shall be developed and expanded to all levels.

6.17.5. People's access to mental health and psychosocial services shall be ensured through primary hospitals by promoting transfer of knowledge and skills, service-oriented skills and special training.

6.17.6. Other specialized health services shall be developed and expanded as per needs.

6.18. Quality of health services provided by all health institutions including hospitals shall be ensured;

6.18.1. In order to ensure quality of health services, a regulatory mechanism (accreditation entity) shall be established and developed at the federal level.

6.18.2. Minimum service standards for health institutions of all levels shall be developed and implemented after necessary amendments.

6.18.3. Guidelines, quality standards and standard treatment (treatment protocol) shall be developed and amended for the provision of quality health services.

6.18.4. Quality testing guidelines for health materials including vaccines, medicines, medical equipment, biological reagents and health products from production to distribution shall be developed, updated and implemented.

6.18.5. Medical and managerial audit of health institutions shall be carried out and the quality of services and institutional capacity shall be strengthened.

6.18.6. Necessary standards for effective management of health services that use radiation shall be prepared and implemented.

6.19. Good governance and improvement shall be ensured in policy-related, institutional and managerial structures in the health sector through timely amendments;

6.19.1. Health governance procedures shall be developed and implemented to make health services transparent, accountable and responsive.

6.19.2. Necessary mechanisms shall be developed and used to address grievances, complaints and suggestions of beneficiaries.

6.19.3. Provisions of existing laws shall be amended and implemented for the security of health service providing individuals and institutions.

6.19.4. Integrated monitoring and evaluation framework shall be developed, updated and implemented to assess the health services and management of health institutions of all levels.

6.19.5. Public hearing and social audits shall be arranged about the health services provided by all health institutions.

6.19.6. Institutional capacity shall be improved for effective management of health services at all levels.

6.19.7. In view of community cultures, the health services shall be made beneficiary-friendly and consumer rights shall be ensured.

6.20. In accordance with the concept of health across the lifecycle, health services around safe motherhood, child health, adolescence and reproductive health, adult and senior citizen shall be developed and expanded;

6.20.1. Safe motherhood and reproductive health services shall be made of good quality, affordable and accessible.

6.20.2. Health services targeted to vulnerable age groups such as maternal-infant health, child health, adolescent health, adult health and geriatric health shall be strengthened and professional midwifery and nursing services shall be expanded.

6.20.3. In view of social determinants that affect women's health, special programmes shall be implemented in coordination with concerned stakeholders.

6.20.4. In order to strengthen safer motherhood and reproductive health, skilled birth attendants shall be arranged in all wards.

6.20.5. Abortion services shall be made qualitative and effective as per the law.

6.20.6. Health services related with infertility shall be gradually extended to the state levels.

6.21. Necessary financial resources and special fund shall be arranged for sustainable development of the health sector;

6.21.1. Integrated health finance strategy shall be formulated and implemented to ensure equitable access of all to health services, to reduce out of pocket expenditure on health and to mobilize financial resources in the health sector in a cost-effective manner.

6.21.2. State expenditure on health shall be gradually increased and the burden of expenditure for individuals shall be reduced.

6.21.3. National health accounts with analytical details of overall income, expenditure, distribution and use of resources in the health sector shall be annually published and used in the preparation of policies, programmes and plans.

6.21.4. Maximum portion of revenue generated from tobacco and alcohol products shall be used in public health promotion programmes.

6.21.5. Economic support received from international development partners shall be mobilized based on results, priority and with avoidance of duplication.

6.21.6. Federal Ministry of Health shall arrange a special fund for remote, rural and marginalized communities. State and local governments shall add some amounts in the fund and conduct outreach clinics and integrated basic health mobile services.

6.22. Urbanization, internal and external migration shall be managed and public health problems associated with such phenomena shall be resolved;

6.22.1. Demographic information shall be analyzed to prepare plans for overall development, to formulate projects and to develop programmes.

6.22.2. A system to examine the cause of deaths shall be developed and linked with the vital registration system.

6.22.3. External and internal migration and urbanization shall be effectively managed. Measures to minimize the effects of such phenomena in public health shall be adopted.

6.22.4. Guidelines shall be prepared and implemented to ensure health security of citizens going for foreign employment.

6.23. Demographic statistics shall be managed, researched and analysed to link them with the policy decisions and programme designing;

6.23.1. Actual demographic data with age distribution shall be updated through the ward level health institutions and targeted health programmes shall be designed for age-specific groups.

6.23.2. Based on the concept of health across the lifecycle, demographic data management, researches and analyses shall be done to link with the decision making process and programme designing.

6.23.3. In order to ensure access of handicapped and people with disability to health services, disability-friendly structures and mechanisms shall be ensured at all levels.

6.23.4. Coordination shall be made with concerned agencies to establish senior citizen care centres with public-private partnership.

6.24. Antimicrobial resistance shall be reduced, one-door health policy shall be developed and expanded for the control and management of communicable diseases, environmental pollution such as air pollution, sound pollution and water pollution shall be scientifically regulated and controlled;

6.24.1. Concrete scientific plans and programmes shall be developed and implemented in partnership with concerned authorities to minimize adverse effects of environmental pollution including air pollution, sound pollution, water pollution and chemical pollution on public health.

6.24.2. A plan of action shall be developed and implemented to regulate and control food pollution and adulteration.

6.24.3. In order to reduce antimicrobial resistance, necessary plan of action shall be developed and implemented to effectively regulate and control the misuse of antibiotics.

6.25. Necessary arrangements shall be made to reduce the risks of immigration process on public health and to provide health protection to Nepalese staying abroad.

6.25.1. Necessary arrangements shall be made to ensure pre-departure, in-destination-country and post-return health check-up, to promote access to and use of health services.

6.25.2. Necessary mechanisms and procedures shall be developed and used to promote and ensure access to and use of health services for Nepalese abroad.

6.25.3. Health examination for foreign nationals before entering Nepal shall be made compulsory.

6.25.4. Migration Health Management Information System shall be developed and implemented to manage the migration health information

7) Institutional Arrangement

The following arrangements shall be made for the implementation of this national health policy.

7.1. This policy shall remain as a guiding policy for the state and local governments to develop their respective policies within their mandates for operation of health activities and flow of services.

7.2. For effective implementation of this policy, the present structure of health institutions in federal, state and local levels and other health-related institutions shall be reviewed, improved, revised and reformed to discharge responsibilities as defined by the constitution.

7.3. Act, regulations, standards, guidelines, procedures and protocols shall be developed and implemented as envisioned by this policy.

7.4. Institutional capacity shall be strengthened by creating necessary staff posts as per the federal structure.

7.5. Existing theme-wise policies in the health sector shall be developed and amended as thematic comprehensive strategies, as needed.

7.6. State and Local levels shall develop and expand structures in respective levels as per this National Health Policy, 2019.

7.7. A detailed plan of action for this policy shall be prepared and implemented.

8) Financial Resources

Government budget allocated by federal, state and local levels, foreign loan and grant, investment from private and non-governmental sectors shall be the financial resources to implement this policy.

9. Monitoring and Evaluation

9.1. Appropriate mechanism shall be managed and devised to regularly monitor and evaluate the health programmes implemented at various levels of the state.

9.2. Results-based monitoring and evaluation framework developed and used by the National Planning Commission and the monitoring and evaluation system used by the Ministry of Federal Affairs and General Administration shall be taken into account while developing a monitoring and evaluation system for this policy.

9.3. Health management information system shall be updated, monitoring and evaluation system shall be made easier and regular with the use of electronic system.

10) Risks

10.1. Although this National Health Policy, 2019 has been formulated based on the constitution that guarantees basic health services for all citizens as a fundamental right and the policy and programmes of the Government of Nepal that envision equitable access to quality health services through the federal structure, unavailability of adequate budget may pose difficulty in the implementation of this policy and strategies.

10.2. Health services may be affected due to complexities associated with the development of health infrastructure, organizational reforms and the management of health human resources.

11) Repeal and Saving

The National Health Policy, 2014 has been repealed. Existing theme-wise policies of health sector shall be repealed once concerned thematic strategies are formulated.

THE FIFTEENTH PLAN

Health and Nutrition FY 2019/20 – 2023/24

Background

The Constitution of Nepal has the provision of the right to get free basic health services from the state as a fundamental rightof the citizens of Nepal. Considering the importance of healthy and productive citizens in the nation's development, the state has an obligation to ensure equitable access to quality and easily accessible health services by increasing investment in this sector. In this context, as per the concept to federal state, it is necessary to gradually transform the health sector from being a profit-oriented to service-oriented. As per the list of exclusive and concurrent powers enumerated by the Constitution, the functions of formulating health policy and standards, ensuring quality and monitoring, traditional treatment services and infectious disease control have been assigned to the federal government whereas the responsibility of health services have been assigned to the federal, provincial, and local levels. For its effective implementation, inter-ministry coordination and collaboration is a must.

As a result of various programmes implemented in the health service, the infant mortality rate per thousand live births has decreased to 32, the neonatal mortality rate hasdecreased to 21, the child mortality rate (under fiveyears) has decreased to 39 and thematernal mortality rate has decreased to 239 (per one hundred thousand live births) and totalfertility rate is 2.3 per woman. Similarly, the rate of stunting in children below five years has decreased to 36 percent. In this context, the national agenda is to achieve Sustainable Development Goals in keeping with the international commitments Nepal has made time to time, existing policy of the government as well as the major problems, challenges, and opportunities of the health and nutrition sector. To make citizens healthy, there is a need to increase investment in modern medicine as well as the medicines pertaining to ayurvedic, naturopathic and homeopathic treatment, and good governance and research in the health sector. According to this Plan, the state must play the lead role whereas the private and cooperative sectors have to play complementary roles in bringing health services to the doorsteps of the people.

Vision, Goal, Objectives, Strategie and Working Policies

Vision

Healthy, productive, responsible, and happy citizens.

Goal

To ensure access to quality health services at the people's level by developing and expanding a strong health system at all levels.

Objectives

1. To achieve balanced development and expansion of all sorts of health services at the federal, provincial, and local levels.
2. To transform the profit-oriented health sector gradually into a service-oriented sector by increasing government responsibilities and effective regulation for easily accessible and quality health service.
3. To promote a healthy lifestyle by making health service providers and service seekers more responsible for increasing the citizens' access to health service through multi-sectoral coordination and partnership.

Strategies	Working Policies
1. To ensure access of citizens in basic to specialized and quality health services including preventive, promotional, curative, restorative, and palliative care.	1. A package and protocol will be prepared and implemented for easy access of citizens in free basic health services. 2. Procedures will be formulated and implemented for the development and expansion of modern technology including telemedicine for delivering quality health services in an easily accessible way by expanding access ofcitizens of rural areas in health services and mobile health services programmes in collaboration with the private and the non-governmental sectors. 3. Rehabilitation centers will be established at all levels in collaboration with the private and the non-governmental organiza tions by formulating procedures for partnership in the health services and the community-based rehabilitation and palliative services will be developed and expanded. 4. Timely vaccination services will be provided based on the burden of disease and cost-effectiveness. The National Immunization Fund will be strengthened to make the immunization services sustainable. 5. Promotional programmes will be carried out for maintaining good and cordial relationship among doctors/health professionals and patients through code of conduct and by ensuring harmonious behavior. 6. The required budget will be ensured for reforming the quality of health services provided by health institutions at all levels by effectively implementing Nepal Health Infrastructure Development Standards and Minimum Service Standards (MSS).
2. To systematically develop and expand Ayurveda, natural medicine, and other medicines.	1. The required structure will be made for identification, collection, conservation, and promotion of medicinal herbs, minerals, and animal products available at local levels. 2. National Ayurveda, Yoga, Meditation, *Pranayam,* psychological counselling, *Panchakarma,* and Natural Medicine Service Centre will be established for the promotion of health tourism by listing and systemizing prevailing natural medicine, alternative, and other medicinal methods and services.
3. To address the health necessity of citizens of all age groups as per the Life Course Approach and to make additional improvements and expansion of overall development of mother and child, children and adolescents, and family management services.	1. The overall development of mother and child, children and adolescents, and family management services will be reformed further and expanded as per the concept of the lifecycle. 2. The health services will be made senior citizen-, gender-and disability-friendly as per the Life Course Approach to address the health needs of citizens of all age groups. 3. Provisions will be made for regular health check-ups for the rapid detection of health risks of various age groups. 4. Provisions will be made for a free check-up for the diseases increasingly prevalent among women such as breast cancer and cervical cancer. 5. Special programmes including evidence-based midwife education and services will be formulated and carried out for reducing the maternal mortality rate

Strategies	Working Policies
4. To develop and expand hospitals and health institutions at federal, provincial, and local levels and also to generate multi-skilled and competent human resources capable of bearing the social responsibility based on demographic distribution and geographical situation and needs.	1. At least one basic health service center in every ward of the local level, at least one primary hospital capable of providing basic emergency operation and primary trauma care in every local level, a secondary level hospital, provincial hospital, and a highly specialized hospital under each province and at least a highly specialized hospital and academy of health science in every province under the authority of federal level will be established and operated. 2. The concept of "one doctor/health professional-one health institution" will be implemented gradually in all governmental health institutions as the doctor/health professional working in the government health institutions will work only in at one health institution and the extended health services will be implemented with additional facilities in governmental hospitals for effective implementation of this concept and expansion of access to the services. 3. A master plan will be prepared and implemented for determining number, type, place, and required health human resource of the health institution by developing modern techniques and certain standards. 4. Scholarships will be provided for various segments of health service based on priority in keeping with the needs of the country andavailable financial resources.
5. To develop a sustainable health financing system by increasing national investment in health.	1. An Integrated National Health Financing Strategy will be formulated and implemented including therein the subjectof enhancing equitable access of all to the health services, reducing personal expenditure in the health services, and mobilizing financial resources in health based on cost efficiency. 2. Quality basic health services will be providedfree ofcostat all local levels and other health services including freeand specialized health services will be provided through equitable health insurance.
6. To manage and regulate the collaboration and partnership among governmental, private, and non-governmental sectors while ensuring the leadership role of government in health services.	1. "One school-one health worker policy" will be implemented in coordination with the education sector. 2. Human resources, structure, and scope of health-related regulatory entities will be reformed, and the umbrella structure of related professional councils will be developed and expanded. 3. An Integrated Umbrella Act will be formulated for making health science institutions more systematic and the required structure will be developed and expanded. 4. Collaboration and coordination will be carried out with Health institution of private, community, and non-governmental sectors for the achievement of certain Objectives through setting clear standards and procedures. 5. Medical good governance will be maintained including the governmental, private, community, and cooperative sectors and the price of health services will be regulated using certain criteria. 6. Regulation and continuous monitoring will be carried out for the proper management of wastage and medical waste produced by hospitals and other health institutions and laboratories by making the provincial and local levels responsible for the task.

Strategies	Working Policies
7. To regulate and manage new technology-based health materials as well as production, import, storage, distribution, and use of drugs and drug-relatedmaterials.	1. Considering the drugs provided free of cost by the Government of Nepal, the country will be made self-rely in drug production. 2. The production, storage, and distribution of drugs and technology-based health materials will be made effective by emphasizing the commercial farming of medicinal herbs and the development and promotion of the drugs industry. 3. The regulatory entity will be enhanced and expanded for making more effective the implementation of generic prescription, determination of price and quality of drugs, mitigation of antibiotic response, control of misuse of antibiotics, and research of drugs.
8. To adopt integrated measures including community health system for controlling infectious and non-infectious diseases and for public health disaster Management preparedness and response.	1. An integrated entity will be established at the national levelfor the study, research, surveillance, prevention, control, care, eradication, and regulation of infectious and non-infectious diseases and the programmes will be carried out accordingly. 2. A long-term strategy will be prepared and implemented through multi-sectoral coordination for implementing prevention, control, and treatment system of non-infectious and chronic diseases. 3. An action plan will be made and carried out for the prevention and treatment programmes for hereditary diseases like sickle cell anemia and thalassemia based on demographic research on the burden and distribution of the diseases. 4. Access to mental health services will be expanded at alllevels. 5. The eye-, nose-, ear-, and throat-related health services will be gradually developed and expanded to the federal, provincial, and local levels. 6. Procedures will be formulated and implemented for a prompt response to disasters and pandemics at the federal, provincial, and local levels, integrated development of ambulance services, and the mobilization of well-equipped trained doctors and health professionals.
9. To increase the use of data in monitoring, assessment, review, policy formulation, and decision process by making health information systems more systematic, integrated, and technology-friendly with properly addressing the demand of health Information of all levels.	1. The quality of health data management will be enhancedand made technology-friendly, and the use of data will be promoted in policy formulation and decision making of all levels by conducting the study, research, survey, projection, and analysis. 2. Provisions will be made for electronic reporting at the health institutions level by making the data management technology-friendly and the electronic health record system will be gradually expanded to all health institutions. 3. The health data produced at the local levels will be integrated into the national main network as required and a system will be developed to update and disseminate the Information regularly. 4. Studies, research, and surveys will be carried out basedon national necessity and priority and the findings will be used in the formulation of policies and programmes.
10. To make timely revisions in the scope of the Nepal Health Research Council and develop and expand it to the provincial level.	1. The structure of Nepal Health Research Council will be expanded to the provincial level coordinating with universities and the academic sector in health research for the formulation of evidence-based health policy and plans.

Strategies	Working Policies
11. To make provisions for mitigating the risk to public health by the migration process.	1. By developing migration health management information systems, policy and institutional provisions will be made for health check-ups and easy access to health services atthe pre-departure, destination, and post-departure points of the migrants.
12. To implement the Multi-Sector Nutrition Plan (MSNP) through coordination and partnership.	1. The nutrition-related mechanism formed at the provincial and local levels will be strengthened along with nutrition improvement plan as envisaged by Multi-Sector Nutrition Plan II, and provisions will be made for carrying out nutrition-specific and nutrition-sensitive programmes through all local levels. 2. Healthy behaviors will be promoted for mitigating malnutrition by increasing the access to and utilization of quality and healthy food items.
13. To include health in all policies through multi-sector coordination.	1. The multi-sector coordination will be strengthened in areas including drinking water, sanitation, air and sound pollution, food security, education, and road in order to address the public health issues and implement the concept of "Health in all policies" through coordination with the relevant stakeholders. 2. The contamination and use of tobacco-based goods, alcohol, chemical substances, poison, and non-food items that have adverse health effects will be controlled and regulated. Production, transmission, and dissemination of the health-related message and materials will be made scientific, systematic, and effective for discouraging and controlling false and misleading messages and advertisements promoting processed and readymade food items considered harmful to the public health. 3. Every citizen will be informed about healthy foods as perthe concept of the healthy kitchen for making "My health, my responsibility" campaign effective, and coordination and collaboration will be carried out with the stakeholders for construction and establishment of cycle lanes, one home one kitchen-garden, public park, gymhall, yoga practice and *panchakarma* center for promoting a healthy environment and active lifestyle. 4. Standards and mechanisms will be created at the federal, provincial, and local levels for assessing public health impact by considering the occupational health and safety ofthe industries, businesses, and projects before approving them.

INTRODUCTION

1.1 BACKGROUND

Constitution of Nepal 2015 has mentioned that health as fundamental right of its citizen. Article 35 of the constitution elaborates the right of all Nepali citizens to exercise the provision of free basic health services from the state, emergency health services, information about his/her medical treatment, equal access to health services and access to clean drinking water and sanitation. The Constitution also guarantees right to demand and receive information on any matter of his/her interest or of public interest. Good Governance Act 2008, clause 41 vividly mentions every department and other government agencies at the central level shall, every year prepare an annual report and submit it within described period, to the Office of Prime Minister and Council of Ministries. In line with the Constitution of Nepal and Good Governance Act, Department of Health Services (DoHS) has published this Annual Report of fiscal year 2077/78 (2020/2021). This is the 27th consecutive report of its kind and it is the fifth Annual Report after restructuring of Ministry of Health and Population (MoHP).

This report mainly focuses on performance of DoHS in FY 2077/78 on following areas:

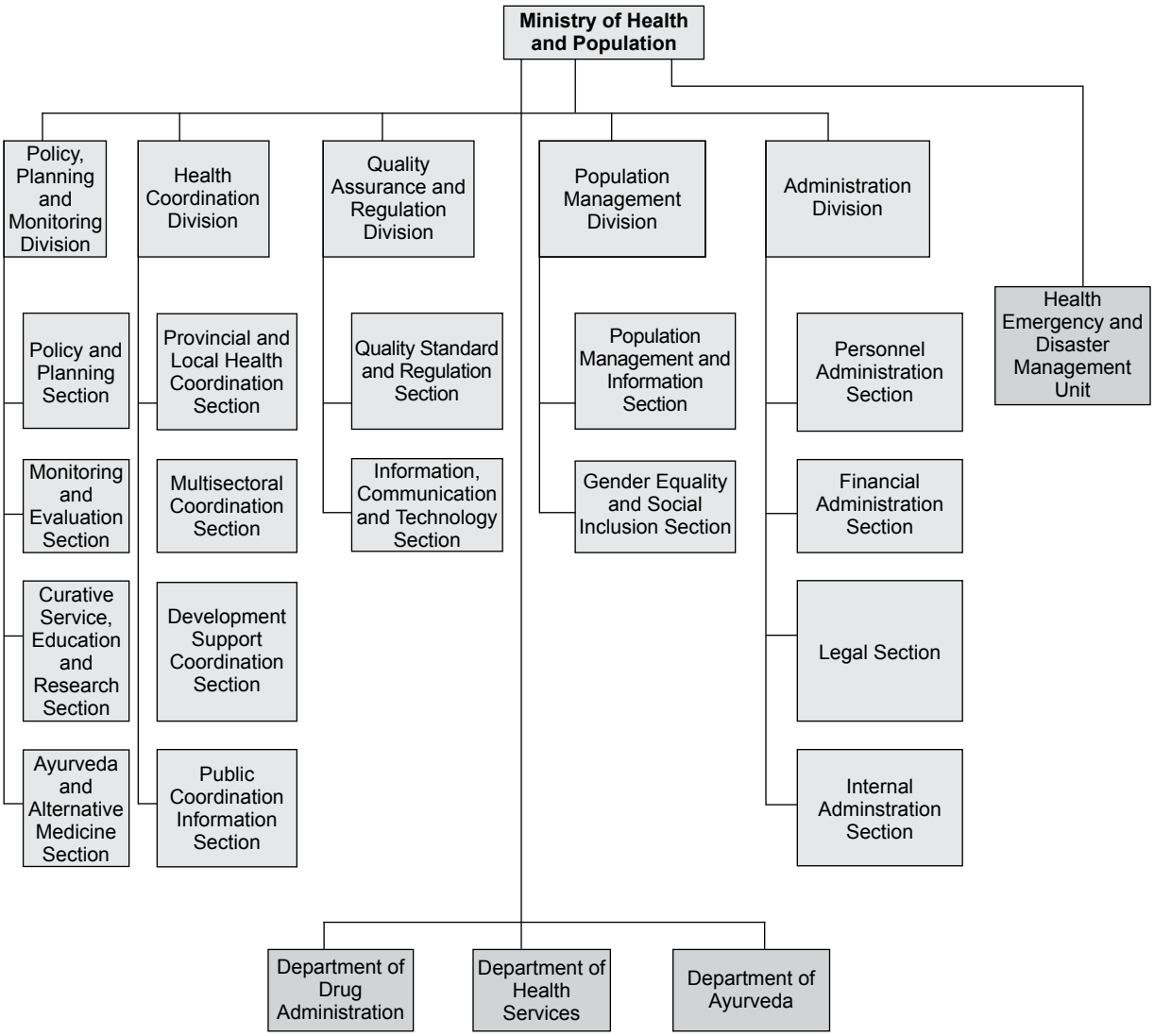
- Programme's policy statements, including objectives, strategies, goals, major targets activities and achievements.
- Health programme's indicators.
- Problems, issues, constraints and recommendations on improving performance and achieving targets.

This report also provides information on the activities of the Department of Drug Administration (DoA), Department of Ayurveda and Alternative Medicine (DoAA), the health councils, health insurance, external development partners and other related stakeholders. The report also includes progress of major programmes/activities implemented by Health Directorate of all seven provinces, Provincial Health Offices (PHO), and other Health Facilities (HFs).

The MoHP provides guidance to DoHS as well as provincial and local-level governments to deliver promotional, preventive, diagnostic, curative, and palliative health care services and carries out its functions of related policy development, planning, human resource management, financial management and monitoring and evaluation. The newly restructured MoHP organogram has five divisions: The Policy, Planning & Monitoring Division; the Health Coordination Division; the Quality Standard & Regulation Division; the Population Management Division and the Administration Division. In addition, six professional councils: Nepal Medical Council, Nepal Nursing Council, Nepal Ayurvedic Medical Council, Nepal Health Professional Council, Nepal Pharmacy Council and Nepal Health Research Council and regulate their functions.

Department of Health Services (DoHS), the Department of Ayurveda and Alternative Medicine (DoAA) and the Department of Drug Administration (DDA) come under MoHP. These three departments are responsible for formulating and implementing programmes, use of financial resources and accountability, and monitoring and evaluation. DDA is the regulatory authority for assuring the quality and regulating the import, export, production, sale and distribution of drugs. The Department of Ayurveda and Alternative Medicine is responsible to care with Ayurvedic services and implements health promotional activities (Figure1.1).

Figure 1.1 Organogram of Ministry of Health and Population (MoHP)



1.2 DEPARTMENT OF HEALTH SERVICES (DoHS)

According to the recently restructured DoHS organogram (Figure1.2), the DoHS have five Divisions; Family Welfare Division (FWD), Management Division (MD), Epidemiology and Disease Control Division (EDCD), Curative Division (CD) and Nursing and Social Security Division (NSSD). Responsibilities of these Divisions are summarized in Table 1.1 and Figure 1.2. It also has five Centres with a degree of autonomy in personnel and financial management: National Health Education, Information and Communication Centre (NHEICC); National Health Training Centre (NHTC); National Centre for AIDS and STD Control (NCASC); National Tuberculosis Centre (NTC); and National Public Health Laboratory (NPHL).The NHTC coordinates all training programmes of the divisions and implements training by sharing common inputs and reducing the travelling time of care providers. All information, education and communication (IEC) and behaviour change communication (BCC) activities are coordinated by NHIECC. The centres support the delivery of essential health care services (EHCS) and work in coordination with the respective divisions.

Table 1.1: Summary responsibilities area of DoHS's five divisions

	Division	Areas of responsibility
1	Management Division (MD)	Integrated Health Information Management, Infrastructure Development, Environmental Health and Logistics Management and procurement.
2	Family Welfare Division(FWD)	Expanded Programme on Immunization (EPI), Nutrition and Integrated Management of Childhood Illness (IMCI) and Newborn Care, Reproductive Health Care (including Safe Motherhood and Neonatal Health) and Family Planning (FP).
3	Epidemiology and Disease Control Division (EDCD)	Outbreak Management, Control of Epidemics, Pandemic and Endemic Diseases, Neglected Tropical Diseases (NTD), Vector Borne Diseases, Zoonotic and other Communicable Diseases, Non Communicable Diseases (NCD), Mental Health, Leprosy control, Disability Prevention, Surveillance, Early Warning and Reporting System (EWARS),Water Quality and Research (WQR) activities.
4	Curative Service Division (CSD)	Hospital service monitoring and strengthening including emergency and basic health care, ENT, Eye, Oral health.
5	Nursing and Social Security Division (NSSD)	Capacity building of nursing and midwifery personnel, management of geriatric health services and gender based violence programme, OCMC, provision of treatment and management facilities for selected diseases to impoverished Nepalese citizens at listed hospitals and also for management of Female Community Health Volunteer Programme.

Figure 1.2: Organogram of the Department of Health Services (DoHS)

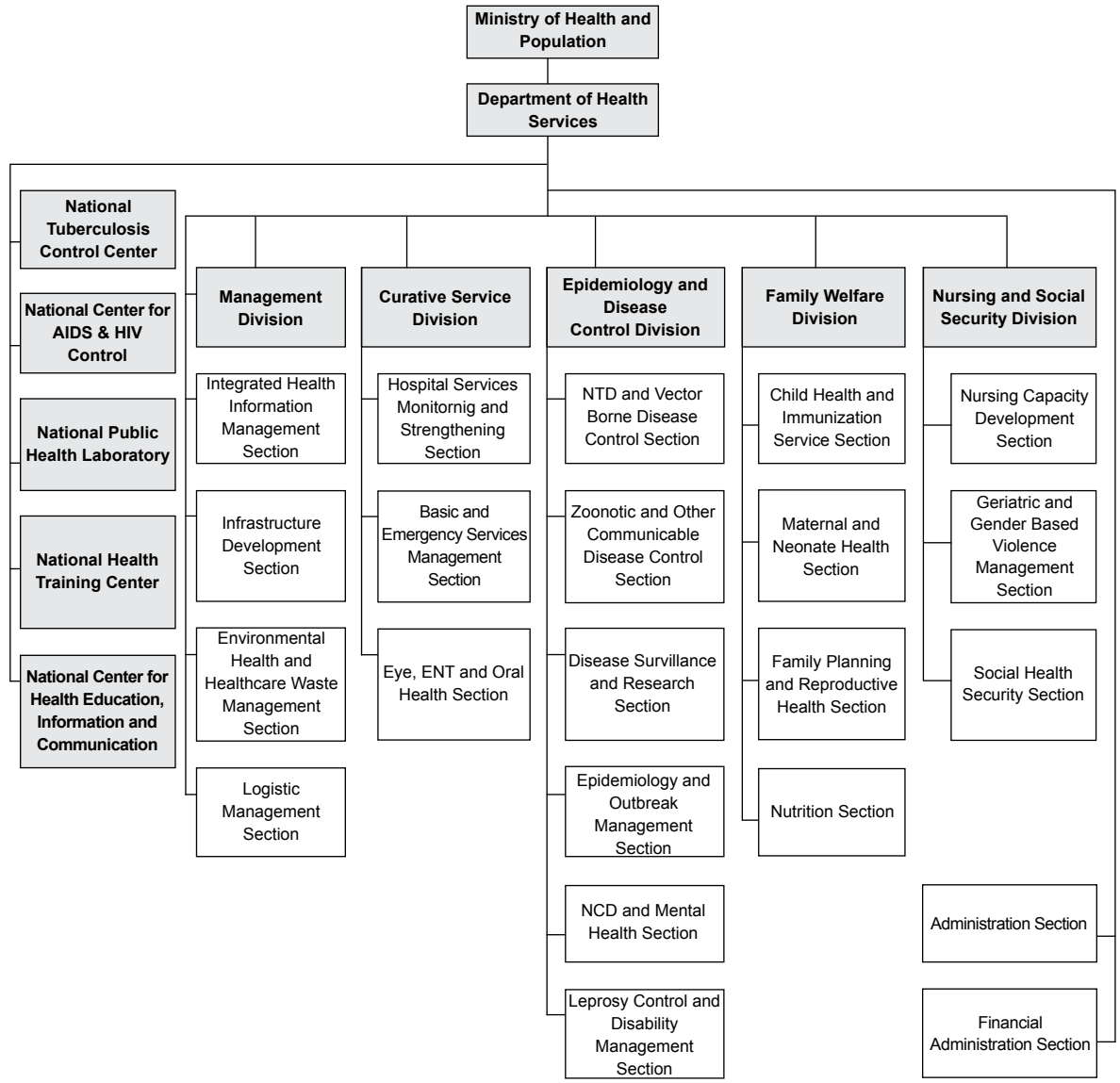
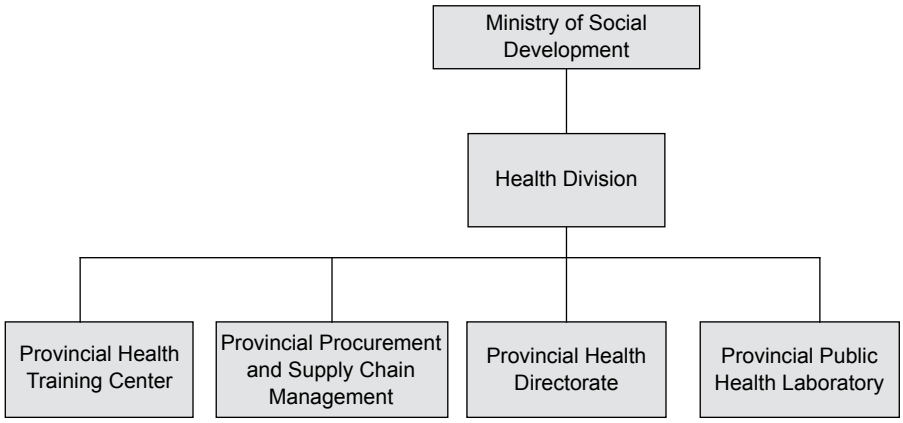


Figure 1.3: Organogram of the health system at Province Level



Main functions of DoHS are as follows:

- Facilitate the Government of Nepal (GoN) on formulating health related policies and developing and expanding health institutions in line with these policies.
- Determine the required human resource for health institutions and developing them by preparing and implementing short and long term plans.
- Manage the procurement and supply of drugs, equipment, instruments and other logistics at province, district and below levels.
- Coordinate activities and mobilize resources for the implementation of approved programmes.
- Manage the immediate solution of problems arising from natural disasters and epidemics.
- Establish relations with foreign countries and international institutions to enhance and develop health services and assist MoHP in receiving and mobilizing foreign resources by identifying areas of cooperation.
- Encourage the private and non-government sectors.
- Manage and foreign institutions to participate in health services, maintain relations and coordination, and control the quality of health services by regular supervision and monitoring.
- Manage free medication and treatment for severe diseases (cancer, heart disease, Alzheimer's, Parkinson's disease, head injuries, spinal injuries, renal failure and sickle-cell anaemia and Kidney Dialysis, Kidney Transplant and Kidney Treatment) for impoverished citizens.
- Manage information systems related to health facilities, health services, logistics, training and finance to support the planning, monitoring, and evaluation of health programmes.
- Maintain data, statements and information on health services update& publication of DoHS Annual Report.
- The financial management of DoHS, and the settlement of irregularities.

The Provincial Health Directorates provide technical backstopping and programme monitoring to district health systems and come directly under Ministry of Social Development of Province. The regional, sub-regional, zonal and district hospitals are categorized into three level of hospitals; Primary, Secondary and Tertiary. There are also training centres, laboratories, TB centres and medical stores at the provincial level.

Furthermore, Federal level Council of Ministers has decided to establish one health office in 77 districts which are under provincial health directorate. All Primary Health Care Centres (PHCC) are planned to be upgraded into primary level hospital which will be under local authority. Health Posts (HP) are present at ward level in the changed context. Moreover, on the need basis, community health units and urban health clinics are being run by local bodies.

Health posts are the first institutional contact point for basic health services. These lowest level health facilities monitor the activities of Female Community Health Volunteers (FCHVs) and the community-based activities of Primary Health Care Outreach Clinics (PHC-ORCs) and Expanded Programme on Immunization (EPI) clinics. In addition, they are the referral centres of FCHVs as well as venues for community based activities such as PHC-ORC and EPI clinics. Each level above the health post level is a referral point in a network from PHCCs on to primary and secondary level hospitals, and finally to tertiary level hospitals. This hierarchy is designed to ensure that most of the population can receive public health and minor treatment in accessible places. Inversely, the system works as a supporting mechanism for lower levels by providing logistical, financial, monitory supervisory and technical support from the centre to the periphery.

1.3 SOURCES OF INFORMATION AND DATA ANALYSIS

The Integrated Health Information Management System (IHIMS) provided the main source of information for this report. The report also uses information from other management information systems (MISs), disease surveillance systems, vital registration, censuses, sentinel reporting, surveys, rapid assessments and research. The main health sector MISs include the IHIMS, the Logistics Management Information System (LMIS / eLMIS), the Financial Management Information System (FMIS), the Health Infrastructure Information System (HIIS), the Planning and Management of Assets in Health Care System (PLAMAHS), the Human Resource Information System (HuRIS), the Training Information Management System (TIMS), the Ayurveda Reporting System (ARS) and the Drug Information Network (DIN).

All data are downloaded from the DHIS-2 software and analysed and explained by the respective divisions and sections. A technical working group ultimately finalized each sections and chapters of annual report.

1.4 STRUCTURE OF THE REPORT

This report has eleven chapters. Chapter 1 covers the background to annual report preparation, the structure of DoHS, and sources of information on Nepal's health sector. Chapters 2 covers progress against Nepal Health Sector Strategy (NHSS), Chapter 3 presents of others departments (DoA and DoAA) progress under MoHP, Chapter 4 to 8 covers DoHS's different health care related and support programmes; Chapter 9 presents the programmes of the health sector councils, Chapter 10 presents the progress on national health insurance while Chapter 11 gives details of the health sector external development partners (EDPs, INGOs and NGOs) contributions in the health sectors.

Majority of the data source is abstracted from Integrated Health Information Management System (IHIMS). The data presented in the report were downloaded through dHIS-2 system which was retrieved after the completion of national annual review workshop. Data reported not in time are excluded in the report.

Annex 1 presents the targets vs. achievement of fiscal year 2077/78 of DoHS's programmes major activities while Annex 2 gives the major programme targets for the next fiscal year 2078/79. Annex 3 presents the progress status of major health program's indicators by national, province & district level of fiscal year 2077/78. Due to the bulky nature of DoHS Annual Report in the past years, raw and analysed data are not incorporated in this report. To make it easy for annual report users, the electronic version of raw data by all 753 municipalities has been uploaded in the website of DoHS- "www.dohs.gov.np".

PROGRESS AGAINST NHSS

The Nepal Health Sector Strategy-Result Framework (NHSS RF) outlines main health sector indicators and targets in harmony with the NHSS goal and outcomes. The Result Framework (RF) has 10 goal-level indicators, 29 outcome-level indicators and 56 output-level indicators. Progress against each indicator of the NHSS RF is available on the MoHP website (www.nhssrf.mohp.gov.np). This section of the report highlights the progress on goal and outcome level indicators. The details of National Joint Annual Review (NJAR) progress report 2020/2021 also can be accessed through www.mohp.gov.np.

2.1 Outcome 1: Rebuild and Strengthen Health Systems: Infrastructure, HRH, Procurement, and Supply Chain Management

2.1.1 Outcome 1a Infrastructure

- In FY 2077/78 (2020/21), MoHP selected, budgeted and authorized different municipalities to upgrade 396 HFs into 5 bed, 10 bed or 15 bed Basic Hospitals.
- Similarly, MoHP also listed 259 HFs to assess the construction site and prepare detailed project report (DPR) which will be budgeted in FY 2078/79 (2021/22). These include the upgrading of HPs and PHCCs in line with the categorization of HFs developed under the Nepal Health Infrastructure Development Standard (NHIDS).
- For the facilitation and quality control of the HF constructions, MoHP developed the following guidelines:
  - Local Level Primary Hospital Construction Guideline 2077
  - Monitoring Framework on Health Infrastructure DPR Preparation and Construction 2077
  - Standard Design/Drawings Guidelines for Construction of Health Bbuildings
  - Guideline for Site Selection for Health Facilities Construction 2073
- MoHP is in the process of issuing monitoring tools and formats as per the monitoring framework issued. For this web-based system integrated with Health Infrastructure Information System (HIIS) platform is being prepared to track the progress reporting from the local levels.
- Construction and refurbishment of healthcare waste treatment center and hospital laundry building including other support services have been completed at 13 COVID-19 designated hospitals except hospital laundry building of Seti Hospital. Those 13 hospitals are Mechi Hospital, Gajendra Narayan Singh Sagarmatha Hospital, Janakpur Hospital, Bharatpur Hospital, Lumbini Hospital, Rapti Academy of Health Science, Bheri Hospital, Seti Hospital, Mahakali Hospital, Bir Hospital, Shukraraj Tropical Disease Control Hospital, Teku, APF Hospital and Patan Academy of Health Sciences.
- Diagnostic assessment of health care waste management (HCWM), engineering design and cost estimation of healthcare waste treatment centre including equipment, and HCWM Implementation Plan of 12 provincial hospitals has been completed in Province 1. Final report submission and dissemination at province level has also been completed. The MoSD has also mobilized NPR 3.5 million for construction and NPR 1.2 million for equipment at each hospital in the FY 2077/78.

- To ensure the adherence of the design of primary hospital with the prevailing national standards and guidelines, MoHP has been reviewing of adjusted designs of primary hospitals submitted by different municipalities with the support of the technical team in MoHP. Till date, 246 adjusted designs have been received of which 71 have been approved after the review and rest are in the process of updating and resubmitting the revised adjusted drawings as per the feedbacks provided through the review. Across the country the breakdown is as follows:

Table XXXX Approval status for the establishment of Primary Hospitals from MoHP after review of the adjusted designs proposals

Name of Province	No. of primary hospital
Bagmati Province	21
Gandaki Province	6
Karnali Province	2
Lumbini Province	8
Province 1	21
Madhesh	10
Sudurpaschim Province	13

2.1.2 Outcome 1.b Human Resource for Health (HRH)

- The national strategy on HRH 2077/78- 2086/87 has been finalized and endorsed in 2021. It was developed in accordance with the federal structure and foresees the human resources for health over the period of 10 years. The document was developed with inputs from and consultation with key stakeholders such as Ministry of Finance, National Planning Commission, Departments and professional councils.
- Considering the prolonged challenges faced in fulfilling the need for HRH, the MoHP has developed and endorsed procedures to hire staff on a contract basis. It was particularly important in the backdrop of COVID-19 pandemic.
- As per the National Medical Education Act 2075 many regulations, standards and guidelines have come into effect for the standardization and quality assurance of medical education in Nepal
- The National Academy of Medical Sciences (NAMS) and the Kathmandu University (KU) are accredited for Bachelor level midwifery programs in 2019 and 2020 respectively.
- There are total of 23 midwives graduated from The National Academy of Medical Sciences (NAMS) and the Kathmandu University (KU) and registered with Nepal Nursing Council. Many of the graduates have started working on contract basis since the posts for midwives are yet to be created. There is a plan to start Bachelor in Midwifery program at B P Koirala Institute of Health Sciences (BPKIHS) from 2021.
- Provision of health inspectors from federal level and hiring of the technical experts for the Case Investigation and Contact Tracing Team (CICT) for control of COVID-19 was planned. However, this was not fully executed as the number of COVID-19 cases has gradually declined
- For managing an integrated HRH database, iHRIS software has been implemented through two professional councils (Nepal Pharmacy Council and Nepal Ayurvedic Medical Council) with the plan to extend to other remaining professional councils.
- Workload Indicators and Staffing Norms (WISN) piloting has been completed in selected HPs and PHCCs of nine districts from Provinces 3, 4 and Sudurpaschim. Policy briefs and final report on workload requirements for primary health care centers and health posts was prepared through the implementation of health facility-based workload indicators.

- Customization of iHRIS platform for the database management of Nepal Ayurveda Medical Council (NAMC) and Nepal Pharmacy Council continues to make it easy to use as per the demand.
- Completed the development of continuing professional development (CPD) online modules on Infection prevention and control; Aerosol therapy (Oxygen and nebulization); and Communication to build the capacity of nursing professionals in close collaboration with Nursing and Social Security Division and Nepal Nursing Council.
- Finalized the CPD guideline for nursing professionals in close collaboration with Nepal Nursing Council (NNC) and Nursing and Social Security Division, Department of Health Services
- Development of procedural guidelines for midwives for hospitals
- Altogether 74 different trainings were conducted on essential health services by the NHTC during the year 2020/21. A total of 3,379 participants took part on:
    - Adolescent sexual and reproductive health (ASRH) training conducted - 352 participants
    - Comprehensive family planning (COFP) and counseling training conducted - 349 participants
    - Training on insertion of implant (370 participants) and intra-uterine contraceptive device (IUCD) - 255 participants
    - Training on medical abortion (MA) - 255 participants
    - Training on skilled birth attendant (SBA) - 698 participants

2.1.3 Outcome 1.c Procurement and Supply Chain Management

- *Rollout of the e-LMIS System:* In FY 2020/21, the e-LMIS has been rolled out to 1,023 health stores including 753 local levels, provincial, federal and district stores. About 77% of the stores are now reporting online as real time data. Apart from those, other 4,143 stores report through LMIS quarterly. Thus, a total 5166 stores are reporting the supply chain data regularly throughout Nepal.
- *Transformation of the Procurement Improvement Plan (PIP) into Public Procurement Strategic Framework:* in November 2017, MoHP prepared and endorsed the PIP 2017–21. After devolution of procurement functions to sub-national governments (SNGs), the 2019 National Joint Annual Review agreed to transform the PIP into the Nepal's Health Sector Public Procurement Strategic Framework (NHSPPSF) as an umbrella strategic policy document on procurement and supply chain management (SCM).
- *Functioning of Consolidated Annual Procurement Plan (CAPP) Monitoring Committee:* As a team approach to monitor the execution of CAPP a CAPP Monitoring Committee (CAPP-MC) has been formed under the chairmanship of the Director General (DG) of the DoHS since 2017/18. The committee is monitoring the progress of procurement, issues and challenges on procurement execution.
- *Federal Procurement Planning and Consolidation Electronically:* Until FY 2017/18, DoHS and its divisions used to prepare the departmental CAPP within the specified timeframe. In FY 2018/19 federal CAPP was initiated and executed by MoHP for the first time. Later in 2019/20, MoHP designed and piloted the online CAPP (e-CAPP) under Transaction. Accounting and Budget Control System (TABUCS). Accordingly, orientation training was held for officials of MoHP and all federal Procuring Entities (PEs) under MoHP. Thus, the e-CAPP module in TABUCS has been operational for procurement planning and monitoring. The e-CAPP of 2020/21 was also prepared in time.
- *Upgrading of TSB:* The Technical Specification Bank (TSB) was restructured and systematized in the DoHS website in FY 2017/18 and is now open for use by all stakeholders. Over 300 users were registered in the system in FY 2017/18. By the end of FY 2020/21 the number of registered users reached to 1,200.

- *Standardization of Procurement Process:* Electronic Government Procurement (e-GP) system was introduced by DoHS in FY 2014/15. It was further enhanced with online bidding system (e-GP II) in FY 2017/18, which is now the regular practice of bidding. The online bidding system has paced the procurement carried out electronically to the highest recorded level of 99 percent of CAPP value in 2020/21.
- COVID-19 Vaccine Initiative: Since the beginning of the emergency approval of COVID-19 vaccine in the several developed countries, MoHP also took initiative to procure and obtain COVID-19 vaccine in Nepal. The methodology and procedures for procuring COVID-19 vaccine explored from the beginning. Initially the technical notes on vaccine selection, procurement, and deployment plan was prepared. As it was difficult to procure the COVID-19 vaccine from the regular procurement procedure, a special provision for the procurement was decided by the cabinet and accordingly the vaccine manufacturer was contracted.

2.2 Outcome 2: Improved Quality of Care at Point-of-delivery

- Standard Treatment Protocol for the Basic Health Care Service (BHCS) has been developed and endorsed by GoN. This protocol defines clinical procedure and case management for the services listed in BHCS.
- Operational guidelines for the delivery of BHCS at the local level has been drafted under the leadership of the Curative Service Division (CSD) which is in the process of finalization by incorporating inputs received during consultation meetings.
- Patient Safety Strategic action plan is in development phases as per WHO framework which will be expected to provide comprehensive guidance for patient safety under strategic directions
- Quality Standard and Regulation Division of the MoHP compiled quality improvement tools developed by different divisions and centers. A report with tools, progress, gaps, and way forward has been developed as part of monitoring of the implementation status of activities.
- Development of treatment guideline for victims of Acid Attack
- Malaria laboratory manual 2021 has been prepared under the leadership of EDCD which has also been endorsed (2021).
- Online platform for the recording and reporting of the minimum service standards (MSS) assessment data has been prepared for the hospitals which have also been piloted.
- Introduction of Vitamin K program within Maternal and new born health (MNH) services from current FY is planned from provincial level.

2.3 Outcome 3: Equitable Distribution and Utilisation of Health Services

- Standard treatment protocols for Basic Health Care Services (BHCS) and for Emergency Health Services (EHS) have been developed and endorsed by MoHP.
- Despite the COVID-19 pandemic and lockdown, all essential services were resumed across the country by developing interim guidelines.
- Comprehensive Obstetric and Newborn Care (CEONC) services are being provided from CEONC sites located in 75 districts, two reaming districts are Nawal Parasi (East) and Rukum East.
- A country specific framework for Universal Health Coverage has been developed following consultation with key stakeholders from all levels of governments. It defines what universal health coverage means for Nepal, key priority areas, how to work with key responsibilities. It will be implemented after endorsement.

- First National Geriatric Health Conference lead by MoHP involving federal and provincial officials, national and international experts from Professional Bodies, Civil Societies, Academia, WHO, students, service providers, NGOs, Care homes.
- Hub hospitals for telemedicine services have been identified at provincial level to expand the service coverage in peripheries
- Initiation of "home based visit" through community health nurse in two places (Bhaktapur and Bardibas)
- Inclusion of additional information in "VipannaNagrikKaryakram" software (like education, referral, death) to better inform the decision-making process.
- Arrangement of 2nd line ARVs to ensure continuity of HIV services during COVID-19 pandemic
- The number of service delivery sites has increased, ensuring access to essential health care services, especially for remote and rural communities.
- Health workers were oriented in providing health services as per COVID- protocol and guidelines
- Health insurance scheme has been introduced in a total of 739 local levels of 75 districts have introduced health insurance schemes.
- A total 4.2 million people (18.48% of total population) have been enrolled in the health insurance scheme.
- Health Insurance's database connected with "Nagarik" (Citizens) Appmaking the tracking of the services utilization against the cap easily accessible to the enrolled families
- Financial status of health insurance scheme: Budget allocation from the ministry of Finance (Mo)F is NPR 7.5 billion and a total sum of NPR 3.55 billion has been collected in the form of contribution totaling NPR 11.05 billion. On the other side, expenditure as of September 2021 is NPR 7.36 billion. Due to the enrolment of relatively high-risk population, claim amount is expected to surpass the revenue.
- MoHP presented good practices, lessons learned and key issues on gender based violence (GBV) and OCMCs to Deputy Mayors, District Attorney, District Police, OCMC Focal Persons and Province No 1 partners in six selected districts, alongside PMD and NSSD officials and has plan to continue in other provinces.
- Progress was made to institutionalize OCMC and SSU staff in hospital O&M listings, and forensic medical officer positions in 13 federal and provincial hospitals.
- OCMCs were established in 80 hospitals located in 77 districts.
- Monitoring, and coaching was provided to OCMCs in 29 hospitals. Regular follow up support provided to newly established and selected OCMCs on service delivery, roles of different agencies, coordination, referral system, case management, and recording/reporting through tele-communication, and virtual meeting with Medical Superintendent, doctors, and OCMC Focal Persons.
- SSUs are functional in 44 hospitals and MoHP has planned for an additional 14 in FY 2078/79.
- 24 hospitals have been providing geriatric health services and in 2077/78, MoHP has plan to scale up this service in additional 25 hospitals in 2078/79. Similarly, MoHP has plan to establish geriatric OPD services from 50 and above bedded government hospitals across the country.
- Survey carried out in 2019 estimated that every year there are 68,000 new TB cases, and some 36,500 were missed, and 17000 deaths. Services are being provided through 5478 DOTS center.
- TB diagnosis through 765 Microscopic Centre, 2 Culture/DST and 91 GeneXpert sites, 3 additional TB reference laboratories are in the establishment process.

- DRTB services provided through 22 DRTB treatment centers, 81 Sub Treatment Centre- 81 and DR hostels-6.
- Preventive Therapy against TB to children under 5 years and PLHIV is ongoing.
- Interim Guidance on continuation of essential TB services: Going beyond traditional approach of DOTs was produced.
- Number of people covered under Compensation for Treatment to underprivileged citizens for defined catastrophic nature of diseases is given below by condition/illnesses:
  - Heart diseases: 18,729
  - Cancer: 55,176
  - Kidney diseases: 15,904
  - Parkinson's: 203
  - Alzheimer's: 78
  - Head Injuries: 8,437
  - Spinal Injuries: 3,562
  - Sickle Cell Anemia: 2,269
- Developed guidelines on Adolescent and disabled friendly services.
- Colposcopy and PEEP service for cancer cervix expanded in 8 hospitals/ service centers
- Piloting of short acting method of family planning (Sayanapress) has been conducted.
- Continuation of the MPDSR.
- A draft of the FP Sustainability Road Map (2021-2030) has been developed and is in finalization process, considering FP 2030 agenda as the Family Planning Costed Implementation Plan (FP CIP) 2015-2020 has come to an end.
- Initiation of TB free Palika through micro-planning planned in 22 local level for FY 2078/79

2.4 Outcome 4 Strengthened Decentralised Planning and Budgeting

- FY 2020/21 is the third FY after the provision of revenue distribution came into effect, which marked greater resources being available for local levels in a flexible manner. Annual Work Planning and Budgeting (AWPBs) were presented by each level of government on time. Some of the local levels faced challenges to timely announce the annual planning and budgeting timeline because of pandemic and natural disaster.
- In course of making systematic budget formulation, implementation, accounting and reporting of the local levels, all the local levels have joined the Sub-national Treasury Regulatory System (SUTRA) by mid-March 2020.
- Among the different components of the fiscal transfer from federal to sub-national level, conditional grants constitute the bulk of the resources, particularly at the local level: 61 per cent of the fiscal transfer is for programmes conditioned by the federal level. The two other major components of the fiscal transfer are revenue transfer and equalisation grants, which are unconditional by nature, and jointly comprise 61 per cent of provincial and 36 percent of local-level revenue. This implies that local levels have less flexibility, relatively, in terms of programme planning and implementation.
- The values of conditional grants provisioned from federal to provincial and local levels for health were NPR 6,337.8 million and NPR 25,697.6 million respectively: this comes to NPR 905.4 million per province and NPR 34.1 million per local level, on an average.

- Similarly, the volume of per province grants from the federal level for FY 2021/22 were NPR 14,815 million.

  With a broader objective of enhancing the capacity of the local levels in delivering the mandated functions, Ministry of Federal Affairs & General Administration (MoFAGA) has developed guidelines on Local Government Institutional Capacity Self-Assessment (LISA). This guideline consists of 100 indicators for the capacity assessment of the local levels under 10 thematic areas. There are few indicators reflecting the health sector capacity while many other indicators are cross-cutting and hence should be contributed by multiple sectors.

- In light of the federal context, UKaid/NHSSP support has been extended until the end of 2022 along with expansion of scope also at sub national level (three provinces (Province 2, Lumbini and Sudur Paschim) and 38 local levels selected on priority basis) aiming to strengthening health systems at the sub national level.

- Ministry of Social Development and Ministry of Health and Population of Province2, Lumbini and Sudurpaschim Province conducted the orientation program on Annual Action Plan and Procurement Plan for their concern officials from support of Capacity Enhancement program of NHSSP. Similarly, these three provinces conducted the eGPS 3 days training with technical support of Public Procurement Monitoring Office (PPMO) and UKaid/NHSSP. These programs were aimed to enhance the skill in preparing AAP, APP and performing the procurement work of province and local level.

- Based on the field observation/consultation visits, it was also found that local levels prioritized the management of COVID-19 response activities as reflected in the budget allocated from internal resources on top of the budget provisioned from the federal level.

- Implementation of the SuTRA has been expanded across the local levels facilitating the planning and budgeting process at the local level.

2.5 Outcome 5: Improved Sector Management and Governance

- The overall structure of the MoHP has been reorganized as per the federal structure under federalism. As per the new provision, there are three departments, seven centers, 22 hospitals, including academies, eight councils, health insurance board and hospital development committees.

- To address the health sector in the changing context, the process of establishing Centre for Disease Control (CDC), Food and Drug Administration (FDA), and the Health Accreditation Authority (HAA) has already begun. As per the reforms proposed in the policy and program for 2020/21, draft legislations for establishing Centre of Disease Control (CDC), Food and Drug Administration (FDA), and the Health Accreditation Authority have been prepared. Moreover, consultations with provinces were conducted to collect feedback on the draft documents.

- The PHS Regulations, 2020 and the Safe Motherhood and Reproductive Health Rights Regulations have been enacted and are in implementation. The PHS Regulations define BHS along with other regulatory provisions for management of health services across different levels.

- Health Institution Operation Standards, 2077 has been developed and endorsed which provides the standards for the establishment, operation and upgrading for different types of the health institutions in the health sector. First amendment has also been done incorporating the standards for the Ayurveda and Alternatives Medicines.

- National Human Resources for Health has been developed and endorsed in 2021.

- National Health Financing Strategy has been drafted following the Framework of Rapid Results Initiatives. The final draft is in the consultation process and costing has also been initiated.

- Considering the surge of COVID-19 cases, implementation timeframe of the NHSS has been extended until June 2022 and accordingly JFA was amended in mutual understanding of MoHP and EDPs.
- Development of the health sector strategy for the next phase (National Health Sector Strategic Plan) has been initiated by forming Steering Committee, Technical Working Group and Strategic Plan Drafting Team.
- MoHP is conducting a maternal mortality study aligning with the Nepal Population and Housing Census (NPHC). This study is expected to provide the robust estimates of the maternal mortality in Nepal and can be instrumental to design necessary interventions to avoid preventable mortalities.
- A draft of the Population Policy has been prepared. Resource package and reference manual on population have been developed and are in the process of finalization.
- A guideline has been drafted to facilitate the pre-departure health assessment targeting to those who are going for foreign employment to minimize their suffering in the foreign country.
- Various protocols and guidelines have been introduced to regulate the quality of medical education including the National Medical Education Regulation 2077 (2020).
- The policy of 'one doctor, one health institution' has been initiated in selected federal level hospitals.
- As per the GoN's policy of 'one municipality-one hospital', budget has been sent to 396 local levels to establish five-, 10- and 15-bed basic health care hospitals. Foundation stones for more than 300 of these hospitals were laid on a single day (November 30, 2020).

2.6 Improved sustainability of health care financing

- MoHP in conducting and institutionalizing the National Health Accounts to routinely monitor health expenditure. As of October 2021, health expenditure estimates have been obtained up to the fiscal year 2017/18, and the draft estimates for the fiscal years 2018/19 and 2019/20. The sub-national level health expenditures have also been estimated for the last three years. The province-level health expenditures tracking was done for all the seven provinces where the major provincial health financing indicator values including provincial Out-of-Pocket expenditures (OOPE) were obtained.
- The latest National Health Account (NHA) reports OOPE as percent of CHE to be 55.44%, 59.44%, 60.05, and 63.53 for FY FY2015/16, FY2014/15, FY2013/14 and FY2012/13. This implies that OOPE as percent of CHE has been gradually decreasing over the years. Between FY2012/13 and FY2015/16 OOPE as a percent of CHE decreased by 8%. Major policy concern is demanded towards strengthening social health protection mechanisms in the country in order to achieve the NHSS target of 40% by 2020.
- Implementation of the Health Insurance Scheme has been extended to 76 of 77 districts, Kathmandu being the only remaining district to have geographical coverage of the scheme.
- Government of Nepal has set up the health insurance fund in July 2021 as prescribed / stipulated in the Health Insurance Act 2017. The contributions of the insured from the past 5 years have been deposited into this account strengthening the level of autonomy of Health Insurance Board in fund management.
- The MoHP has approved the organization and management (O&M) survey report of the Health Insurance Board. The aim of this document is to identify the current organizational status of the board, to identify scopes and workload, to identify problems in the organization and human resource of the Board and to recommend a reform of the organizational structure. The report has been sent to MoF for feedback. The recommended reforms are critical to strengthen the capacity of the HIB and fulfill its mandate to operate the national health insurance.

2.7 Outcome 7 Improving healthty life style and environment

- Climate change: As part UN Climate Change Conference in Glasgow (COP26) Health Program, Nepal made commitments to develop climate-resilient and low-carbon health systems in response to growing evidence of the impact of climate change on people's health.
- Ayurveda and Alternative Medicine Guidelines with Preventive Measures and Management Protocol for COVID-19 were developed and implemented.
- Use of sign language in the IEC materials have been started to address those having difficulty in hearing.
- Use of Brail script in IEC materials has been initiated for the people having vision problem..
- Information on preventive measures to be undertaken on COVID-19 was widely disseminated through various channels at federal, provincial and local level including distribution of leaflets inside the airplane for air travelers.
- Use of call centers to provide factual data were operational for COVID-19 and the health workers working in the call centers were periodically updated through orientation.
- Media monitoring was held with focus on prioritized message for COVID-19.
- Establishment of Citizen Wellbeing Service Centre (Nagarik Arogya Sewa Kendra) in few municipalities.
- Some local levels of urban setting have initiated to establish public garden and fitness centers.
- Science policy dialogues on four major sources of air pollution in Kathmandu Valley (transport, waste, household energy, industry) and health impacts of air pollution under Urban Health Initiative with WHO support.
- A country report on clean household energy and health of Nepal was developed with WHO support as part of implementing Household Energy Assessment Rapid Tool (HEART) to support the transition to clean household energy.
- Nepal prepared National Adaptation Plan (NAP) on addressing climate change issues in the country with health, drinking water and sanitation as one of the key thematic areas.
- As part of GEF project "Building resilience of health systems in Asian LDCs to climate change", MoHP is organizing advocacy program on climate change and health in all seven provinces and training on climate change and health impacts through provincial training centers.
- Improving occupational health and safety status of waste workers during COVID-19 pandemic: pilot in Nepalgunj implemented by MDM-France (with support from GIZ) with 370 public and private waste workers and Balmiki cleaners having received health education, good practices promotion, protective measures toward COVID-19 and good use and disposal of Personal Protective Equipment (PPE) items, including inclusive and gender-based approach and prevention of Gender Based Violence (GBV).
- Chemical safety: Compliance monitoring of standard on lead in paint in Nepal and three related reports (compliance monitoring lead paint standard, study of lead in spray paints and brief on lead paint and compliance status) have been published and disseminated in International Lead Poisoning Prevention Week (ILPPW), 2021, which was organized in Nepal since its inception in 2013 with support from WHO.
- Department of Ayurveda and Alternative Medicine has developed Implementation Plan and Pocket book for Citizen wellbeing program. It will be handy tools for provincial and local governments for advocacy in improving healthy lifestyle and investment in health.
- Preparation of guidance for traditional service providers (*Paramparaagatupachaarak ko soochikaranMapdand*).
- School Health Nurses (SHNs) have been deputed in various schools by some provinces to support in school health activities.

- A document on SRHR communication strategy has been developed and is yet to be endorsed.
- A first conference was held (October 2021) on the health issues of senior citizen.
- Establishment of Ayurveda hospital/naturopathy hospital in each province planned for current FY.
- The number of functional OCMCs in the country has been increased from 54 in FY 2076/77 to 80, located in 77 districts.
- Different sets of IEC materials including infographics were produced and distributed to concerned entities and disseminated through various digital platforms.
- An in-depth review of the scale-up, functionality and utilization of OCMCs, including barriers to access has been conducted: findings will help to develop a roadmap for strengthening OCMCs. A case study was conducted on 'Access to OCMC Multisectoral Services during COVID-19 Lockdown'.
- Various messages on prevention of COVID-19 were broadcasted, telecasted and promoted on social media, including communications for differently able people.
- Printed materials in Braille were produced for orientation and counseling on COVID-19.
- Posters and radio messages were developed and broadcasted as regular activities, focusing on RH, safe motherhood, FP, immunization, etc. in relation to COVID-19.
- Multi-sectoral Action Plan for NCD (2021-2025) is under development process.

2.8 Outcome 8: Strengthened Management of Public Health Emergencies

- To address the COVID-19 Pandemic, a vaccination campaign was started as early as 27 January 2021. Initially, it was challenging to expand to coverage of the vaccine to large segment of population due to unavailability of COVID-19 vaccine in the market. However, GoN gave high priority to progress expand the coverage of vaccines as one of the most crucial measures to combat ongoing pandemic. Along with the increase in the coverage of the vaccine, number of COVID-19 cases has also been gradually decreasing in the recent months. (Further details provide chapter 4)
- MoHP, in coordination with other line ministries, provincial and local governments, development partners and private sector, continues to strengthen the health systems functions to respond the pandemic.
- Purchase and installation of Oxygen Plant in hospitals have been done. Provinces have also taken initiatives to strengthen the provincial level hospitals and made provision of the COVID-19 dedicated hospital to better manage the COVID-19 cases.
- Licensing process for the COVID- 19 vaccines as well as medicines and related supplies was done in an accelerated manner to ease the fight against COVID-19.
- Strengthening of public hospitals and exemption of custom duty for the equipment concerning the COVID-19 management to encourage in-country capacity for the
- Health Emergency Operation Centers (HEOCs) were operational during the year in all seven provinces.
- Daily monitoring, reporting and dissemination of COVID-19 status is done by Federal HEOC (www.heoc.gov.np)
- A sero-prevalence survey was undertaken to understand the status of COVID-19 among Nepali population.
- Free provision of COVID-19 testing for those with symptoms and treatment from the designated public and private facilities

- Rapid response measures implemented to tackle the spread of cholera cases in Kapilvastu district in Lumbini province. Vaccination against the cholera is ongoing.

2.9 Outcome 8: Improved Availability and Use of Evidence in Decision-making Processes at All Levels

- The IHMIS roadmap (2020-2030) was drafted which is being reviewed at the Ministry of Health and Population, Department of Health Service to finalize and proceed for the endorsement.
- For an effective management of COVID-19 related information linked to surveillance, specimen collection, testing, case management, logistics, and human capital, MoHP has established the Information Management Unit (IMU).
- To assist COVID-19 designated hospitals in reporting the status of COVID-19 cases to MoHP, a daily reporting system has been devised. This method has aided hospitals in receiving payment for COVID-19 case management costs.
- In the DHIS2 platform, recording and reporting tools of the One Stop Crisis Management Centre (OCMC) and the Social Service Unit (SSU) are being digitalized. These tools will be used across the country from next fiscal year.
- The Health Facility Registry has been updated. It is a master registry which keeps record of all health institutions in the country, both public and non-governmental. Provincial level workshops were conducted for updating the health facilities. A total of 9,204 units have been registered in the system, with 6,700 belonging to the public health facilities and 2,504 to the nonpublic sector.
- The MoHP continues to expand the electronic reporting of service data from HFs. In FY 2019/20, a total of 400 public HFs provided HMIS monthly reports electronically, this has increased to 2,164 (1,876 public and 288 nonpublic) HFs in FY 2020/21. All 753 LGs electronically reported HF-based service statistics to the national database (HMIS) either by themselves or from the parental unit. This was a breakthrough moment in the continual flow of data from LGs to the national HMIS system. The HMIS e-learning modules for the orientation of health workers, statisticians, computer operators and program managers have been updated and are available on the DoHS website (www.dohs.gov.np).
- The web-based Routine Data Quality Assessment (RDQA) tool and the accompanying e-learning package have been modified in response to user feedback and are now available on the MoHP website (www.rdqa.mohp.gov.np). In this fiscal year, 306 health facilities have completed the RDQA using web-based tool as of October2021.
- Major health indicators, such as the NHSS Results Framework and health-related SDG indicators, are monitored via web-based digital dashboards maintained in the MoHP website.
- Department of Health Service, Family Welfare Division (FWD) had conducted the study on "**Socioeconomic determinants of inequalities in use of sexual and reproductive health services among currently married women in Nepal".** The study mainly focused on three markers of utilization of reproductive health services: use of modern contraception, intention to use contraception and institutional delivery. Prevalence of modern contraception use showed no remarkable change over the past decade. The growing inclination of people towards natural methods, increase in use of medical abortion (MA) and emergency contraception (EC), and increasing trend of spousal separation because of labor migration were some of the factors expressed by key informants to explain the plateauing of the Contraceptive Prevalence Rate (CPR). The analysis of Nepal Multiple Indicator Cluster Survey (NMICS) 2019 found that there is a disproportionate concentration of use of modern methods among the poor. The important predictors of use of modern contraception were wealth status, province, age of women, education,

number of children born, level of media exposure and the age of husband. The details of the report can be accessed from web link https://fwd.gov.np/cms/socioeconomic-determinants-of-inequalities-in-use-of-sexual-and-reproductive-health-services/

- DoHS, MD, Integrated Health Management Information System (IHMIS) Section conducted the study on "**Assessment of impact of COVID-19 pandemic in selected health services with estimation of 'excess maternal deaths'**" In inference, this mixed-method study showed that there were interruptions to public health care service availability and utilization after the imposition of lockdown. This is not surprising as previous pandemics or outbreaks have resulted in such decline of service utilization in resource-constrained countries like Nepal. The magnitude of impact varied by province and type of health facility. Even though the health care system has shown signs of resilience as some of the indicators have returned to pre-COVID-19 levels. However, preliminary estimates of maternal deaths suggest that the pandemic might have affected the progress achieved in maternal health in the last three decades. Further analysis of effect of missed childhood vaccinations, unplanned pregnancies and lost primary care visits may show a clearer picture. Further research is needed to fully understand the reasons and the extent of disruptions to public health care delivery and the population groups they have affected the most. The details report can be accessed from https://dohs.gov.np/assess-impact-of-covid-19-pandemic-in-selected-health-services-with-estimation-of-excess-maternal-deaths/
- The first Nepal Health Facility Survey (**NHFS)** was conducted in 2015; the second was planned for early 2020 but completion of the survey was delayed because of the COVID-19 pandemic. The data collection is completed and is in process of finalization.
- The sixth series of the Nepal Demographic and Health Survey (**NDHS)** was planned for FY 2020/21. The COVID-19 situation delayed the expected progress of the survey. However, several consultative meetings were being held with relevant stakeholders by MoHP and survey conducting team about the modality and methods of the survey. Structured questionnaire for the survey is developed and data collection is in process.
- **Maternal Mortality Study aligning with the Population Census, 2078:** For the first time in its history, MoHP is conducting a maternal mortality study aligning with the Nepal Population and Housing Census (NPHC). The ongoing 12th series of the NPHC has taken place from Kartik 25 to Mangsir 09, 2078 (11 to 25 November 2021). The field work of the Population and Housing Census has been completed and collection of the additional data for maternal mortality study is ongoing as of end of November 2021.

  The maternal mortality study following NPHC 2021 aims to identify programmatically useful information for the investment and interventions directed towards improvement of maternal health in Nepal. The Master Training of Trainers (MToT) in federal level and Training of Trainers (ToT) in all seven provinces is completed. Moreover, after the completion of district level trainings for health workers from each palika, field works for this study in ongoing from November 2021. Different development partners including GIZ, UKaid/NHSSP, UNFPA, UNICEF and USAID are supporting the study.

The specific objectives of this study include:

- o To increase the evidence base available on maternal mortality in Nepal to generate estimates of current levels of maternal mortality at national and sub-national levels, for the first time in Nepal.
- o To gain a better understanding of why women are dying during pregnancy, childbirth and the postpartum period, and the social and clinical determinants.
- o To provide information to policy makers and program managers at the national and sub-national levels to identify and plan targeted interventions that are successful in reducing maternal mortality and morbidity.

PROGRESS OF OTHER DEPARTMENTS UNDER MoHP

3.1 DEPARTMENT OF DRUG ADMINISTRATION

3.1.1. Background

Government of Nepal has promulgated the Drug Act 1978, to prohibit the misuse or abuse of medicines and allied pharmaceutical materials as well as the false or misleading information relating to efficacy and use of medicines and to regulate and control the production, marketing, distribution, export-import, storage and utilization of those medicines which are not safe for the use of the people, efficacious and of standard quality.

Government of Nepal has established Department of Drug Administration (DDA) in 1979 to implement and fulfill the aim of Drug Act 1978 and various regulations under it.

In accordance with the objectives of the National Health Policy 1991, the National Drug Policy 1995 has been formulated and implemented. It focuses on establishing co-ordination among government, non-government and private organizations involved in the activities related to medicine production, import, export, storage, supply, sales, distribution, quality assessment, regulatory control, rational use and information flow. DDA is committed for achieving the aims and objectives of National Drug Policy.

Under the Drug Act 1978, the following regulations and codes are implemented as supporting tools for enforcement of Drug Act:

1. Drug Consultative Council and Drug Advisory Committee Rules, (2037 BS).
2. Drug Registration Rules, (2038 BS).
3. Drug Standard Rules (2043 BS).
4. Enquiry and Inspection rules (2040 BS).
5. Codes on Sale and Distribution of Drugs (2071 BS).
6. Codes on Drug Manufacturing Practice (2072 BS).

Drug Donation guidelines have been implemented for the quality assurance of donated medicines.

3.1.2. OBJECTIVES

The main objective of DDA is to regulate all functions relating modern, veterinary and traditional medicines, like misuse and abuse of medicines and its raw materials, to stop false and misleading advertisement and make available safe, efficacious and quality medicine to the general public by controlling the production, marketing, distribution, sale, export-import, storage and use of medicines.

3.1.3. Strategies

- Selection of essential medicine to promote rational use of medicines.
- Establishment of offices at all provinces for effective regulatory activities.
- Strengthening of National Medicines Laboratory (NML) as National reference Laboratory on medicines.
- Medicine registration based on scientific facts.
- Promotion of rational use of medicines.
- Development of an efficient drug information system to disseminate the relevant information.
- Encouragement to promote and establish pharmaceutical industries to achieve self-reliance in the production of essential medicines.
- Effective inspection to ensure the quality of marketed medicines.
- Prevent misuse of antibiotic to combat antimicrobial resistance.

3.1.4. Division and branch offices of department of drug administration and their functions

Division of DDA

Drug Evaluation and Registration Division

❖ **Medicine and Biological Evaluation Section**
- Scientific evaluation of new medicine and allied products for manufacturing, import, export and marketing.
- Scientific evaluation of vaccines and biological for manufacturing, export, import and marketing.
- Research and Development of new medicine and Clinical trials.
- To co-ordinate with the related experts for the evaluation of new medicine
- To issue permission for research and development and clinical trials.

❖ **Import Section**
- To approve foreign manufacturer for importation of medicine.
- To register products for export and import after evaluation.
- To issue the recommendation letter for import/export of medicines
- To renew the recommendation letter for import-export.
- To register vaccines and biological for export and import after evaluation.
- To issue the recommendation letter for import/export of vaccines and biological.

❖ **Industry Section**
- To issue recommendation letter for the establishment of pharmaceutical industry and issue Product Manufacturing License and renew them.
- To approved layout of pharmaceutical industry.
- Register new products and issue marketing permission for the sale and distribution.
- Issue letter of recommendation for the import of raw materials and renew them.
- To register and issue registration certificates to open retail / wholesale pharmacy outlets and renew them.
- Issue and renew certificates for persons authorized to sale medicines.
- Update the record of pharmacies and approve variation in the licenses.

Planning, Co-ordination and Management Division

❖ **Drug Information and Training Section**

- Conduct the refresher training to medicine sellers.
- Disseminate information about medicines particularly side effects, contraindication, drug interaction and storage condition and other necessary information regarding medicines.
- Publish Drug Bulletin of Nepal (DBN) and distribute to health institutions, industries, medical doctors, health personnel's, pharmacist and other concerned person and institutions.
- Revise National List of Essential Medicines and Nepalese National Formulary periodically.
- Recommend for import of narcotic, psychotropic, precursors substances and liaise with International Narcotic Control Board.
- Conduct activities related to Pharmacovigilance and Adverse Drug Monitoring Reporting.
- Webpage development, updating and computer networking.

❖ **Planning and Coordination Section**

- Organization development, planning, budgeting, foreign aid.
- Central and provincial government coordination and foreign coordination.
- Prepare yearly planning for activities conduct by DDA and regional office.
- Coordinate with Ministry, other department and other government and non government organization for conducting activities and submit the report to MOH.
- Collect, prepare and forward monthly, quarterly and yearly report.

❖ **Drug Monitoring Section**

- Post marketing surveillance of the Medicine and allied products.
- To act as a National pharmacovigilance center and co-ordinate and collaborate with regional centers and WHO Collaborating Centre for international Drug Monitoring (The Uppsala Monitoring Centre)
- To facilitate the policy development and design on Drug Use Evaluation.

❖ **Financial and Administration Section**

- Entry and Dispatch of letters.
- Management of human resources (recruitment, posting, promotion, transfer etc)
- Performance evaluation of employees and maintained harmony.
- Perform Procurement related activities
- Monitoring, evaluation and co-ordination of regional offices activities.
- Management of Premises, building, work places and Library.
- Internal financial management, revenue collection and audit.
- Plan and prepare budget expenditures.
- Procurement and expenditure management.
- Financial irregularities management (Beruju).

Inspection, Evaluation and Law Enforcement Division

- Take legal and administrative action on cases of non-compliance as per the provision of Drug Act and its Regulations.
- Regulate sales and distribution of psychotropic and narcotic drugs.
- Co-ordinate Good Manufacturing Practice Audit within and outside the country.

❖ **Inspection and Evaluation Section**

- Inspection for the effective implementation of Drug act 2035 and other regulations under Drug Act.
- Inspect drug industries, wholesale, retail and hospital pharmacies regularly.
- Prepare indicators for inspection and evaluation.
- Prepare national standards for inspection of Drug Industry and Pharmacies.
- Set an annual target for inspection and evaluation.
- Assist on periodically and annual review.

❖ **Law Enforcement Section**

- Prepare necessary document for registering the case on court against Drug Act.
- Assist on legal aspect to Department.
- Training to Drug Inspectors on Inspection, Investigation and Case filing.
- Surveillance on legal aspects related to pharmacy practice.
- Assist on the amendment of Drug act, Regulation and Guidelines.

❖ GMP Audit and Certification Section

- Perform GMP certification and Recertification related activities.
- Inspection of pharmaceutical industry as per plan.
- Coordinate with regional offices for GMP related inspection.
- Prepare work plan for foreign industry Audit inspection
- Take action for noncompliance.

Branch Offices:

DDA has its branch offices at Biratnagar, Birgunj and Nepalgunj. These offices carry out the responsibility of inspection as well as Pharmacy registration and renewal.

National Medicines Laboratory (NML)

National Medicines Laboratory is the principal body of Government of Nepal for testing and analysis of drugs. It has various sections like chemical analysis, microbiology, pharmacology and instrumental analysis. The main functions of NML are to:

- Test and analyze the quality of medicines as empowered according to the Drug Act 1978.
- Issue Lot Release Certificate for vaccines.
- Conduct training on Good Laboratory Practices.
- Audit laboratories of Nepalese pharmaceutical industries.

ANALYSIS OF ACHIEVEMENTS BY MAJOR ACTIVITIES

Activities carried out in FY 2077/78 (2020-2021)

Major activities

1. Awareness on the rational use of medicines by different media.
2. Regular publication of Drug Bulletin of Nepal (DBN).
3. Audit/inspection of domestic drug industries for WHO Good Manufacturing Practice (GMP) compliance.

4. Inspection of retail & wholesale pharmacies for compliance.
5. Post marketing quality analysis of drugs available in market.
6. Inspection of Foreign Manufacturers before registration of products.
7. Conducting examination of veterinary drug sellers' training.
8. Audit of domestic manufacturer laboratory for compliance of Good Laboratory Practice (GLP)
9. Take legal and administrative action for violation of regulatory standards.
10. Recall of medicine from market those failed to quality standard.

Target Vs Achievement, FY 2077/78

S.N.	Activities	Unit	Target	Achievement	
				Num.	%
1	Drug information to the public by different media	Num.	30	52	173.33
2	Publication of Drug Bulletin of Nepal	Num.	3	2	66.67
3	Inspection of domestic Pharmaceutical Industries	Num.	80	99	123.75
4	Inspection to drug retailers& wholesalers	Num.	3117	1928	61.85
5	Drug sample Analysis	Num	1100	739	67.18
6	Audit of Pharmaceutical Analytical Laboratories	Num	30	5	16.66

Other activities

S.N	Activities	Achievement
1	Registration of new foreign pharmaceutical Industry	21
2	Registration of new medicine (import)	188
3	Renew of import license	3777
4	Issue of marketing license	554
5	Issue of product license	730
6	Import license for raw material for domestic industry	1383
7	Registration of new pharmacy	1662
8	Renew of pharmacy	12411
9	Renew of Vyawasayi Mananyata Pramanpatra	730
10	Deregistration of pharmacy	714
11	Filing of legal case against the violation of Drug Act 2035	45
12	Recall of medicine from market due to inferior quality	37

Financial allocation and Expenditure

S.N	Budget heading	Budget allocation	Budget expenditure	%
1	Capital budget	24,600,000	16,251,000	66.06
2	Recurrent budget	140,800,000	91,131,000	64.72
3	Total	165,400,000	107382,000	64.92

Revenue

Total revenue collection: Rs. 13,93,11,000

Challenges

- Old Infrastructure, old O&M structure since 40 yrs and functional presence of DDA at central, provincial and local level government in the current federal system of governance.
- Harmonization on existing policies, laws, regulations with vision 2100, 15th five year plan, and National Health Policy 2076
- Regulatory frame work on Health Technology Products (HTP).
- Policy, laws and regulations of Nutraceuticals and Cosmeceuticals.
- Information Management with Transparent dynamic and Responsive Information system
- Unauthorized import of medicine due to open cross border
- SFs regulation and control.
- Unregistered Pharmacies in remote areas.
- Online pharmacy regulation.
- Skill & competency of human resource.
- Standardization of pharmacy and pharmaceutical services.
- Regional harmonization and uniformity, MRH and SRA collaboration.
- Pharmacovigilance and Post marketing surveillance
- Good governance and accountability
- Medicine Shortages & access issues.
- Medicines pricing and control.

3.2 AYURVEDA

3.2.1 Background

Department of Ayurveda and Alternative Medicine (DoAA) primarily manages the delivery of Ayurveda & Alternative Medicine Services and promotes healthy lifestyles through its network facilities across the country. The Department of Ayurveda & Alternative Medicine, one of the three departments of the Ministry of Health & Population (MoHP) is responsible for planning, programming, supervision, monitoring and evaluation of the Ayurveda Service programs.

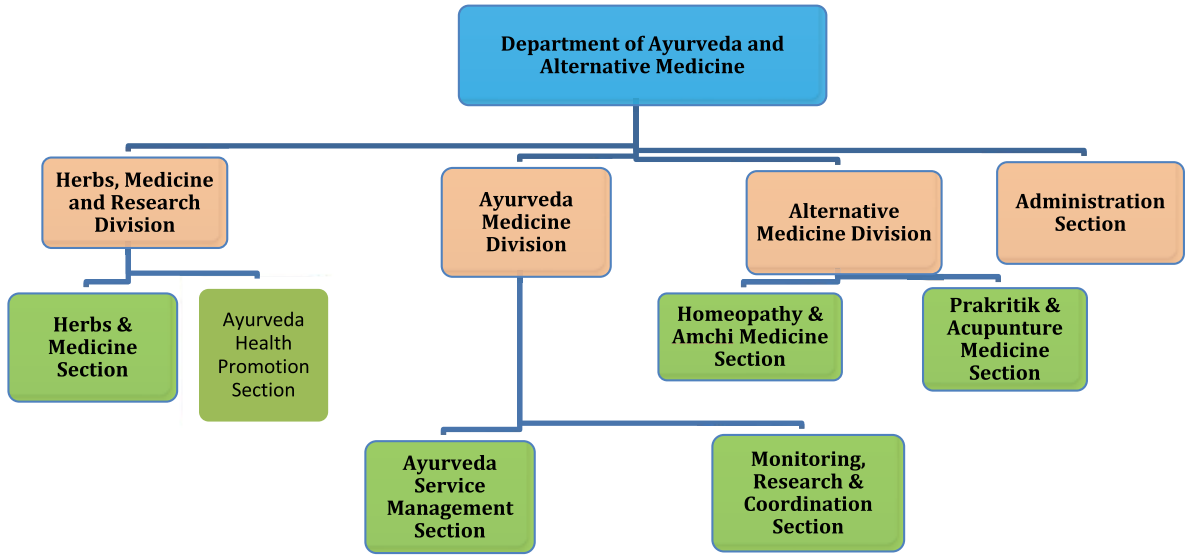
Ayurveda is an ancient medical system and indigenous to Nepal with centuries old deep roots. The sources of Ayurvedic medicine are medicinal herbs, minerals and animal products. The system works through simple and therapeutic measures for promotive, preventive, curative and rehabilitative health of people. Ayurveda health services are delivered through one Central Ayurveda Hospital (Nardevi), Provincial Hospital (Dang), 75 Provincial Ayurveda Chikitsalaya/ Health Centers and 305 Ayurveda dispensaries (Aushadhalaya) across the country. The Ayurveda and Alternative Medicine unit in the Ministry of Health & Population (MoHP) is responsible for formulating policies and guidelines for Ayurveda and other traditional medical system.

Various national and international policies have highlighted the importance of Ayurveda services in primary health care and for prevention of NCDs. The Constitution of Nepal has called for the protection and promotion of traditional Ayurveda medicines along with naturopathy and homeopathy. In line with the federal structure, the Aayurveda system needs to be restructured as mentioned in National Health Policy 2019 and its strategy 6.7.1 .

Fifteenth plan of Government of Nepal (2019/20-2023/24) has guided for planned development & expansion of Ayurveda, Naturopathy, Homeopathy & other alternative medicines. More specifically, it says: 1) Structural development suitable for identification, prevention, collection & promotion of locally available medicinal herbs, minerals & animal origin medicines. 2) Management &regulation of other alternative medicines based on standards & norms. 3) Establishment of Ayurveda, Yoga & Naturopathy Center and utilization of Ayurveda for promotion of health tourism.

Central Level	Provincial Level	Local Level
• DOAA • Nardevi Hospital • National Ayurveda Research & Training Center (NARTC) • Singhadurvar Vaidhyakhana • National Ayurveda Medical Council (NAMC) • Pasupati Homeopathy Hospital	• Provincial Ayurveda Hospital-2 • Provincial Ayurveda Chikitsalaya/District Ayurveda Health Centers-75	• Ayurveda Dispensaries (Aushadhalaya)-305

Organization of Department of Ayurveda & Alternative Medicine:



Objectives

- To expand and develop functional, physical Ayurveda health infrastructure;
- To improve the quality of Ayurveda & Alternative services delivered through all institutions of all levels and to ensure easy access of these services.
- To develop and manage the required human resources;
- To promote community participation in the management of the health facility & utilization of local herbs;
- To promote healthy life style through Ayurveda and Yoga.
- To promote health status & sustainable development of Ayurveda system using locally available medicinal plants;
- To promote positive attitudes towards health care & awareness of health issues;

Strategies

- Provide preventive, promotive & curative health services in the rural areas;
- Establishment & development of Ayurveda institutions;
- Strengthen & expand the Ayurveda health services;
- Develop skilled manpower required for various health facilities;
- Strengthening of monitoring & supervision activities;
- Development of information, education & communication center in the Department;
- Develop Inter sectoral co-ordination with Education Ministry, Forestry, local development sector & other NGO's & INGO's;
- Establishment of regional Ayurveda Hospitals & Ayurveda Dispensaries;
- Strengthening & expansion of research & training center of international level;
- National & International level training for the capacity enhancement of its human resources

Major Activities

Central level

- Nagarik Aarogya/Lifestyle management (Non communicable disease Prevention and Control) Program.
- Celebration of National/ International Yoga Day, Dhanvantari jayanti and Aarogya Diwas.
- Guidelines, Protocol, Manual development.
- TOT on Panchakarma and Yoga etc.
- Establishment of patient recording reporting networking system software among Ayurveda institutions and capacity enhancement of employees on related field.
- Establishment &Strengthening of National Ayurveda, Panchakarma and Yoga Center in Budhanilkantha.
- Establishment of Regional Ayurveda Hospital at Dhangadi & Jhapa
- Strengthening program of Naturopathy, Yoga, Homeopathy, Unani, Aamchi etc.
- Implementation of orientation program on qualitative storage practices for stakeholders.
- Monitoring of services provided by private Ayurveda & Alternative Medical Systems
- Annual review meeting in 7 provinces.
- Revision, evaluation, monitoring and update of Ayurveda health policy and development of code of ethics.
- Evaluation and monitoring and co-ordination with province and local level.

Province and Local Level

- Yoga and Lifestyle management training program.
- Strengthening of herbal garden.
- Workshop and discussion with local traditional healers.
- Preparation of IEC materials on Ayurveda.
- School Ayurveda health program.
- Expansion and development of Ayurveda institutions.
- Building construction of Ayurveda institutions.
- Promotive Panchakarma/Rasayan/Yoga program for Senior Citizens
- Awareness program on medicinal plants
- Program for lactating mother (Distribution of galactogogue medicine).
- Procurement of essential Ayurveda Drugs & treatment equipment.

Analysis of Achievement

Based on the treatment report of different Ayurveda institutions following diseases were classified as top ten diseases:

- Amlapitta (Gastritis)
- Udarrog (Abdominal diseases)
- Swasan Bikar (Respiratory diseases)
- VataVyadhi (Osteorthritis, Rheumatoid Arthritis & other neuromuscular Diseases)
- Jwar (Pyrexia)

- Bal Roga (Pediatric diseases)
- Karna, Nasa, Mukha, Danta & Kantha rog (ENT, Oral, Dental diseases)
- Strirog (Gynecological diseases)
- Brana (Wound, Abscess & Other Skin Diseases)
- Atisar/Grahani (Diarrheal diseases)

Table shows the number of people served province wise in 2077/78

Province	Province No. 1	Province No. 2	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudur Paschim Province	Total
General service	**64520**	**64992**	**102999**	**50686**	**259339**	**112177**	**128115**	**782828**
Covid related service	**8838**	**3190**	**8129**	**3270**	**9584**	**1838**	**1918**	**36767**
Total	**73358**	**68182**	**111128**	**53956**	**268923**	**114015**	**130033**	**819595**

Problems/Constraints

Problems/Constraints	Actions to be taken	Responsibility
Inadequate experts and qualified HR in the field of research.	Production of Qualified Ayurveda HR (BAMS, MD)	DOAA MoHP MOE
Inadequate resource and special fund	Allocate sufficient Budget for sustainable development of Ayurveda Institutions	MoHP
Lack of inter sectoral co-ordination.	Co-ordination with related ministries, Ayurveda institutions, NGO's & INGO's Increase qualified manpower.	DOAA MoHP
Lack of production, broadcasting and dissemination of health related messages and materials for publicity of Ayurveda.	Allocation of adequate budget to address local health needs and behaviors.	DOAA MoHP
Lack of competent advance recording and reporting system.	Upgrading of Ayurveda Information Management System(AHMIS) Allocation of adequate budget. Training on AHMIS For Ayurveda	DOAA MoHP
Lack of promotion of Health tourism	Develop specialized & super specialized Ayurveda services through public private partnership.	MoHP
Lack of research in the field of Ayurveda.	Develop and implement concrete plans and programs to ensure international standard health research in National Ayurveda Research and Training Center, Kirtipur.	MoHP

Problems/Constraints	Actions to be taken	Responsibility
Inadequate basic health service centers of Ayurveda in local level.	Establishment of Ayurveda Institutions in each local level & Ayurveda unit in each basic hospital under local level.	MoHP
Insufficient Evidence Generation & Documentation about the successful treatment of certain diseases with Ayurveda therapy claimed by practitioners.	Allocation of adequate budget for research and development.	DOAA MoHP/NARTC

Programs formulated for 2077/78

Miscellaneous Programs: Ayurveda Service (370031011)

- ✓ Building construction of Budhanilkantha Panchakarma center.
- ✓ Construction/Installation of open gym center in each Province.
- ✓ Ayurveda Health promotion program.
- ✓ Skill development/empowerment program.
- ✓ Quality Medicinal Herbs & Medicine Management and Research program.
- ✓ Prevention, Reduction and management of NCD.
- ✓ Ayurveda Health Information management program.
- ✓ Citizen wellbeing (Nagarik Arogya)program.
- ✓ Ayurveda Services Guidelines, Manual, Protocol
- ✓ Yoga/ Skill development training for Ayurveda personnel.
- ✓ AHIMS upgrading
- ✓ Alternative Medicine Strengthening/Policy, Standards.
- ✓ Development of "**Mero Swasthya Mero Jimmewari**(**My Health My Responsibility)"**application(Apps), **for** healthy lifestyle management.
- ✓ Awareness related program.

Provincial &Local Level Programs

- ✓ Lifestyle Management Program in PHC
- ✓ Training on "Operation & Management of Ayurveda Programs" for ayurveda personnel
- ✓ Procurement & Transportation of Ayurveda Medicines
- ✓ Free Health Camps
- ✓ National/International Yoga Day; National Arogya Diwas & Dhanwantari Jayanti
- ✓ ICT materials development and broadcasting.
- ✓ School Ayurveda & Yoga Program.
- ✓ Program for lactating mother (distribution of galactogogue medicines.
- ✓ Promotive program for senior citizens.

- ✓ Outreach clinic for Non communicable diseases, NCDs.
- ✓ Healthy life (Swastha Jeevan) program.
- ✓ Production of ChurnaAushadi(Medicine).
- ✓ Establishment of Citizen Wellbeing (NagarikAarogya) Centers in local level.

FAMILY WELFARE

4.1 CHILD HEALTH AND IMMUNIZATION

4.1.1 Background

Child Health and Immunization Service Section is one of the four sections of Family Welfare Division, Department of Health Services, which plans, executes and monitors several activities of child health and immunization services. Logistics Management Section of Management Division procures, stores and distributes vaccines throughout the country as planned by Child Health and Immunization Service Section, Family Welfare Division, while National Health Education Information and Communication Center (NHEICC) develops routine and supplementary child health and immunization IEC and social mobilization materials in close coordination with Family Welfare Division. Capacity building of health staff on routine immunization is executed through National Health and Provincial Health Training Centres in close collaboration with Family Welfare Division. Immunization and IMNCI related information are collected through HMIS Section (Integrated Health Information Management Section), Management Division, and is shared quarterly for review and feedback. Child Health and Immunization Service Section of Family Welfare Division coordinate with several stakeholders of immunization and child health to execute activities of the annual work plan.

This section has two programs: 1) National Immunization Program and 2) IMNCI program.

4.1.2 National Immunization Program

National Immunization Program (NIP) of Nepal (Expanded Program on Immunization) was started in 2034 BS and is a priority 1 program. It is one of the successful public health programs of Ministry of Health and Population, and has achieved several milestones contributing to reduction in morbidity and mortality associated with vaccine preventable diseases.

National Immunization Program works closely with other divisions of Department of Health Services and national centres of Ministry of Health and Population, and different partners, including WHO and UNICEF, supporting the National Immunization Program. In the Decade of the Vaccines (2011 – 2020), National Immunization Program has introduced several new and underutilized vaccines contributing towards achievement of Global Vaccine Action Plan targets of introducing new and underutilized vaccines in routine immunization. Currently, the program provides vaccination against 12 vaccine-preventable diseases. As per comprehensive Multi-Year Plan for Immunization (cMYPI) 2017 - 2021, several other vaccines, including Typhoid Conjugated Vaccine (TCV) and Human Papilloma Virus Vaccine (HPV) are planned for introduction in Nepal. Preparatory works for Typhoid Conjugated Vaccine (TCV) campaign and its introduction in routine immunization in fiscal year 2078-79 (2021-2022) is underway and the campaign is planned for later half of the next fiscal year. Currently, Immunization services are delivered through almost 16,000 service delivery points in health facilities (fixed sessions), outreach sessions, and mobile clinics.

National Immunization Program has cMYP 2017 - 2021 aligned with global, regional and national guidelines, policies and recommendations to guide the program for five years. All activities outlined in the cMYPI are costed and has strategies for implementation.

Nepal is the first country in the South East Asia Region to have Immunization Act, thus supporting and strengthening the National Immunization Program. Immunization Act 2072 was published in the Official Gazette on 26 January 2016. Based on the Act, Nepal has Immunization Regulation 2074, which was published in the Official Gazette on 6 August 2018. The Immunization Act of Nepal has recognized immunization as a right of all children. In line with this, provinces of Nepal also have developed its own provincial Immunization Act.

Since FY 2069/70 (2012/2013), Nepal has initiated and implemented a unique initiative known as 'full immunization program'. This program addresses issues of social inequity in immunization as every child regardless of social or geographical aspect within an administrative boundary are meant to be fully immunized under this program. Over the years, Nepal has witnessed participation of all stakeholders at all levels to achieve full immunization. As of end of FY 2077/78, 63 out of 77 districts have been declared 'fully immunized'. Gandaki Province has declared their province as fully immunized province.

National Immunization Program has a very good track record of meeting the targets for control, elimination and eradication of vaccine preventable diseases. Smallpox has now become history due to eradication in 2034 BS (1977 AD). Maternal and neonatal tetanus (MNT) was eliminated in 2005 and the elimination status has been sustained since then. The last case of polio in Nepal was in 2010, and along with other countries of the South East Asia Region, Nepal was certified polio free in 2014. This status has been maintained since then. Nepal is one of the first countries in the world to introduce JE vaccine in routine immunization. In 2016, Japanese Encephalitis (JE vaccine), which initially was given only in 31 endemic Terai districts, was scaled up all over the country, thus, further contributing towards control of Japanese encephalitis in Nepal.

In August 2018, Nepal was certified as having achieved control of rubella and congenital rubella syndrome. This certification is two years ahead of the regional target year of 2020 and one year ahead of the national target of 2019. In July 2019, Nepal was certified of having achieved hepatitis B control among children through immunization as the prevalence of the disease (sero-prevalence of HBsAg) dropped to less than < 1% (0.13% only) among 5-6-year-old children. With this, Nepal became one of the first four countries (along with Bangladesh, Bhutan, and Thailand) in the WHO South-East Asia Region to control hepatitis B among children. Overall, the National Immunization Program is considered as the main contributor towards decline of infant and child mortality (Source: Nepal and the Millennium Development Goals, Final Status Report 2000-2015, National Planning Commission), and has contributed significantly in achieving MDG Goal 4 of reducing child mortality. Though measles burden has been reduced by > 95% compared to 2003, the national target of achieving measles elimination by 2019 has not been met. In September 2019, member countries of WHO South-East Asia Region, including Nepal, have resolved to eliminate both measles and rubella by 2023 to prevent deaths and disabilities caused by these highly infectious childhood killer diseases. Measles, which is one of the most infectious diseases, will require very high coverages (> 95%) with both the first and second routine immunization doses of measles-rubella (MR) vaccine in every community, municipality, district, province, and nationally. To quickly close the immunity gap to measles (and rubella), MoHP conducted nation-wide MR campaign in the month of Falgun and Chaitra 2076 extended till Ashad 2077 in two phases, including polio campaign (with bOPV) in 19 selected districts of Terai. Even during the COVID-19 pandemic situation in the second half of FY 2076/77, Nepal was able to complete its nation-wide vaccination campaign, as well as introduce Rota vaccine in the National Immunization Program.

National Immunization Program produces evidence on burden of vaccine preventable diseases and impact of vaccine introduction. The Immunization Preventable Disease programme (WHO-IPD) of the World Health Organization, Nepal provides technical assistance to Ministry of Health and Population for nation-wide surveillance systems for acute flaccid paralysis (for polio), measles and rubella, neonatal tetanus, and acute encephalitis syndrome (for Japanese encephalitis). Further, with support of WHO-IPD, sentinel surveillance of selected vaccine preventable diseases (invasive bacterial diseases, rotavirus, and congenital rubella syndrome) is conducted in collaboration with academia and research institutes.

National Immunization Program with the support of WHO-IPD works with various immunization and vaccine preventable diseases surveillance committees and task forces which function as advisory and quality monitoring bodies of the program. The committees include National Immunization Committee, National Immunization Advisory Committee, National AEFI Investigation Committee, Inter-Agency Coordination Committee on Immunization, National Certification Committee for Polio Eradication, National Verification Committee for Measles and Rubella/CRS Elimination, National Task Force for Laboratory Containment of Polio, Expert Review Committee for Polio, Polio Legacy Committee, etc. Since 2018, concurrent immunization supervision and monitoring has been conducted through program staff, partners, Surveillance Medical Officers (SMO) network, independent monitors, and immunization and VPD committee members at sub-national levels including assessment at communities producing real-time data for real-time action.

4.1.3 Guiding Documents of National Immunization Program

There are several global, regional and national guiding documents for the National Immunization Program. The main documents which have been taken in account and incorporated in cMYPI 2017 - 21 are Global Vaccine Action Plan, South East Asia Regional Vaccine Action Plan, National Immunization Act 2072, Immunization Regulation 2074 and Nepal Health Sector Strategy, and periodic recommendations from SEAR-ITAG (South-East Asia Region Immunization Technical Advisory Group) and polio and measles rubella certification committees.

4.1.4 Comprehensive Multi-Year Plan for Immunization (cMYPI)

The comprehensive Multi-year Plan for Immunization (cMYP) 2012 - 16 ended in 2016 and new cMYPI 2017-21 is in place. The cMYPI 2017-2021 provides a plan for five years to achieve immunization related goals of the country. The objectives, strategies and activities set forth in the plan provide the framework required to meet the goal of reducing infant and child mortality and morbidity associated with vaccine-preventable diseases (VPDs). Furthermore, this plan addresses new challenges and expands the previous plan by providing guidelines for introduction of new vaccines, eradication, elimination and control of targeted VPDs and strengthening of routine immunization.

Vision

Nepal: a country free of vaccine-preventable diseases.

Mission

To provide every child and mother high-quality, safe and affordable vaccines and immunization services from the National Immunization Program in an equitable manner.

Goal

Reduction of morbidity, mortality and disability associated with vaccine preventable diseases.

Strategic Objectives

Objective 1. Reach every child for full immunization;

Objective 2. Accelerate, achieve and sustain vaccine preventable diseases control, elimination and eradication;

Objective 3. Strengthen immunization supply chain and vaccine management system for quality immunization services;

Objective 4. Ensure financial sustainability for immunization program;

Objective 5. Promote innovation, research and social mobilization activities to enhance best practices

4.1.5 Target Population

National Immunization Program currently provides routine vaccination up to 23 months of age. National Immunization Advisory Committee (NIAC) of Nepal recommended lifting the ceiling for vaccination from 23 months to 5 years for childhood vaccines, with life-course approach. It is necessary to complete immunization within the recommended schedule as provided by the National Immunization Program. However, some children may miss vaccination at the recommended schedule. Therefore, NIAC recommended that if child misses any vaccine dose in the recommended schedule, then opportunity should be provided so that those missed vaccine or vaccine dose(s) can be provided up to 5 years of age if not contraindicated. This is also critical to improve MR2 coverage on path towards Measles-Rubella elimination. So, this policy has been implemented from FY 2077/78 with orientation at all levels.

Table 1: Target Population for FY 2077/78

Particulars	Population (Source: HMIS)
Under 1-year children (surviving infants)	620,258
12-23 months population	596,205
0-59 months population	3,028,588
Expected pregnancy	752,506

NATIONAL IMMUNIZATION SCHEDULE

Table 2: National Immunization Schedule

SN	Type of Vaccine	Number of Doses	Schedule
1	BCG	1	At birth or on first contact with health institution
2	OPV	3	6, 10, and 14 weeks of age
3	DPT-Hep B-Hib	3	6, 10, and 14 weeks of age
4	Rotavirus Vaccine	2	6 and 10 weeks of age
5	fIPV	1	6 and 14 weeks of age
6	PCV	3	6, 10 weeks and 9 months of age
7	Measles-Rubella	2	First dose at 9 months and second dose at 15 months of age
8	JE	1	12 months of age
9	Td	2	Pregnant women: 2 doses of Td one month apart in first pregnancy, and 1 dose in each subsequent pregnancy

4.1.6 Major Activities Conducted in FY 2077/78

Routine Activities

- Development of vaccination guideline for delayed schedule and full immunization declaration guidelines, third edition (2077).
- Conducted 5-days Provincial Level ToT Workshop on Immunization including delayed schedule and FID
- Development of guidance documents on Measles-Rubella Outbreak Response Immunization, 2077.
- Revision of immunization manuals and trainers guide
- Immunization review meeting, RI strengthening orientation and microplanning formulation at subnational level

- Microplanning template update, printing and distribution at all levels.
- New vaccine introduction for typhoid conjugate vaccine initiated with necessary preparation for proposal development and approval and conduction of campaign and its introduction in routine immunization in next fiscal year.
- Provision of adverse events following immunization (AEFI) kits at all session sites, endorsed by MoHP
- Strengthening of cold chain (expansion and extension) at all level
- Continued new vaccinator trainings at provincial level
- Conducted independent RI monitoring in all provinces
- Immunization data verification, validation and monitoring for sustainability of municipality for Full Immunization Declaration program
- Continued AEFI surveillance at all levels
- Continued VPD surveillance through SMO network
- Outbreak response Immunization conducted

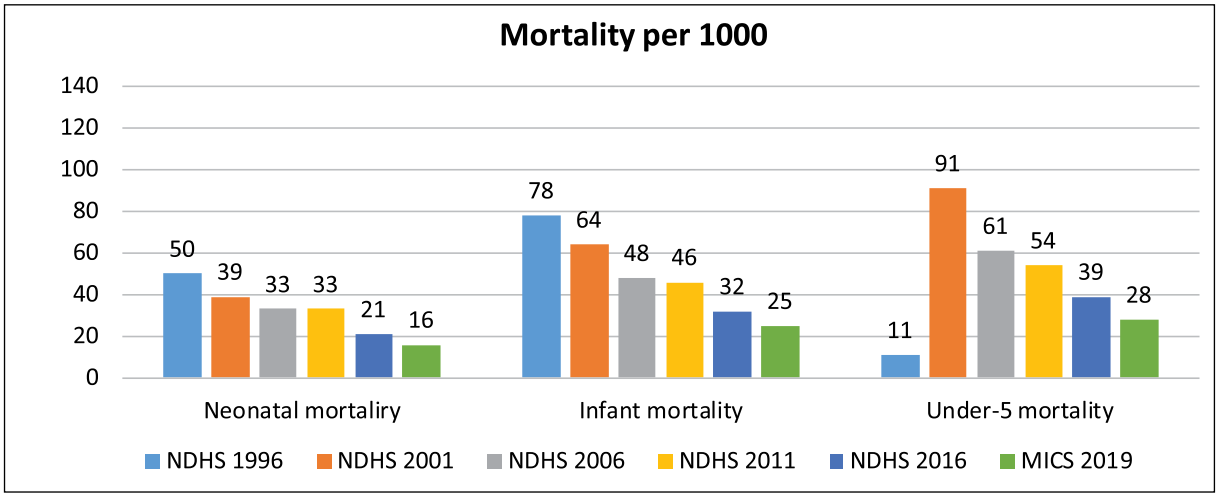
Additional Activities

- Development of key guiding documents for COVID-19 vaccination including National Deployment and Vaccination Plan (NDVP) for COVID-19 vaccines
- Development of COVID-19 campaign operational guidelines, training package, IEC materials, microplanning format, recording and reporting format, etc.
- Conducted Provincial Level ToT Workshop on COVID-19 vaccination campaign
- Development of COVID-19 vaccines guiding documents for health workers
- Initiated post MR SIA coverage survey and sero-prevalence survey

4.1.7 Vaccination Target vs. Achievement, FY 2077/78

The cMYPI 2017-21 has set the goals to reduce child mortality, morbidity and disability associated with vaccine preventable diseases, and one of the strategic objectives is to reach every child for full immunization. The NDHS survey 2016 shows that in 20 years, there has been significant reduction in infant and child mortality (Fig. 1). The National Immunization Programme has contributed significantly in reduction of child mortality by preventing vaccine preventable diseases.

Figure 1: Trends in early childhood mortality



Source: Nepal Demographic and Health Survey. For 2019, Multiple Indicator Cluster Survey data is used.

4.1.8 National vaccination coverage

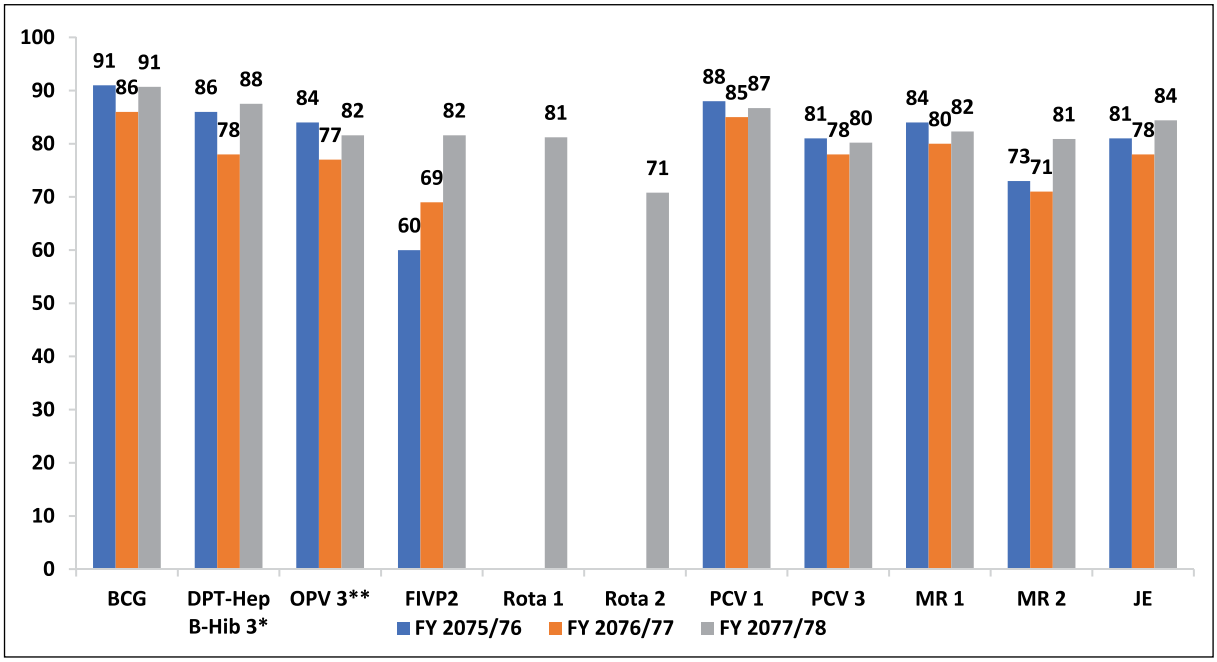
The tables and maps presented below show the routine immunization vaccination coverage and achievement status in FY 2077/78.

Table 3: National vaccination coverage by vaccine, FY 2077/78

S.N.	Antigens	Target population	Targets	Achievement	% Achieved
1	BCG	under 1 year	620,258	562,698	91
2	DPT-Hep B-Hib1	under 1 year	620,258	546,816	88
3	DPT-Hep B-Hib2	under 1 year	620,258	537,434	87
4	DPT-Hep B-Hib3	under 1 year	620,258	541,612	87
5	DPT-Hep B-Hib3 including delayed dose given after 1 year of age	under 1 year	620,258	552,853	89
6	OPV1	under 1 year	620,258	519,726	84
7	OPV2	under 1 year	620,258	506,781	82
8	OPV3	under 1 year	620,258	506,243	82
9	OPV3 including delayed dose given after 1 year of age	under 1 year	620,258	552,853	89
10	fIPV1	under 1 year	620,258	518,557	84
11	fIPV2	under 1 year	620,258	506,271	82
12	Rota 1	Under 1 year	620,258	503,698	81
13	Rota 2	Under 1 year	620,258	439,372	71
14	PCV1	under 1 year	620,258	537,838	87
15	PCV2	under 1 year	620,258	524,865	85
16	PCV3	under 1 year	620,258	497,686	80
17	MR1	under 1 year	620,258	510,257	82
18	MR2	15 Months	596,205	482,147	81
19	JE	12 Months	596,205	502,962	84
20	TD2 & TD2+	Pregnant Women	752,505	452,129	60

Source: HMIS/DoHS

Figure 2: National Routine Immunization Administrative Coverage (%), Nepal, FY 2075/76 to 2077/78



Source: HMIS/DoHS

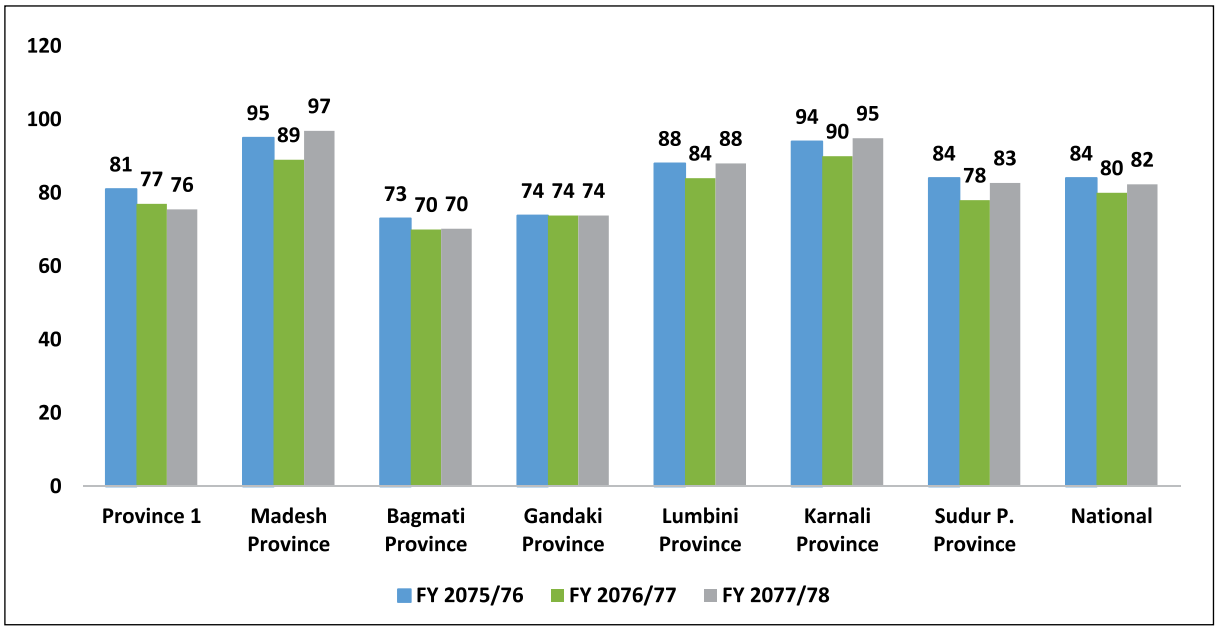
*DPT-HepB-Hib3 coverage including delayed doses given after 1 year of age is:
FY 2075/76: 90.4%
FY 2076/77: 80.5%
FY 2077/78: 89.2%

** OPV3 coverage including delayed doses given after 1 year of age is:
FY 2075/76: 87.5%
FY 2076/77: 79.5%
FY 2077/78: 83.5%

Figure 2 shows national administrative coverage for selected antigens for three years, from FY 2075/76 to FY 2077/78. BCG coverage has increased by 5% whereas the coverage of DTP-HepB-Hib3 and OPV3 has increased by 10% and 5% respectively in FY 2077/78. For FY 2077/78, fIPV2 coverage has increased to 82%. PCV1 coverage has increased to 87% whereas coverage of PCV3 has increased to 80%. MR1 and MR2 coverage has increased to 82% and 81% respectively. For measles elimination, high coverages of both MR1 and MR2 is required (> 95%). Therefore, coverages of both MR1 and MR2 are still not satisfactory. The coverage of JE vaccine has also increased to 84%. There has been overall increase in coverage of all the antigens which is attributed to decline in the COVID-19 cases and return to routine activities. The reporting rate for immunization dataset in HMIS for FY 2077/78 is 90% which is higher than 86% in FY 2076/77. With the decline COVID-19 cases, the National Immunization Program was able to quickly bring the monthly vaccination coverages at or above pre-pandemic phase.

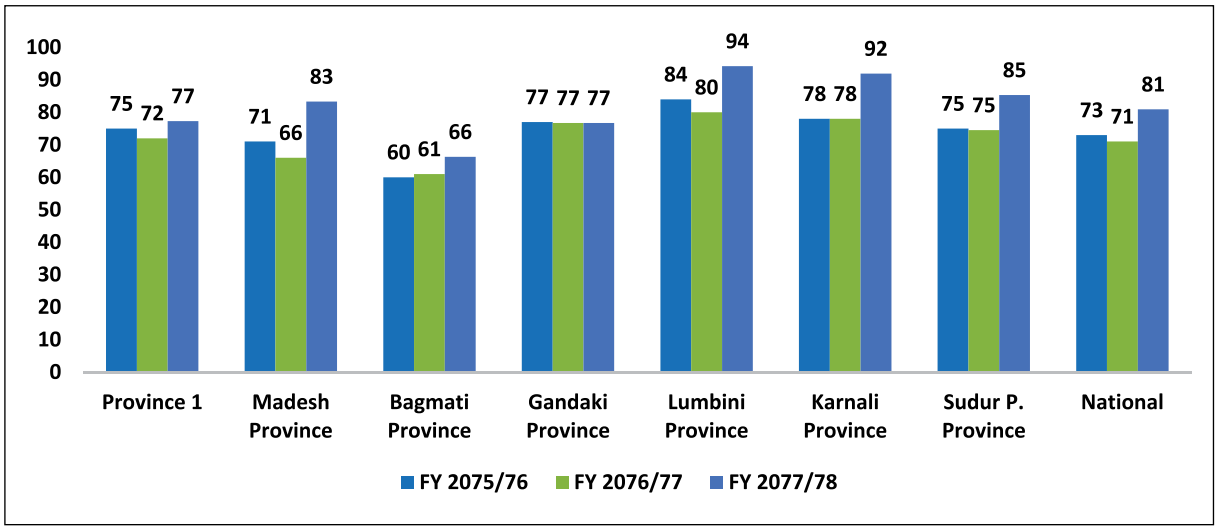
4.1.9 Vaccination coverage by province

Figure 3 : Province wise coverage (%) of measles-rubella first dose, FY 2075/76 to FY 2077/78



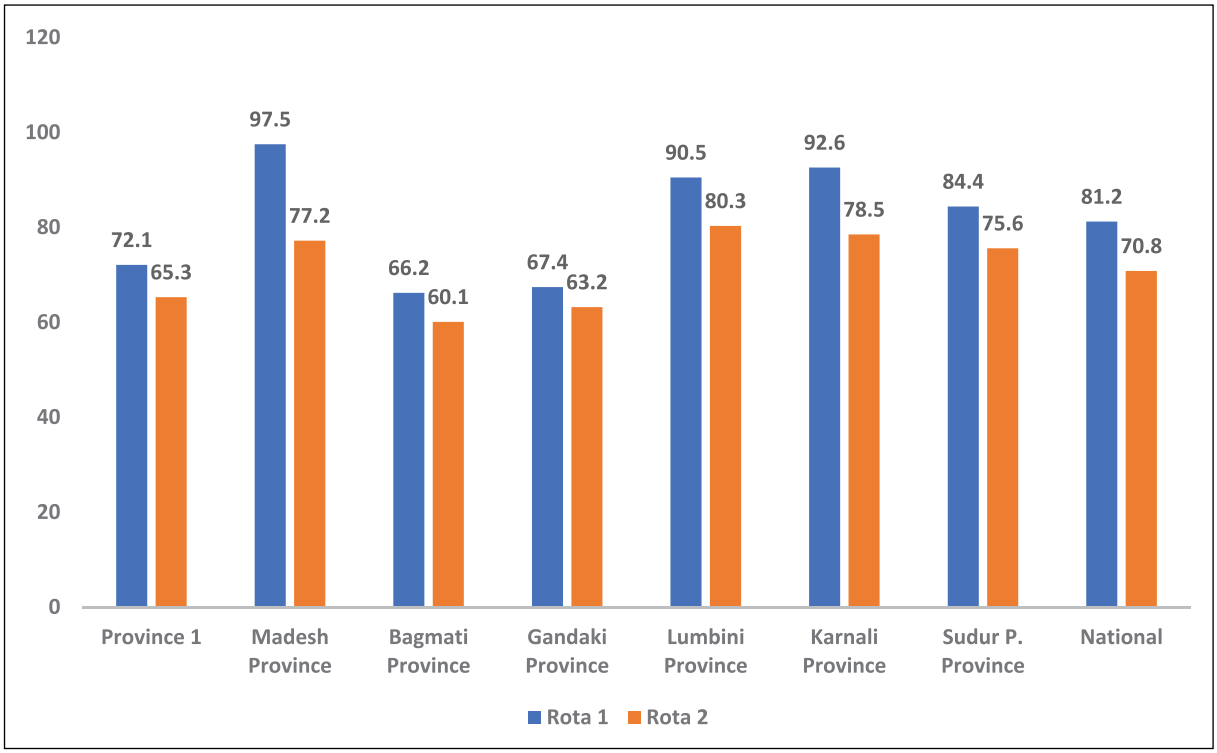
Source: HMIS/DoHS

Figure 4: Province wise coverage (%) of measles-rubella second dose, FY 2075/76 to FY 2077/78



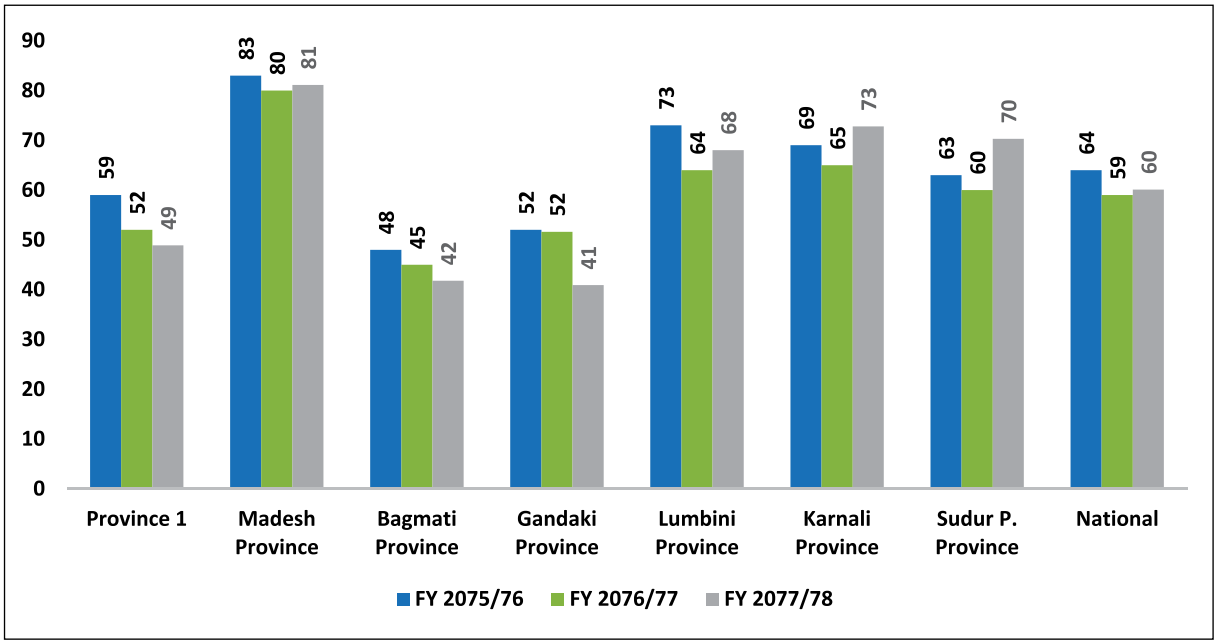
Source: HMIS/DoHS

Figure 5: Province wise coverage (%) of Rota 1 and Rota 2, FY 2077/2078



Source: HMIS/DoHS

Figure 6: Province wise coverage (%) of Td2 and Td 2+, FY 2075/76 to FY 2077/78



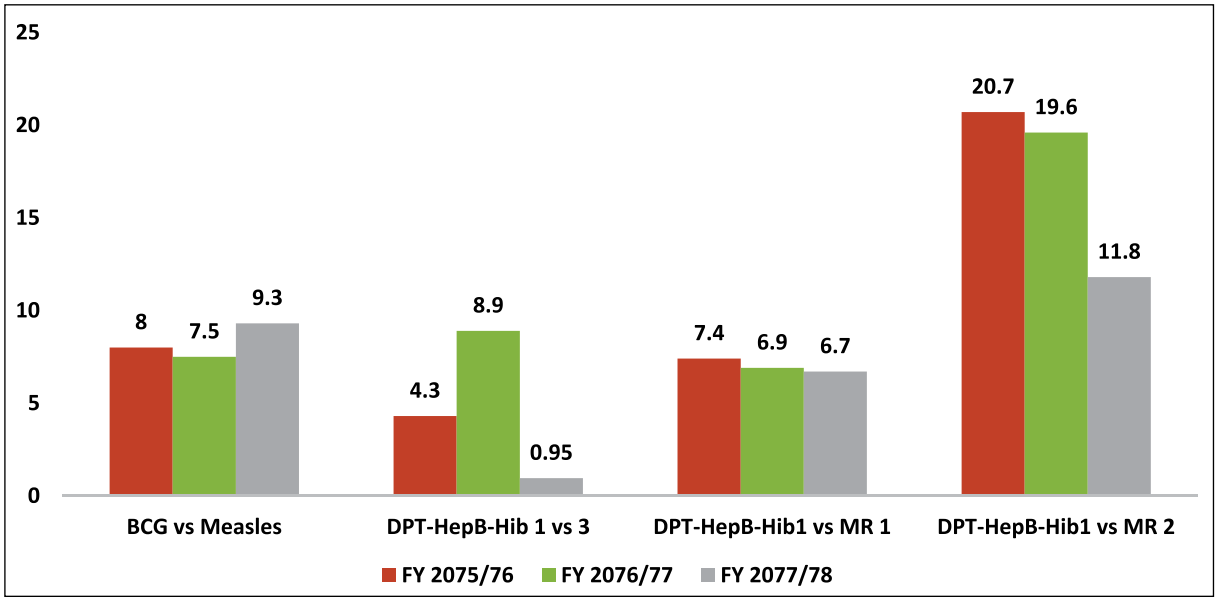
Source: HMIS/DoHS

Figure 3 to 6 show province wise coverage for DPT-HepB-Hib3, MR1, MR2, Rota (1 and 2) and Td2/Td2+ respectively. In general, vaccination coverage of DPT-HepB-Hib3 and MR 2 have increased in all provinces compared to previous year. MR1 has decreased in Province 1 and remained stagnant in Bagmati and Gandaki Proivnc whereas it has increased in all other provinces. Td2 and Td2+ has increased in Madhesh Province,

Lumbini Province, Karnali Province and Sudurpashchim Province whereaas it has decreased in Province 1, Bagmati Province, Gandaki Province.

4.1.10 Droput rates of vaccination

Figure 7: Dropout rates (%) of different vaccinations, FY 2075/76 to FY 2077/78

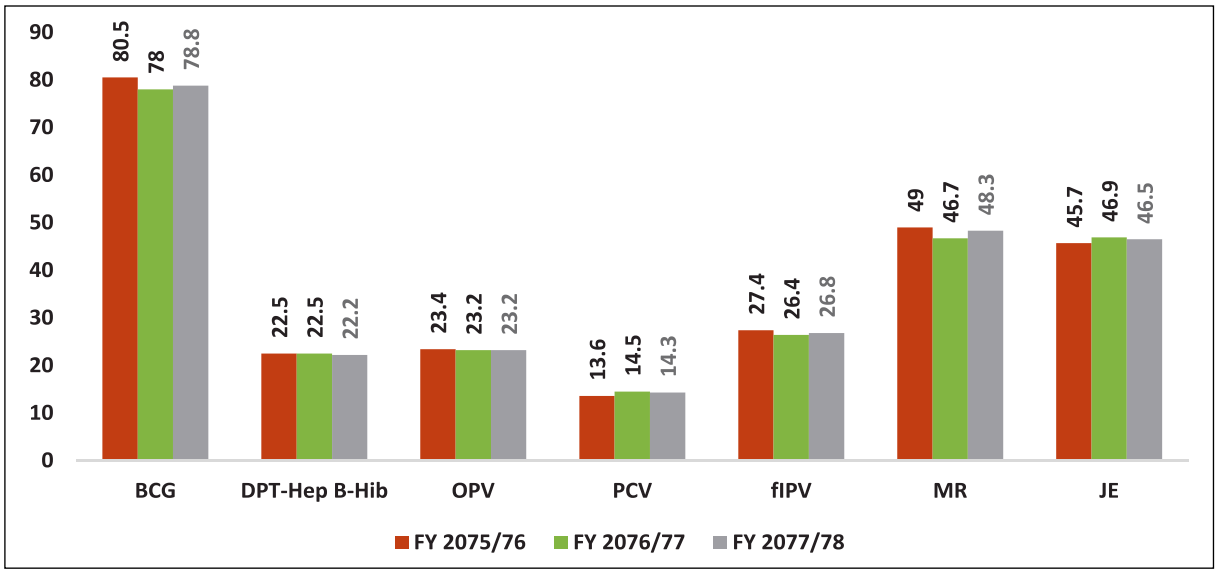


Source: HMIS/DoHS

Figure 7 shows that national dropout rates for BCG vs MR1, DPT-HepB-Hib1 vs DPT-HepB-Hib3, DPT-HepB-Hib1 vs MR1 and DPT-HepB-Hib1 vs MR2. Dropout rated for DPT-HepB-Hib1 vs DPT-HepB-Hib3, DPT-HepB-Hib1 vs MR1 and DPT-HepB-Hib1 vs MR2 have decreased compared to previous year showing improvement while BCG vs Measles had increased. Also, all drop-out rates are below 10%.

4.1.11 Vaccine wastage rates

Figure 8: Vaccine wastage rates (%), FY 2075/76 to FY 2077/78

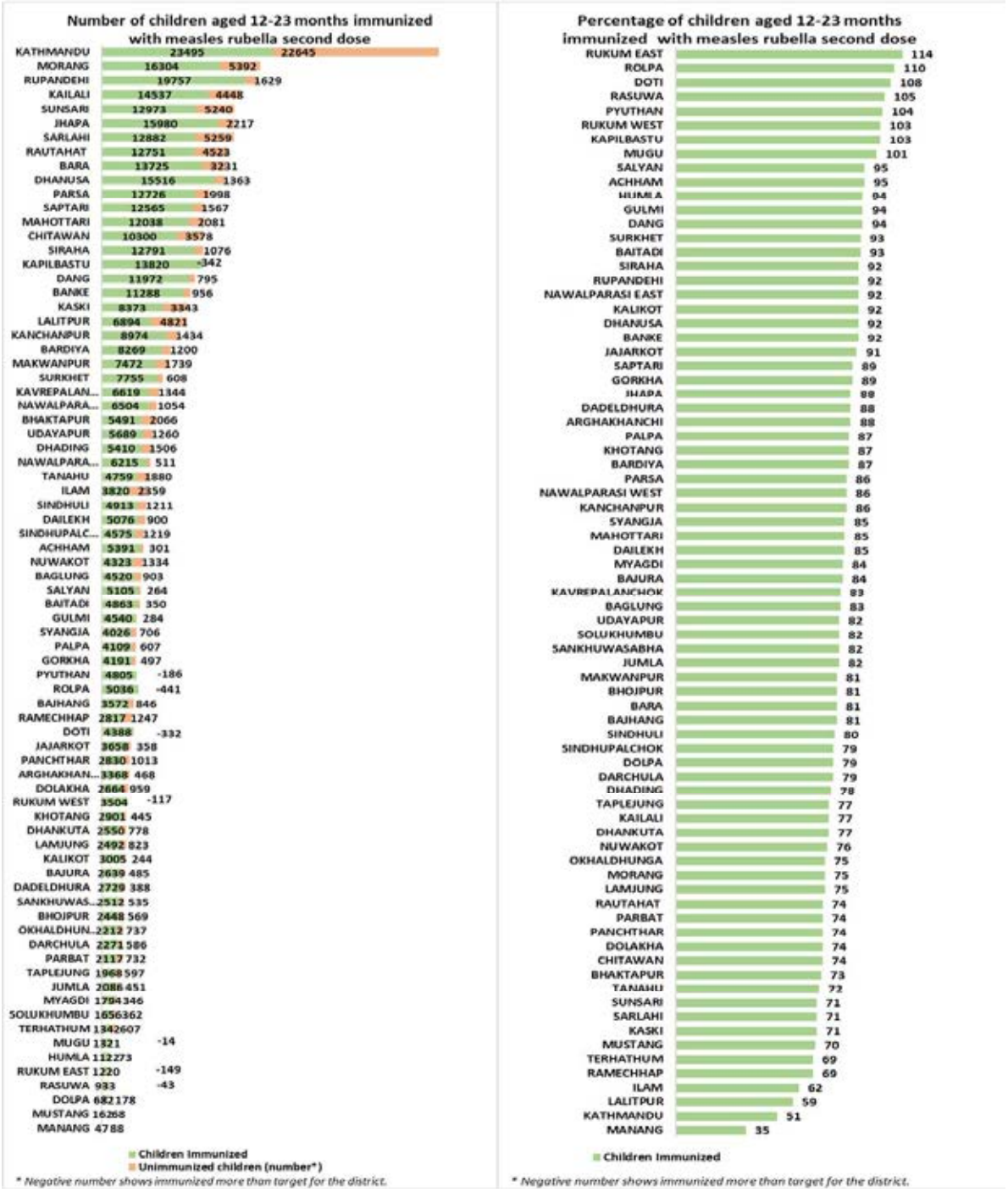


Source: HMIS/DoHS

Figure 8 shows combine open and closed vial wastage rates. For all re-constituted vaccines (BCG, MR, and JE) that need to be discarded within 6 hours (1 hour only for JE) or at the end of immunization session whichever comes first, opened vial wastage rates are expected to be higher. Further, in Nepal, for BCG, fIPV, MR and JE vaccines, at least 'one vial per session' policy is used, and small session sizes because of sparse population in hilly and mountainous terrain have to be allowed higher opened vial wastage rates so that no child is missed. Because of these reasons, the wastage rates for BCG is higher than the indicative wastage rates of 50%. However, the wastage rate of MR has increased in FY 2077/78 but it is below the indicative wastage rate of 50%. The wastage rate of JE has decreased slightly but remained high (46.6%) as it should be discarded within 1 hours from opening. For DPT-HepB-Hib and OPV, the national wastage rates are below the indicative wastage rate of 25% for both vaccines. For PCV vaccines, the national wastage rate is 14.3% which is above the indicative wastage rate of 10%. The wastage rate of fIPV is 26.8% which should be lower than 20%.

4.1.12 Measles-rubella second dose coverage, number of immunized and unimmunized children by district

Figure 9: MR2 coverage (%) and number of immunized children by district, FY 2077/78



Source: HMIS/DoHS

Figure 9 shows the coverage of MR2 by district, and number of children vaccinated with MR2 by district. 22 districts have achieved MR2 coverage 90% and above, whereas 27 districts have MR2 coverage between 80-89%, 27 districts have MR2 coverage between 50-79%, and 1 districts have coverage below 50%. The national coverage of MR2 is 71%.

4.1.13 Access and utilization of immunization services:

National Immunization Program evaluates status of the districts by accessibility and utilization of immunization services. Districts are categorized in category 1 to 4 on basis of DPT-HepB-Hib1 coverage and dropout rate of DPT-HepB-Hib1 vs DPT-HepB-Hib3 to know the accessibility and utilization of immunization services respectively.

Table 4: *District* categorization based on access (DPT-HepB-Hib1 coverage) and utilization (DPT-HepB-Hib1 vs. DPT-HepB-Hib3 drop-out), FY 2077/78

Category 1 (less Problem) **High Coverage (≥80%)** **Low Drop-Out (<10%)**	**Category 2 (Problem)** **High Coverage (≥80%)** **High Drop-out (≥10%)**	**Category 3 (Problem)** **Low Coverage (<80%)** **Low Drop-out (<10%)**	**Category 4 (Problem)** **Low Coverage (<80%)** **High Drop-out (≥10%)**
Solukhumbu Jhapa Morang Sunsari Udayapur Saptari Siraha Dhanusa Mahottari Bara Parsa Rasuwa Kavrepalanchowk Sindhuli Makwanpur Rukum East Rolpa Pyuthan Gulmi Nawalparasi West Rupandehi Kapilbastu Dang Banke Bardiya Mugu Jumla Kalikot Dailekh Jajarkot Rukum West Salyan Surkhet Bajura Bajhang	Sarlahi Rautahat Dolpa Humla **4 districts**	Taplejung Sankhuwasabha Okhaldhunga Khotang Bhojpur Dhankuta Terhathum Panchthar Ilam Dolakha Sindhupalchowk Dhading Nuwakot Kathmandu Bhaktapur Lalitpur Ramechhap Chitwan Gorkha Manang Mustang Myagdi Kaski Lamjung Tanahu Nawalparasi East Syangja Parbat Baglung Arghakhanchi Palpa **31 districts**	

Category 1 (less Problem) High Coverage (≥80%) Low Drop-Out (<10%)	Category 2 (Problem) High Coverage (≥80%) High Drop-out (≥10%)	Category 3 (Problem) Low Coverage (<80%) Low Drop-out (<10%)	Category 4 (Problem) Low Coverage (<80%) High Drop-out (≥10%)
Darchula Baitadi Dadeldhura Doti Achham Kailali Kanchanpur 42 districts			

Source: HMIS/DoHS

Note: The given DPT-HepB-Hib3 coverages used in the table above does not included delayed vaccines given after 1 year of age

Table 4 shows that 42 districts are in category 1 (good access, good utilization). This is an increment from 25 districts in this category in the previous fiscal year, showing improvement in immunization access and utilization at sub-national level. 4 districts are in category 2 (good access, poor utilization), whereas 31 districts are in category 3 (poor access, good utilization). There is not any district in category 4 (poor access, poor utilization).

4.1.14 Programmatic risk assessment based on routine immunization and vaccine preventable disease (measles)

Programmatic risk for 2022 derived using surveillance and immunization coverage indictors from last three year. The parameters used for risk assessment model are: (a) unimmunized children, (b) immunization coverage, (c) measles cases and (d) measles outbreak.

Risk scoring of districts and municipalities in new federalized structure of Nepal are based on routine immunization coverages and vaccine preventable disease surveillance (measles) indicators as follows:

a) 3-year average of Penta3/DTP3 coverage (%) and number of infants missed DTP3
b) 3-year average of MR2 coverage (%) and Number of 12-23 months old children missed MR2
c) 3-year average annual confirmed measles case count (any age)
d) 3-year sum of confirmed measles outbreak count

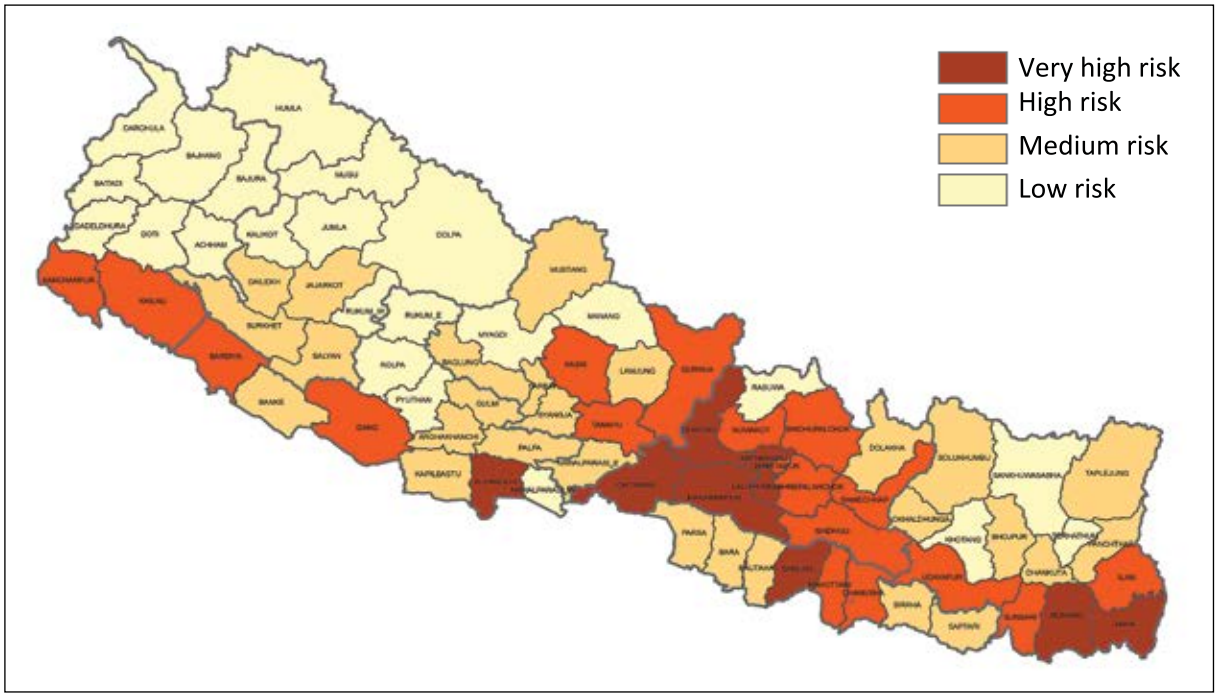
Table 5: Risk scoring matrix for districts and municipalities

Risk domain	Indicators	Score criteria and significance	Score value	Min-Max summative scores	Risk category
1st year of life risk of VPD (1YLR)	3-year average of Penta3/DTP3 coverage (%) and Number of infants missed DTP3	DTP3>=80% AND Non-DTP3 children <national median value: Program performing well and least epidemiological risk from susceptible population	1	Minimum score across 4 domains = 2 (1+1+0+0) Maximum score across 4 domains = 13 (4+4+3+2)	Score: 2-4 = Low Risk Score: 5-7 = Moderate Risk Score: 8-10 = High Risk Score: 11-13 = Very High Risk
		DTP3<80% AND Non-DTP3 children <national median value: Program NOT performing but less epidemiological risk from susceptible population	2		
		DTP3>=80% AND Non-DTP3 children >=national median value: Program performing well but significant epidemiological risk from susceptible population	3		
		DTP3<80% AND Non-DTP3 children >=national median value: Program NOT performing well and greatest epidemiological risk from susceptible population	4		
2nd year of life risk of VPD (2YLR)	3-year average of MR2 coverage (%) and Number of 12-23 months old children missed MR2	MR2>=80% AND Non-MR2 children <national median value: Program performing well and least epidemiological risk from susceptible population	1		
		MR2<80% AND Non-MR2 children <national median value: Program NOT performing0 but less epidemiological risk from susceptible population	2		
		MR2>=80% AND Non-MR2 children >=national median value: Program performing well but significant epidemiological risk from susceptible population	3		
		MR2<80% AND Non-MR2 children >=national median value: Program NOT performing well and greatest epidemiological risk from susceptible population	4		
VPD Risk life course (measles as Tracer)	3-year average annual confirmed measles case count (any age)	Average case count: 0 -- lowest risk	0		
		Average case count: <2 -- low risk	1		
		Average case count: 2-3 -- moderate risk	2		
		Average case count: 4 and above -- highest risk	3		
Measles outbreak risk (larger susceptible pockets)	3-year sum of confirmed measles outbreak count	No outbreaks in 3 years - lowest risk	0		
		1 outbreak in 3 years - moderate risk	1		
		>1 outbreak in 3 years - high risk (one OB would likely give natural immunity for next year)	2		

The assumptions for risk scoring matrix as given above in Table 5 and is largely based on vaccination coverage reported (administrative coverage). The actual risk will be based on the actual vaccination coverage

District level programme risk analysis shows 9 (12%) districts are at “Very High Risk (VHR)”, 18 (23%) districts are at “High Risk (HR)”, 27 (35%) districts are at “Medium Risk (MR)” and 23 (30%) districts in “Low Risk (LR)”.

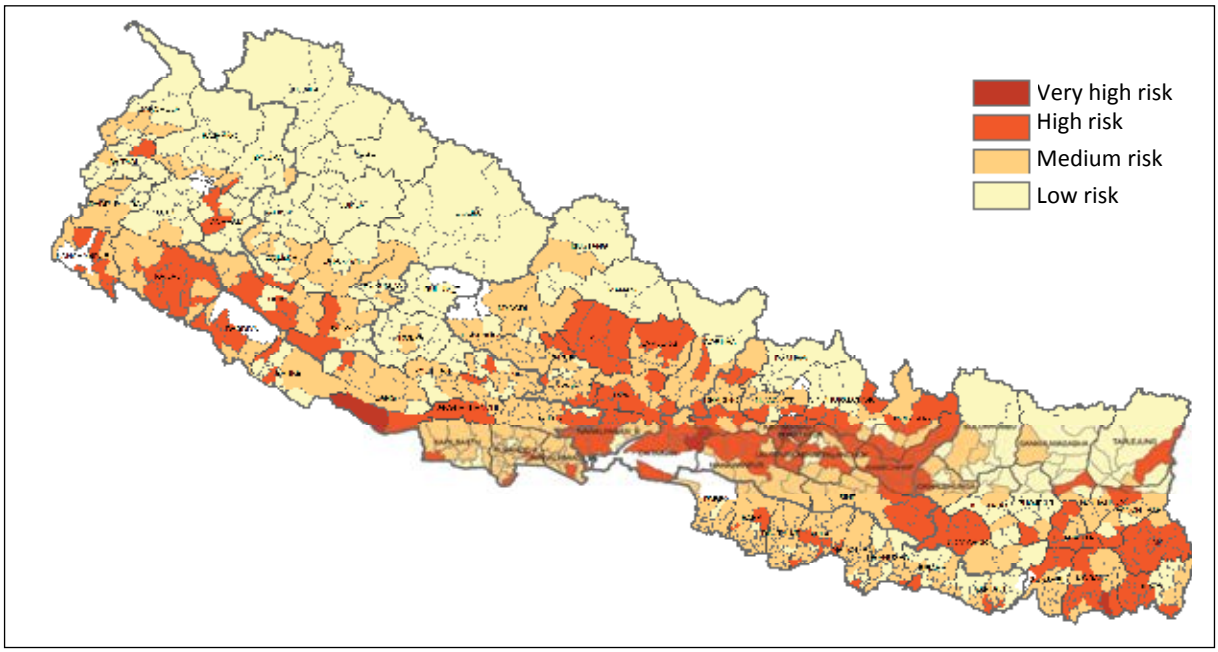
Figure 10: District wise programmatic risk assessment



Source: HMIS/DoHS

Municipalities' level programmatic risk shows 5 (1%) municipalities in very high risk, 185 (25%) municipalities in high risk, 321 (32%) municipalities in medium risk and 242 (32%) municipalities in low risk.

Figure 11: Municipalities-wise programmatic risk assessment

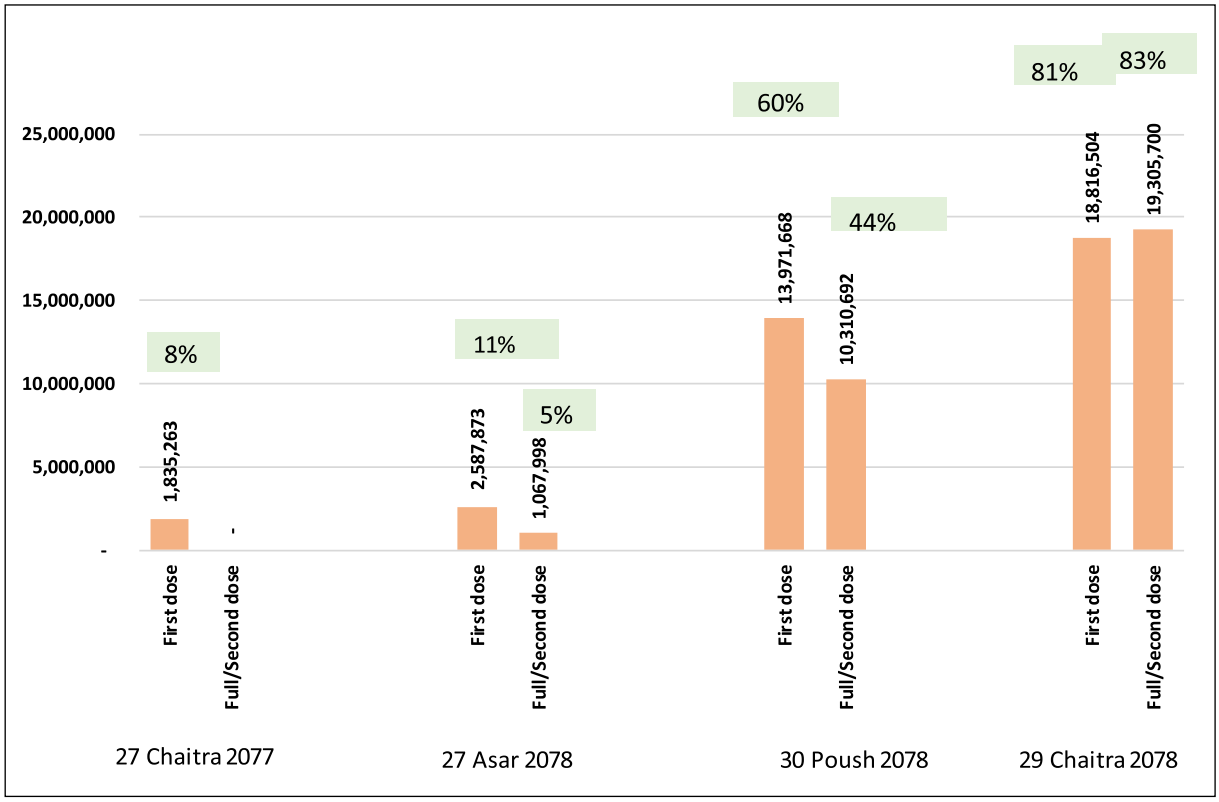


Source: HMIS/DoHS

4.1.15 COVID-19 vaccination campaign

COVID-19 vaccination was introduced in Nepal on 27 January 2021. Since, then, there has been significant progress in the rollout of COVID-19 vaccines. COVID-19 vaccination campaign has been driven by guiding documents; National Vaccine and Deployment Plan (NDVP) and WHO-SAGE prioritization roadmap. Country prioritized health workers, frontline workers, and elderly populations above 65 years as first priority groups followed by higher age group (above 55 years of age), co-morbid population and then rest of the population. So far, six types of COVID-19 vaccines have been rolled out in the country received from COVAX facility, direct government procurement and donations from various countries.

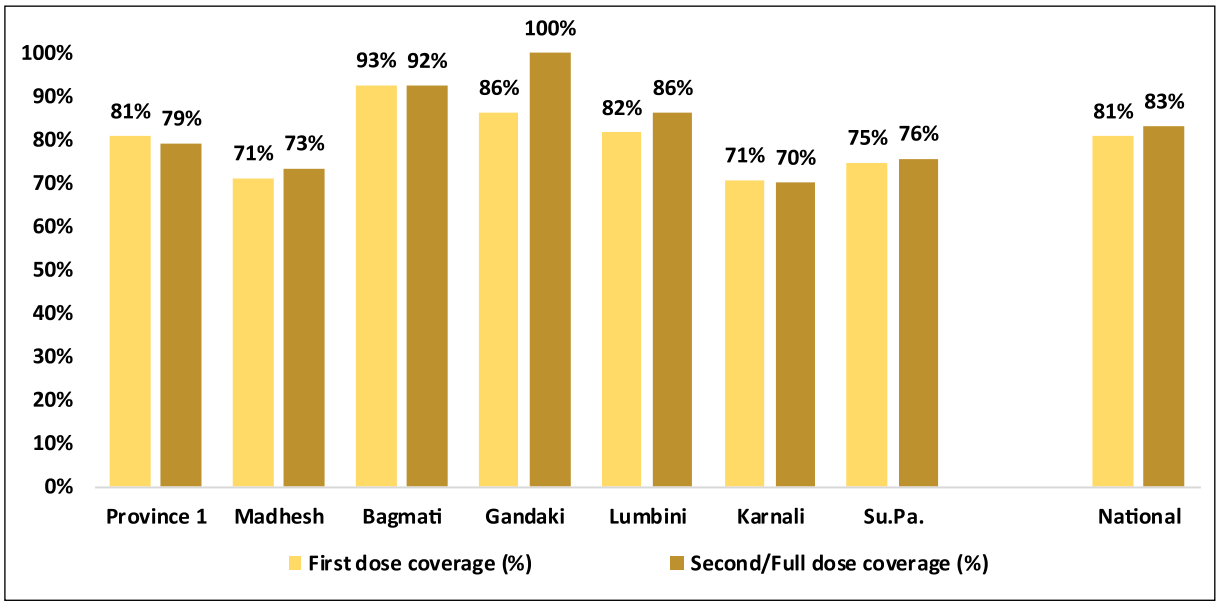
Figure 12.: Number of COVID-19 vaccine doses administered, and coverage achieved among ≥ 12 target populations from Chaitra 2077 to Chaitra 2078



**J&J vaccine administered are added to Full/second dose. In some cases, second dose coverage is higher than first dose in Chaitra 2078.*

Source: HMIS/DoHS

Figure 13: COVID-19 vaccination coverage among target population ≥ 12 years age by province, as of 21 April 2022



Source: HMIS/DoHS (*second/full dose coverage includes J&J dose vaccination)*

Figure 14: COVID-19 vaccination cumulative administration and COVID-19 cases, January 2021 – March 2022

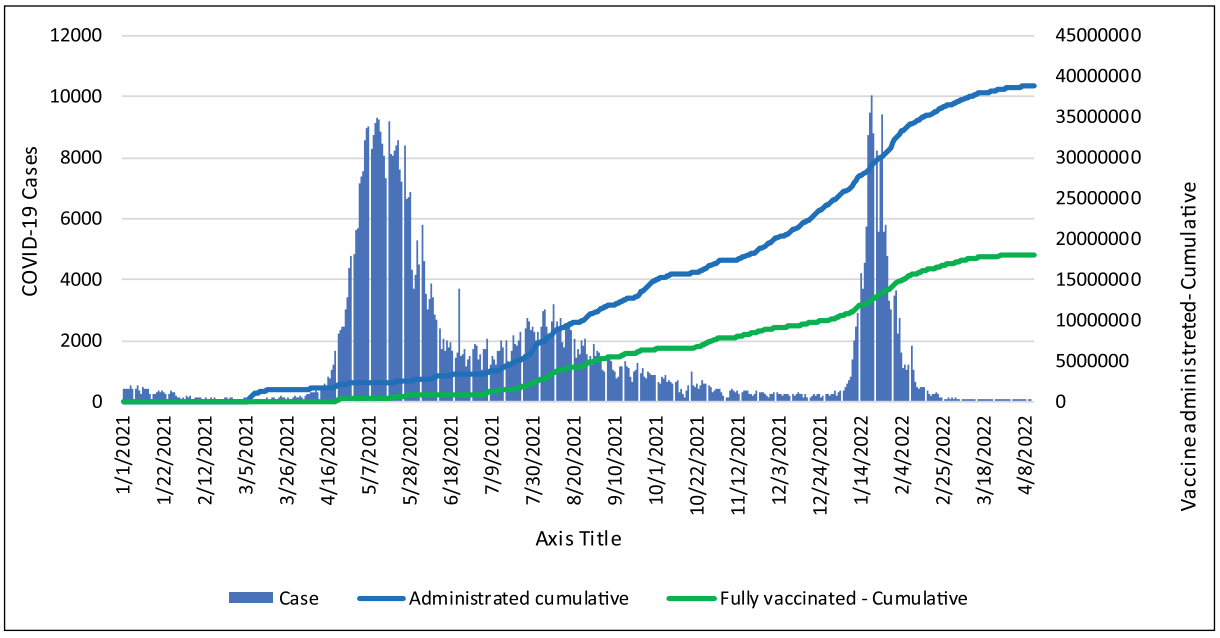
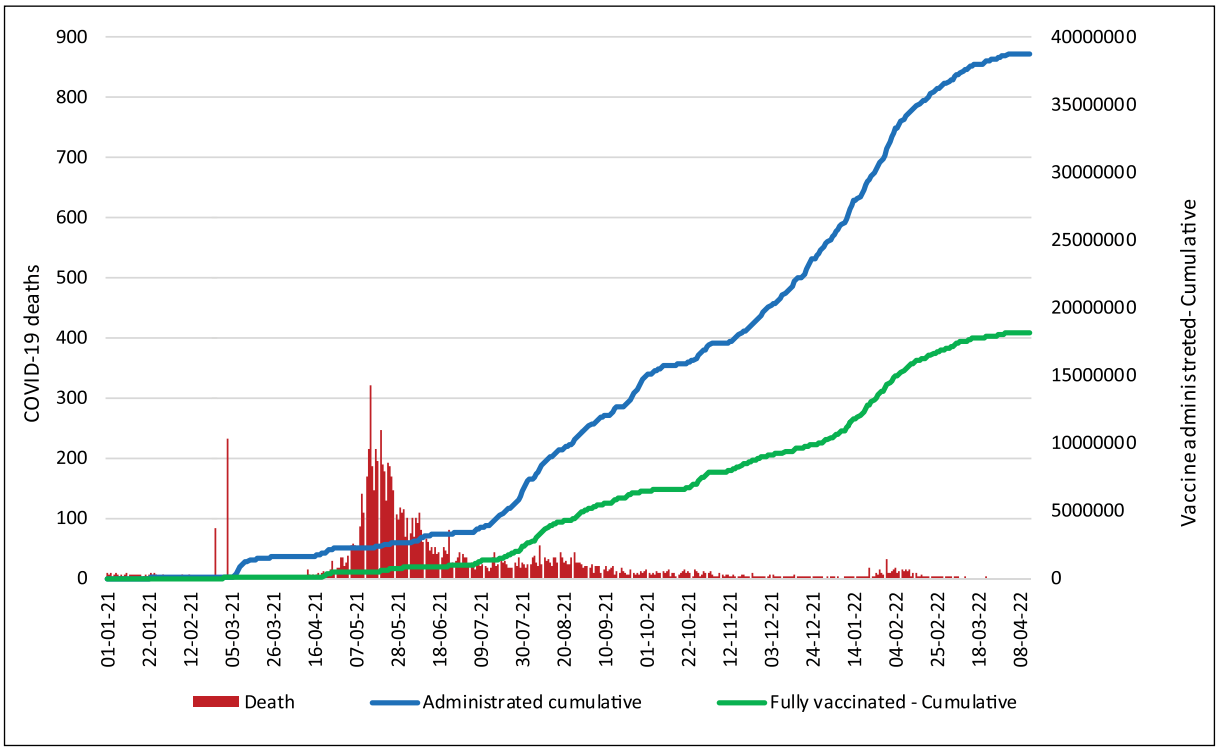


Figure 15: COVID-19 vaccination cumulative administration and COVID-19 deaths, January 2021 – March 2022



Note: Spike in February 2022 includes additional COVID-19 deaths in the past one year reported from different bodies managing COVID-19 pandemic.

4.1.16 Vaccine Preventable Diseases Surveillance

One of the strategic objectives of cMYPI 2017-21 is to accelerate, achieve and sustain vaccine preventable diseases control, elimination, and eradication. Strategic approaches within this objective are to sustain polio-free status for the global eradication of the disease, achieve measles elimination and rubella/CRS control by 2019, accelerate JE control, sustain MNT elimination status, accelerate hepatitis B vaccination, and expand surveillance of other vaccine preventable diseases. While high coverages with vaccines included in routine immunization is important to achieve this objective, high quality surveillance is important to know the status of these diseases to progress towards achievement of this objective.

To support polio eradication activities, surveillance of acute flaccid paralysis for polio was started in Nepal in 1998. In 2003, measles (and rubella) and neonatal tetanus surveillance was integrated in the AFP/polio surveillance network. In 2004, surveillance of acute encephalitis syndrome for Japanese encephalitis was integrated in the AFP/polio surveillance network. Supported by WHO-IPD, surveillance for these diseases is conducted throughout the country through 709 routine weekly zero reporting sites, 629 case-based measles surveillance sites and 819 informers. Further, sentinel surveillance of invasive bacterial diseases, rotavirus, and congenital rubella syndrome are also conducted in Nepal.

Sentinel surveillance for invasive bacterial diseases (pneumococcus, Hib, and meningococcus) has been conducted at Patan Hospital with WHO support since 2009. Similarly, sentinel surveillance for rotavirus disease has been conducted at Kanti Children's Hospital (clinical site) with WHO support since 2009. Surveillance data from IBD sentinel surveillance site was crucial for informed introduction of Haemophilus influenzae type b vaccine (introduced in 2009), and pneumococcal conjugate vaccine (introduced in 2015)

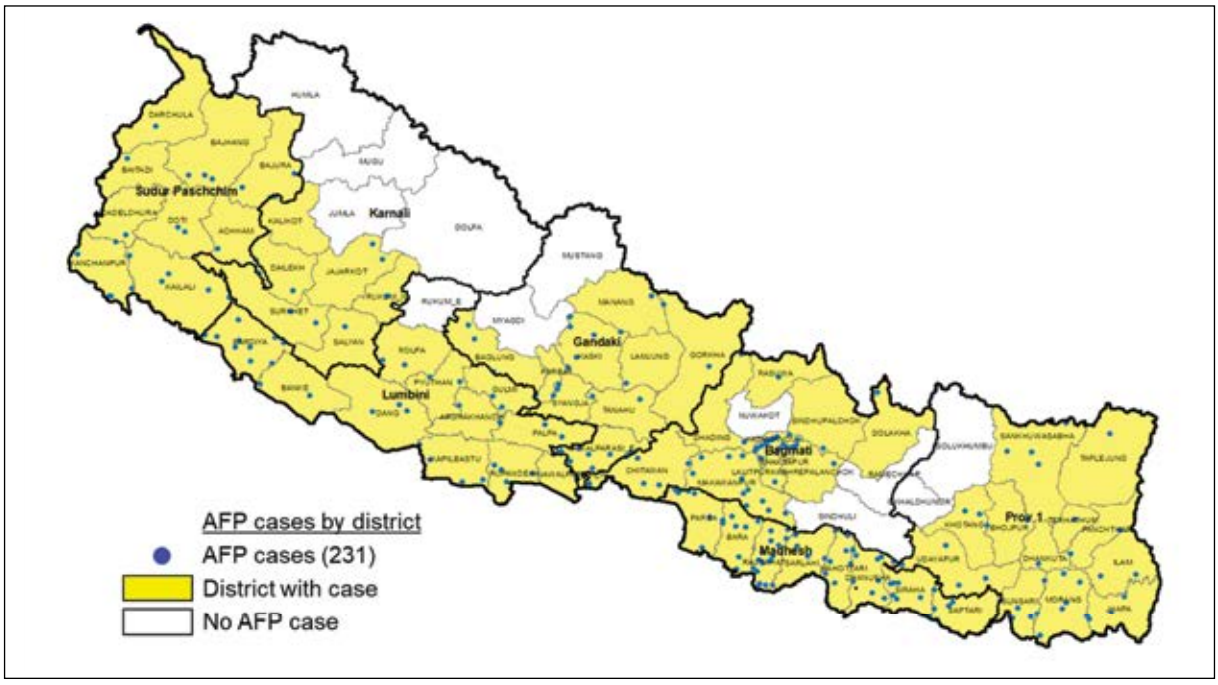
in routine immunization of Nepal. Similarly, data from rotavirus sentinel surveillance site was crucial for informed recommendation for rotavirus vaccine introduction in Nepal. In February 2018, rotavirus sentinel surveillance sites have been expanded to two more sites with geographical representation – B.P. Koirala Institute of Health Sciences and Nepalgunj Medical College. Further, sentinel surveillance of CRS (congenital rubella syndrome) is conducted through four sentinel sites in Kathmandu Valley- Kanti children Hospital, Tribhuvan University Teaching Hospital- Paediatric department, Patan Academy of Health Sciences and Tilganga Eye Hospital.

(Surveillance data given below have been calculated from mid-July 2020 to mid-July 2021 to align with the government fiscal year 2077/78)

4.1.17 Acute flaccid paralysis surveillance, FY 2077/2078

The last case of polio in Nepal was reported in August 2010. Along with the other countries in the South East Asia Region, Nepal was certified polio free in 2014. Since then, Nepal has maintained this status. For sensitive surveillance of polio, there are two main cardinal indicators: 1) non-polio AFP rate which should be at least 2 per 100,000 (SEAR standard) under 15 years population, and 2) adequate stool collection rate which should be 80% or more.

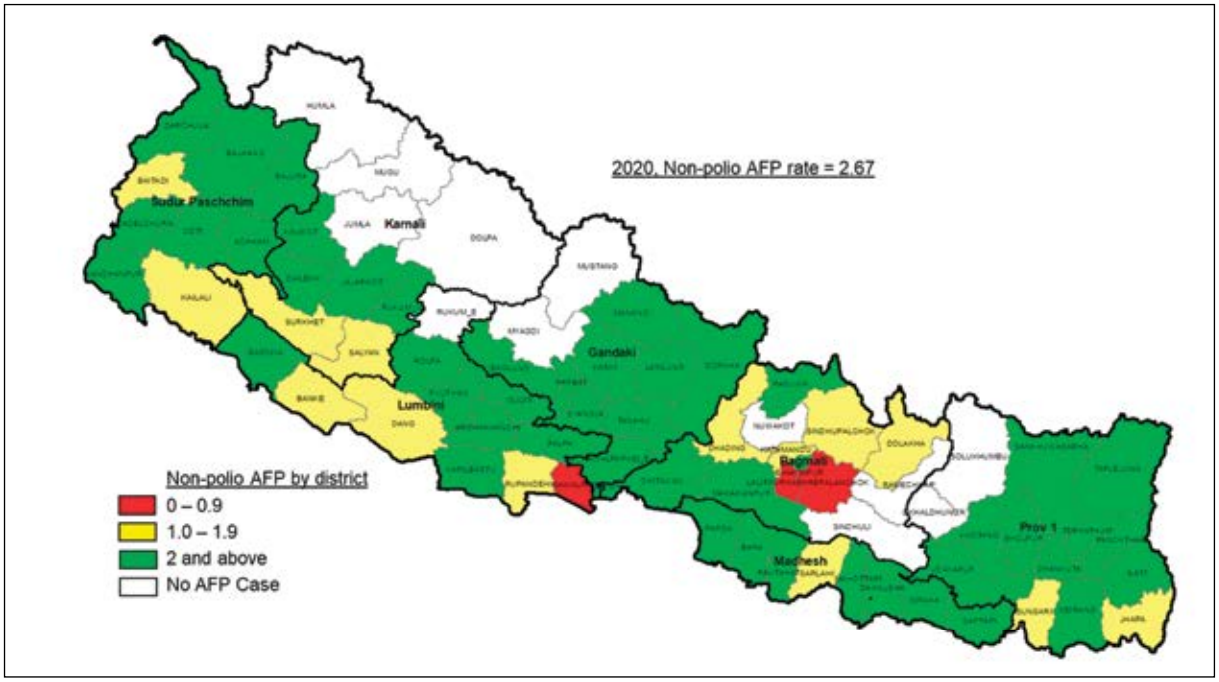
Figure 16: Reported acute flaccid paralysis (AFP) cases by district, FY 2077/2078



Source: FWD and WHO-IPD, Nepal

Figure 17 shows total reported AFP cases by district for FY 2077/2078. The total number of AFP cases reported was 231 cases from 65 districts. The remaining 12 districts (Humla, Mugu, Jumla, Dolpa, Rukum-east, Myagdi, Mustang, Nuwakot, Ramechhap, Sindhuli, Okhaldhunga, Solukhumbhu) did not report any AFP case. Majority of these districts are sparsely populated with relatively a smaller number of under-15 years population. At least one AFP case per year from any district with 50,000 under 15 years population is expected for quality surveillance of AFP.

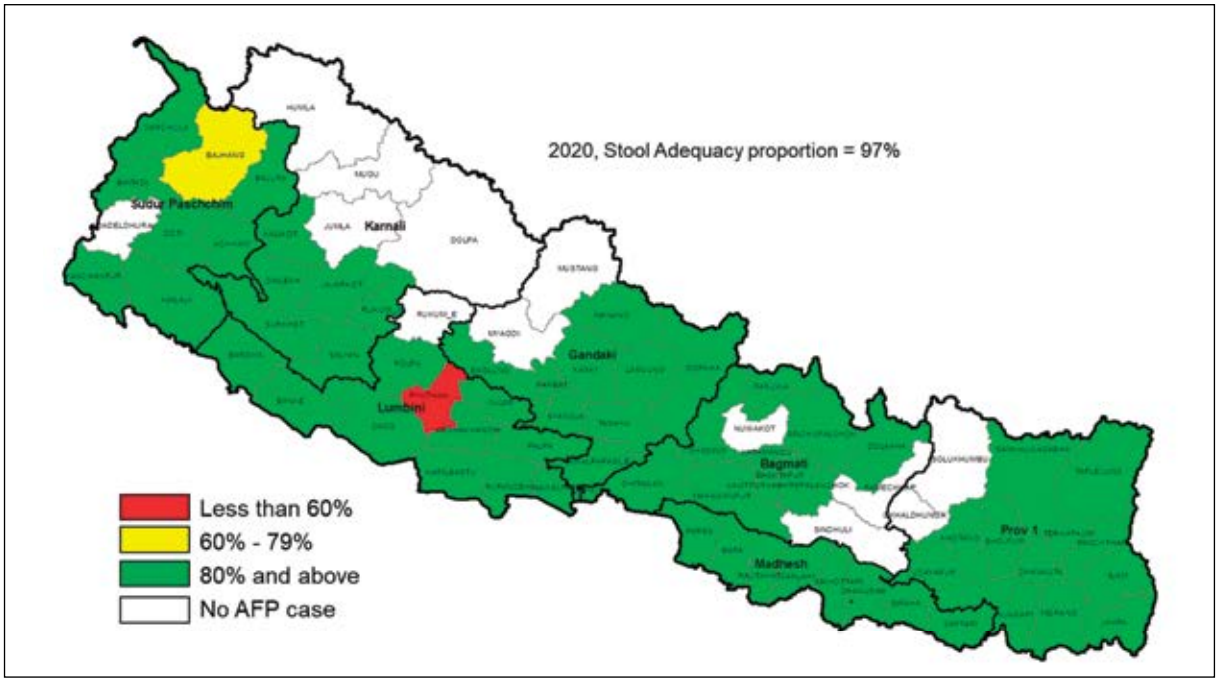
Figure 17: Non-polio Acute Flaccid Paralysis (NP AFP) rate by district, FY 2077/2078



Source: FWD and WHO-IPD, Nepal

Figure 17 shows non-polio AFP rate by district. National non-polio AFP rate is 2.67 per 100,000 under 15 years population, which is above the required rate of at least 2 per 100,000 under 15 years population. There are 65 districts which have reported AFP cases, out of which 48 districts have met the non-polio AFP target rate of 2 or more, whereas 14 districts have non-polio AFP rate between 1 – 1.9, and 3 districts have non-polio AFP rate below 1 per 100,000 under 15 years population.

Figure 18: Adequate stool collection rate of AFP cases by district, FY 2077/2078



Source: FWD and WHO-IPD, Nepal

Figure 18 shows adequate stool collection rate from reported AFP cases. The national AFP stool collection rate is 97%, which is above the target of 80% or more for this indicator. Among 65 districts which have reported AFP cases, 63 districts have achieved adequate stool collection rate of at or above 80% whereas one district stool adequacy rate is between 60%- 79% and another district stool adequacy rate is less than 60%.

Table 6: Non-polio AFP rate and stool collection adequacy rate by province, FY 2077/2078

Province	Non-Polio AFP cases	Non-Polio AFP rate	Stool Adequacy
Province 1	33	2.33	100%
Madhesh Province	64	3.54	100%
Bagmati Province	40	2.15	100%
Gandaki Province	28	3.90	100%
Lumbini Province	35	2.39	95%
Karnali Province	9	1.72	100%
Sudurpaschhim Province	22	2.61	81%
Total	231	2.67	**97%**

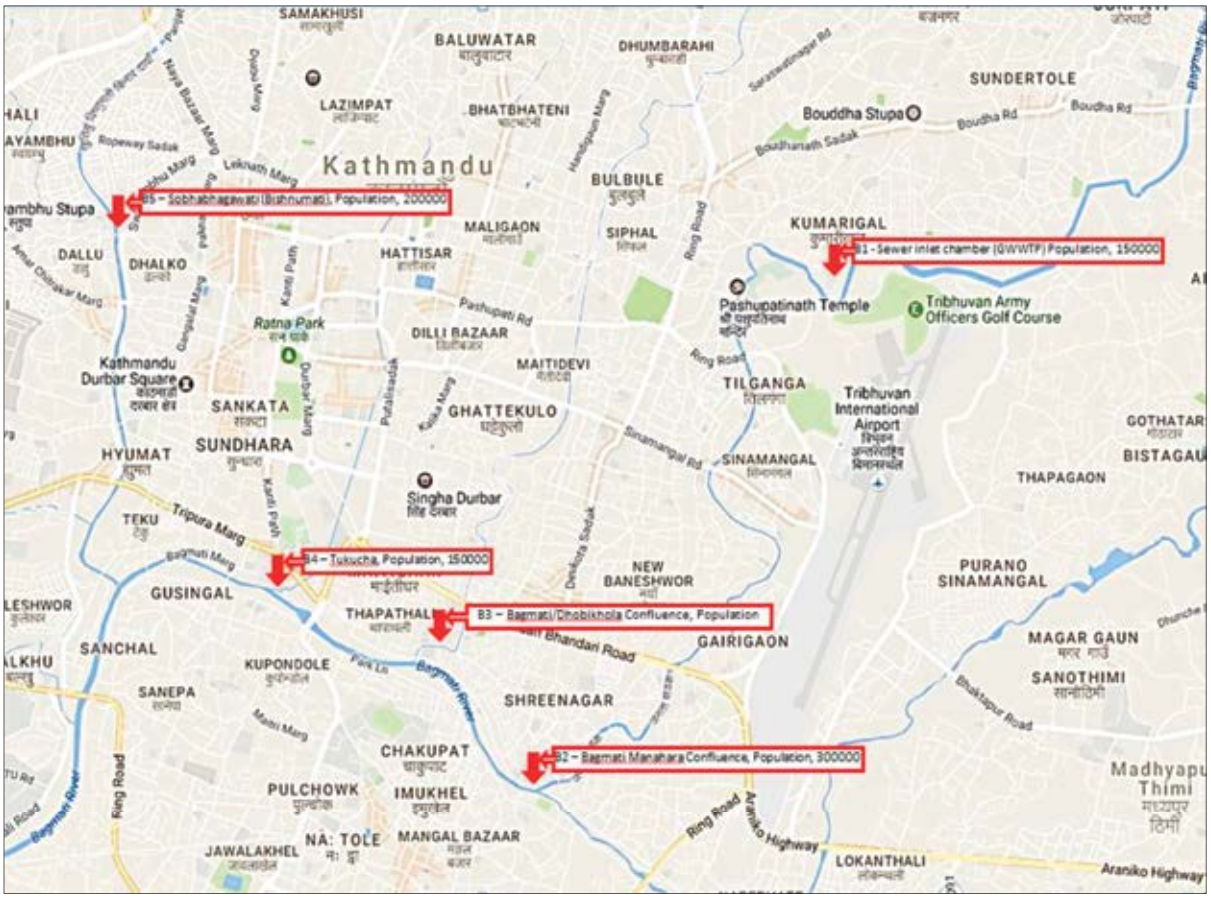
Source: FWD and WHO-IPD, Nepal

Table 6 shows non-polio AFP cases, non-polio AFP rate, and adequate stool collection rate by province. Except Karnali Province, all provinces have achieved non-polio AFP rate above 2 per 100,000 under-15 years' population, and adequate stool collection rate above 80%. Karnali Province has Non-Polio AFP rate of 1.72 per 100,000 under-15 years' population.

4.1.18 Environmental Surveillance

Environmental Surveillance (ES) for poliovirus examine composite human fecal samples from untreated wastewater collection systems typically located downstream from high-risk populations in defined geographical areas. ES supplement AFP surveillance and play an important role to document absence of indigenous wild poliovirus; no importations of virus via international travellers, vaccination switch information and identify vaccine derived poliovirus in defined geographical areas. Since November 2017, National Public Health Laboratory (NPHL) has been conducting ES for poliovirus from five sites of Kathmandu Valley. The five permanent ES sites are: Sewer Inlet Chamber- Chabahil, Bagamati Manahara Confluence, Bagmati/Dhobikhola confluence, Tukucha and Shovabagawati.

Figure 19: Map of environmental surveillance sampling sites- Kathmandu Valley

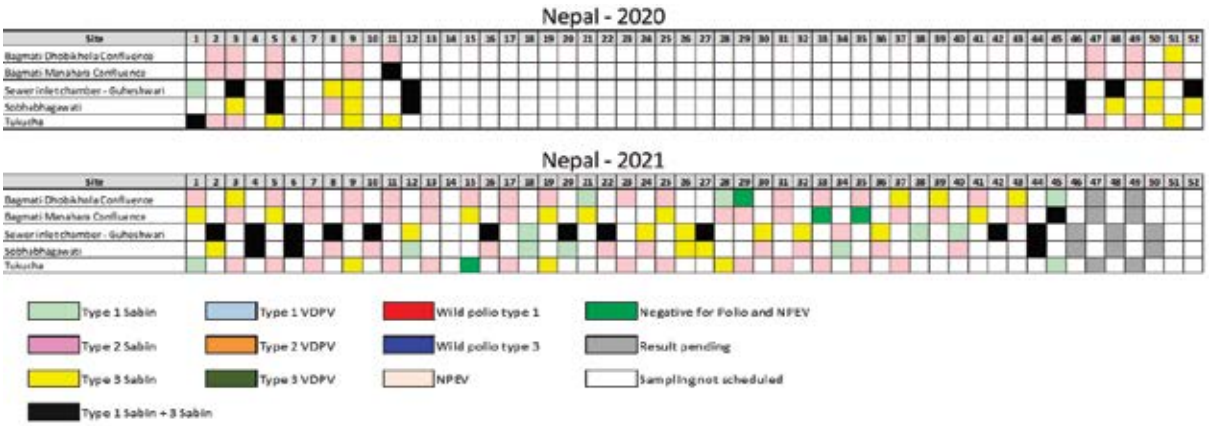


Source: Environmental Surveillance for Poliovirus Nepal, NPHL 2016

4.1.19 Viruses Detected in Environmental Sewage samples (2020-2021)

Figure 20 below shows polioviruses detected in sewage samples from five different sites of Kathmandu Valley in 2020 and 2021. ES data system showed Sabin viruses and Non-Polio Enterovirus (NPEV). The ES has not detected any type 2 Sabin after trivalent oral polio vaccine (tOPV) switched to bivalent oral polio vaccine (bOPV). There are no findings of any vaccine derived poliovirus (VDPV) and wild polioviruses. Due to COVID-19 pandemic and restricted movement, NPHL could not conduct collection and processing of ES sample from 13 Week to 45 Week, 2021. NPHL resumed ES sample collection and processing in 46 Week 2021. At present, due to interrupted international flight to regional reference lab (RRL), Bangkok, NPHL has been sending concentrated samples to reference laboratory (RRL), Mumbai India for isolation and characterization of polioviruses.

Figure 20: Environmental surveillance of polio viruses (sewage samples, 2020-2021)



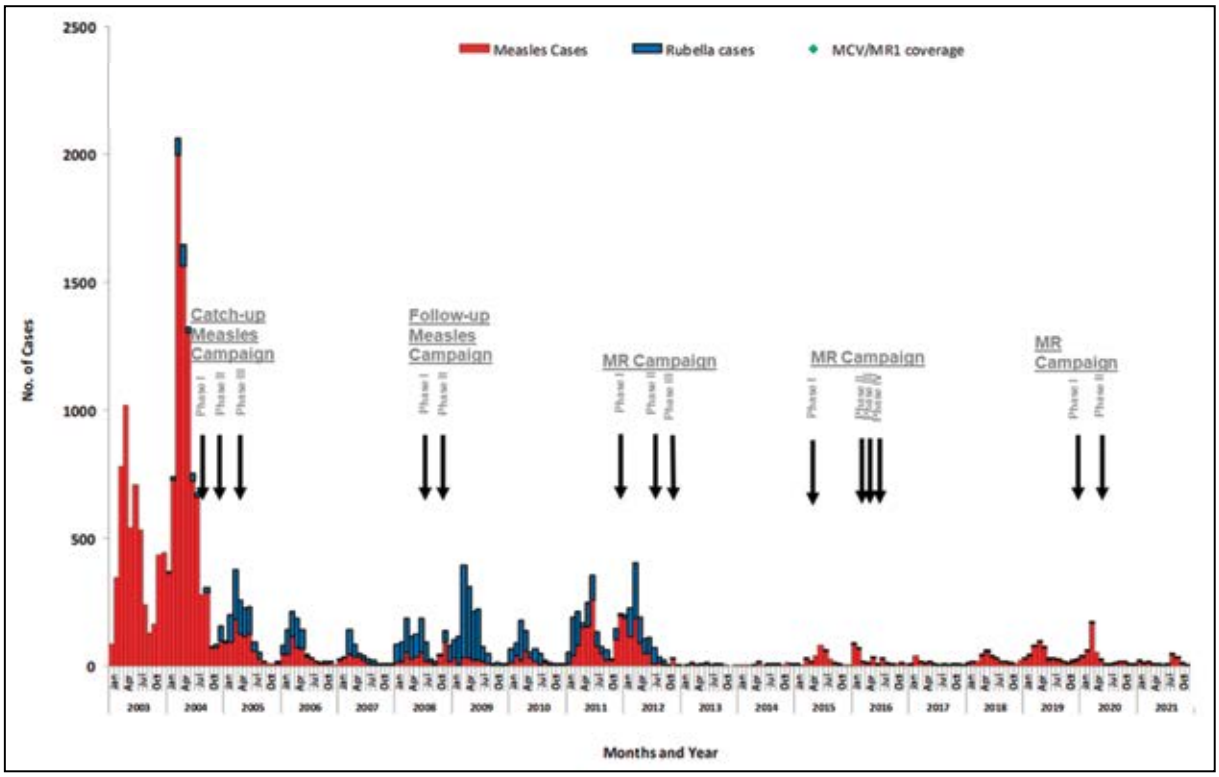
Source: FWD and WHO-IPD, Nepal

Laboratory containment of poliovirus, wild as well as vaccine derived poliovirus, is a part of the polio eradication program of Ministry of Health and Population. No laboratories in Nepal isolate polioviruses. Both AFP stool samples and ES samples are shipped to polio reference lab in Bangkok. However, some laboratories in Nepal have facilities for long term storage and some are storing potentially polio infectious materials at deep sub-zero temperature. Therefore, to confirm the non-retention policy and update the inventories of laboratories, research and diagnostic laboratories must be visited and reviewed. NPHL work as the secretariat of National Task Force for Laboratory Containment of poliovirus (NTFLC) and follow-up on the recommendations made by NTFLC.

4.1.20 Measles-rubella surveillance, FY 2077/2078

In August 2018, Nepal was certified as having achieved control of rubella and congenital rubella syndrome. This certification is two years ahead of the regional target year of 2020 and one year ahead of the national target of 2019. Control of rubella and CRS is achieved if there is 95% or more reduction in number of rubella cases from 2008 levels. Nepal achieved 97% reduction in rubella cases in 2017 (22) as compared to 2008 (786). However, even though reduction in number of measles cases has been 98% in 2017 (99) compared to 2003 (5419), measles cases have not been reduced to zero which is required for measles elimination. Figure 7 shows that there has been drastic reduction in measles and rubella cases in Nepal. Supplementary immunization activities (campaigns), introduction of rubella vaccine, and achievement of high coverage of measles-rubella first dose in routine immunization have been the main factors for this achievement. For elimination of measles, high coverage of both doses of measles-rubella vaccination is required (≥ 95%) at all subnational levels. The coverage of measles-rubella second dose is still not satisfactory. It is only 73% in FY 2075/2076. To progress towards measles and rubella elimination by 2,023 as per the resolution, nation-wide measles vaccination campaign was conducted in FY 2076/2077 including strengthening of routine immunization.

Figure 21: Confirmed measles and rubella cases, Nepal, 2003- 2021



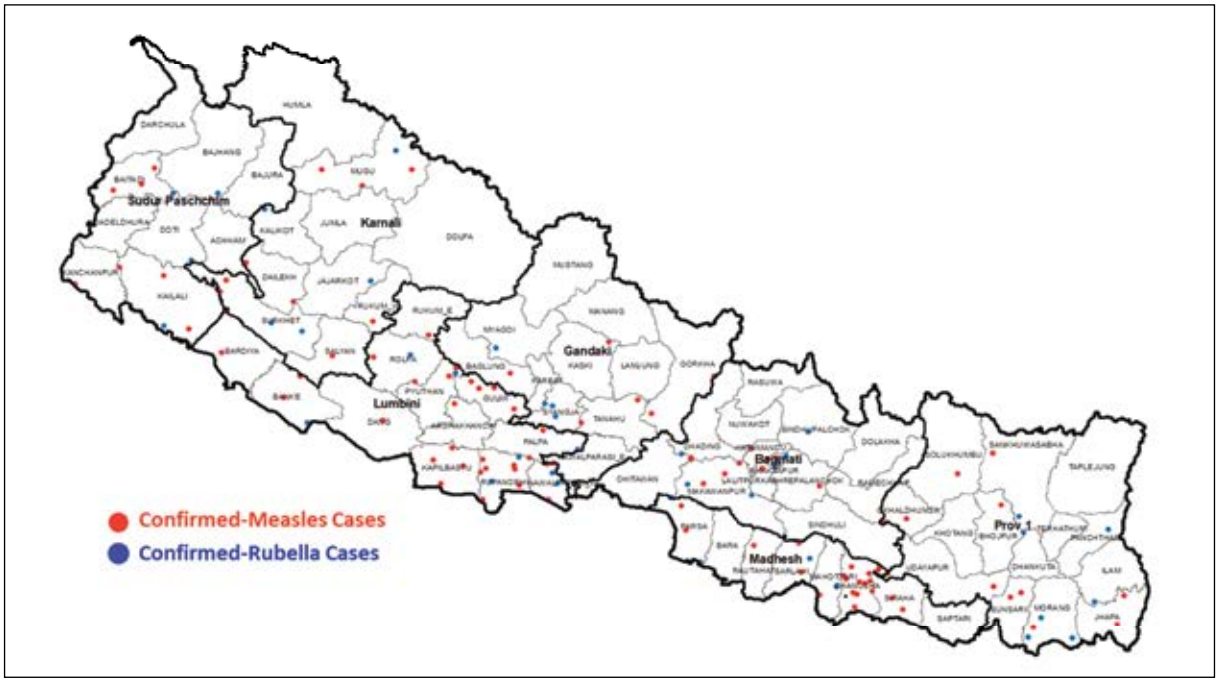
Source: FWD and WHO-IPD, Nepal

- Measles vaccination given in Nepal since the start of EPI in all districts (covered 75 districts by 1988)
- MR first dose started in 2013; MR second dose started in September 2015

Figure 21 and Table 7 shows laboratory confirmed measles and rubella cases by district and province respectively in FY 2077/2078. There was a total of 99 laboratory confirmed measles and 42 laboratory confirmed rubella cases identified through case-based measles surveillance site. Among total confirmed measles cases in FY 2077/2078, the majority is from Lumbini Province 30 (30%), followed by Madhesh Province 21 (21%), and Bagmati Province 13 (13%).

One of the cardinal indicators for measles-rubella surveillance is non-measles non-rubella rate (NMNR rate) which should be at least 2 per 100,000 populations. That is, at least 2 suspected measles cases (which after laboratory test is non-measles and non-rubella) per 100,000 populations should be reported for quality measles-rubella surveillance. All provinces have achieved NMNR rate above 2. The national NMNR rate is 3.48 per 100,000 populations.

Figure 22: Confirmed measles and rubella cases by district, FY 2077/2078



Source: FWD and WHO-IPD, Nepal

Table 7: NMNR rate and confirmed measles and rubella cases by province, FY 2077/2078

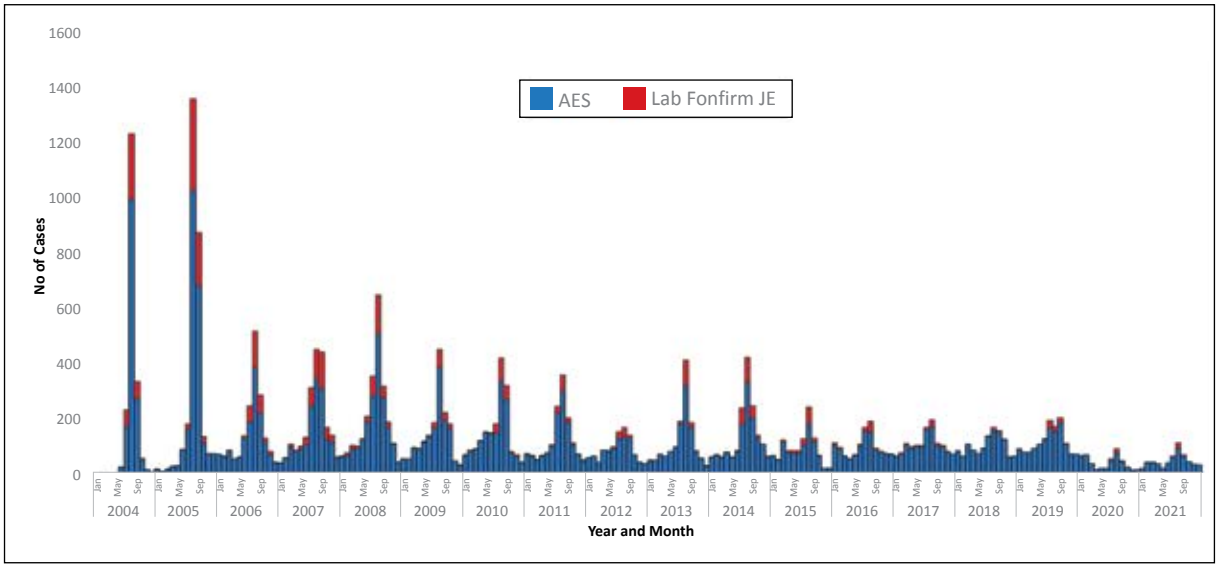
Province	NMNR cases	NMNR rate	Confirmed Measles	Confirmed Rubella
Province 1	204	3.73	12 (12%)	7 (17%)
Madhesh Province	163	2.20	21 (21%)	3 (7%)
Bagmati Province	204	2.80	13 (13%)	9 (21%)
Gandaki Province	149	5.43	7 (7%)	5 (12%)
Lumbini Province	220	3.54	30 (30%)	8 (19%)
Karnali Province	133	6.52	9 (9%)	5 (12%)
Sudurpaschhim Province	118	3.59	7 (7%)	5 (12%)
Total	**1191**	**3.48**	**99 (100%)**	**42 (100%)**

Source: FWD and WHO-IPD, Nepal NMNR: non-measles non-rubella

4.1.21 Acute encephalitis syndrome (AES) surveillance, FY 2077/2078

As a concentrated Japanese encephalitis (JE) control measure, a phase-wise mass vaccination campaigns started in 2006 and were completed in 31 high-risk districts by 2011. JE vaccine was introduced in phase-wise manner in the routine immunization to these 31 districts by 2012. After these measures were taken, JE burden reduced significantly in Nepal. However, over the years, as identified by surveillance, JE was reported from other districts of Nepal as well. Following mass-vaccination campaign in the remaining districts in 2016, JE vaccine was introduced in the routine immunization of all remaining 44 districts in July 2016. As shown in Figure 22, JE burden in Nepal has reduced significantly in 2019 compared to the initial years when surveillance was started.

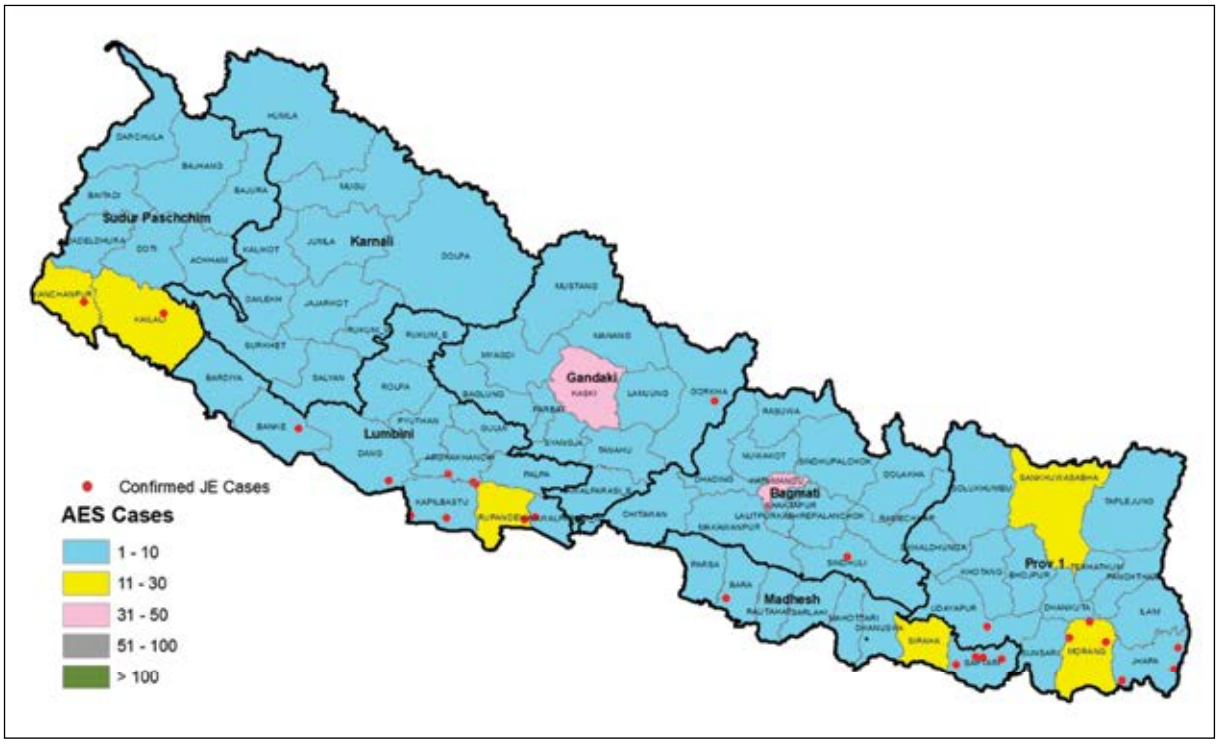
Figure 23: Reported AES and lab confirmed Japanese encephalitis cases, Nepal, 2004 – 2021



Source: FWD and WHO-IPD, Nepal

Figure 23 shows that all districts have reported AES cases in FY 2077/2078. Out of total districts, two districts (Kaski and Kathmandu) have reported higher number of AES cases (between 31-50), and six districts (Morang, Sankhuwasabha, Siraha, Rupandehi, Kailali and Kanchanpur) have reported AES cases between 11-30. In total, 413 AES cases were reported (Table 8). Among the total reported AES cases, only 25 (6.05%) were laboratory confirmed for JE. This is a major reduction compared to the years before JE vaccination was started when around 50% of the AES cases were positive for JE. The majority of laboratory confirmed JE cases (9 out of 25; 36%) were reported from Lumbini Province.

Figure 24: Reported AES and laboratory-confirmed Japanese encephalitis cases by district, FY 2077/2078



Source: FWD and WHO-IPD, Nepal

Table 8: Reported AES cases and confirmed JE cases by province, FY 2077/2078

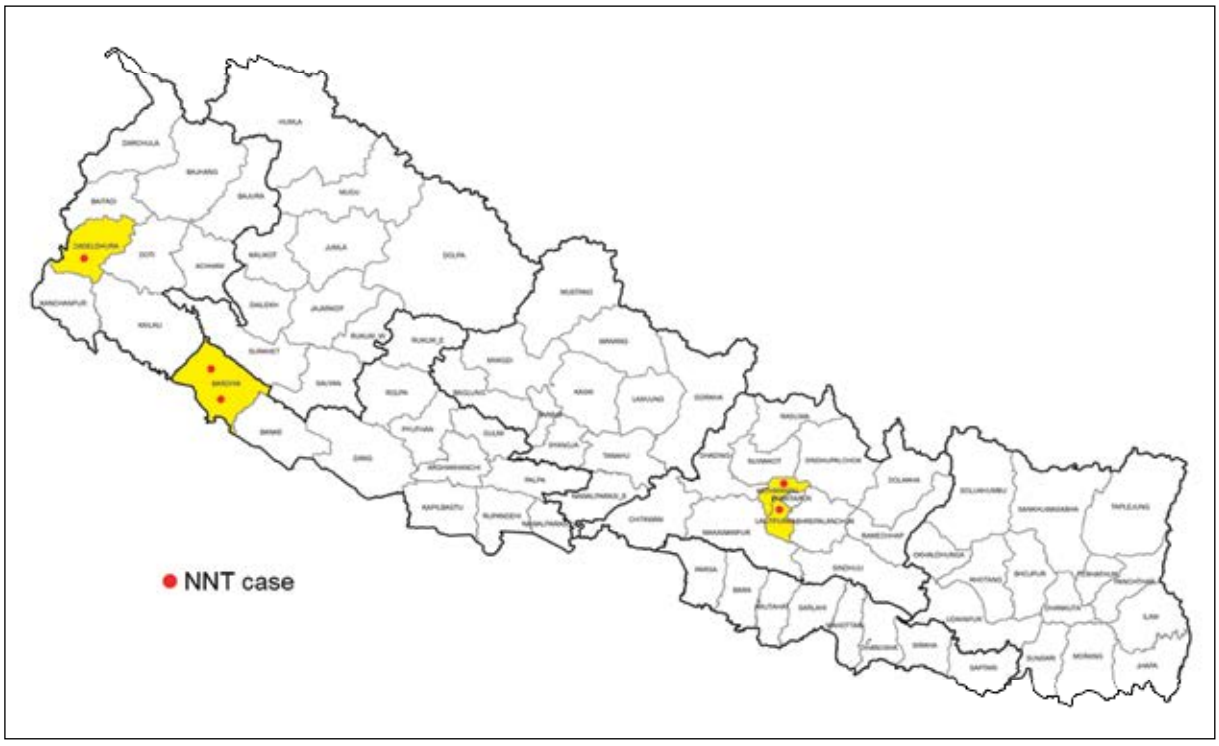
Province	AES cases	JE cases
Province 1	70	7
Madhesh Province	56	5
Bagmati Province	92	1
Gandaki Province	70	1
Lumbini Province	65	9
Karnali	15	0
Sudurpashchim	45	2
Total	**413**	**25**

Source: FWD and WHO-IPD, Nepal

4.1.22 Neonatal tetanus surveillance, FY 2077/2078

In Nepal, neonatal tetanus (NNT) elimination was achieved in 2005. This status has been maintained since then. In FY 2077/78, five (5) NNT cases were reported from Dadeldhura, Bardiya, Lalitpur and Kathmandu district (Fig 25). The estimated number of total live births in fiscal year 2077/2078 is 638,125. The national incidence rate of NNT is 0.0078 per 1,000 live births.

Figure 25: Neonatal tetanus cases, FY 2077/2078

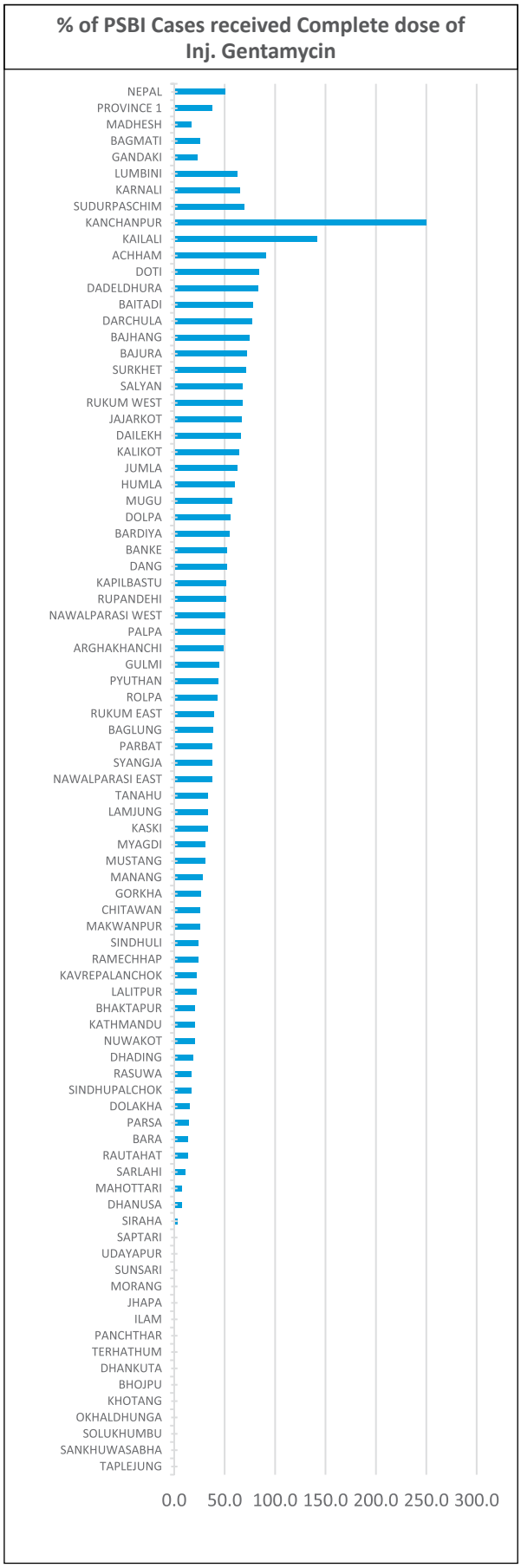


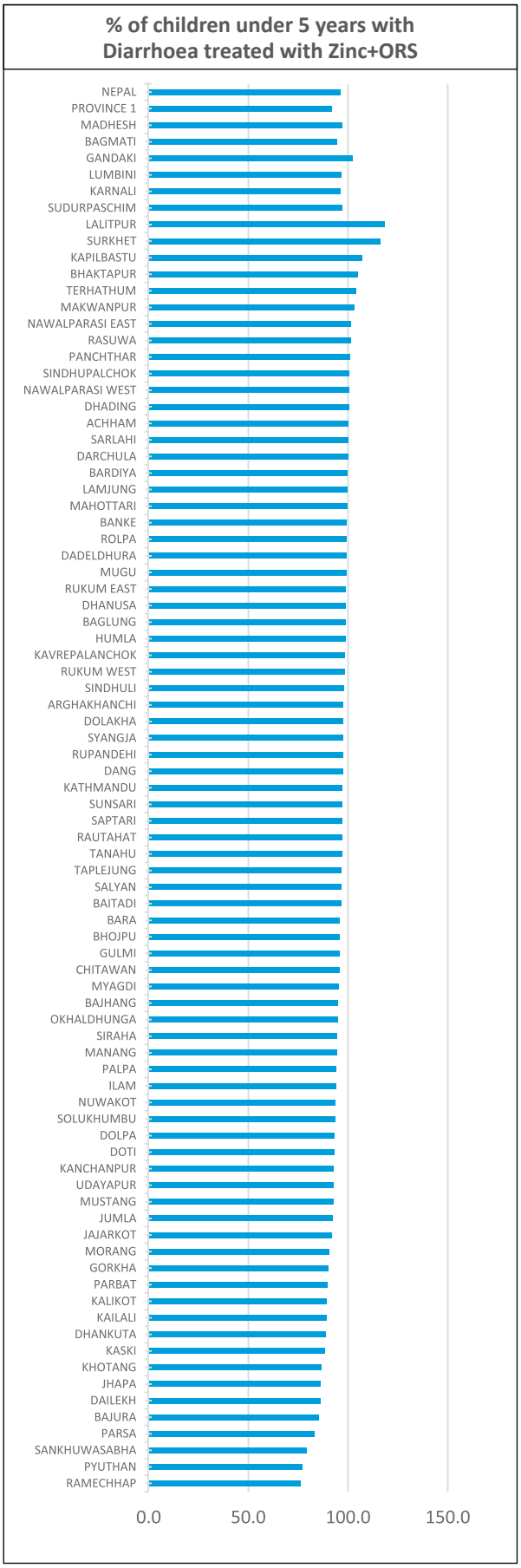
Source: FWD and WHO-IPD, Nepal

4.1.23 PROBLEMS/CONSTRAINTS AND ACTIONS TO BE TAKEN

Provincial review meeting in 2077/78 identified the following problems and constraints and recommended action to be taken at different levels of immunization delivery system.

Problems/Constraints	Action to be taken	Responsibility
Inadequate HRH especially in Metro/Sub - Metropolitan, MCH / Institutional clinics and ill-defined JD of AHW and ANM (for vaccinations)	- Provision for sufficient vaccinators for the Metro / Sub- Metropolitan, MCH / Institutional Clinics - Incorporate responsibility of delivering immunization service in Job Description of all HA, SAHW, AHW/ANM to conduct immunization sessions	MoH/DoHS/HO, Local Government
Poor quality immunization data: Under and over reporting. Reporting rate for immunization dataset in DHIS-2 is about 90%.	- Only Joint supportive supervision of Immunization as per HMIS. - Strengthen supportive supervision at all levels Quarterly review of performance of data at HF/DHO level as –HMIS 9.2, 9.3 and 2.5 - Provision of DQSA to the RHDS and districts	HF/HO/Province/ FWD/HMIS
Poor Inventory keeping and distribution system	- Update inventory of cold chain equipment with their cold chain capacity and vaccine, syringes, diluents etc. and use of stock control register. Maintain maximum and minimum stock level. Always make vaccine requisition by deducting the stock at hand from maximum stock level of vaccine/syringes/ diluents at all levels	PHLMC/District Vaccine Store
Sustainability of FID	- Orientation, capacity building and empowerment of local government - Accelerate of Full Immunization declaration at all levels - Coordination with intersectoral stakeholders	MoHP, MoFALD, DoHS/FWD, Province, municipal
Cold chain and vaccine management	- Effective implementation of EVM training at all level - Supportive supervision and onsite coaching at all levels - Strengthen bundling mechanism for vaccine and logistics distribution	MD/FWD/NHTC/ HO
Inadequate CC Equipment and inadequate repair, maintenance and replacement, lack of technician	- Provision of engineer and refrigerator technician at regional / provincial level - Supply of cold chain spare parts - Replacement of ageing equipment, regular repair of cold chain equipment	DoHS/ MD/FWD
Inadequate vaccine store capacity especially central level	- Strengthen the vaccine stores with new buildings in central store	MoHP, DoHS, MD, FWD
Immunization waste management	- Development of separate immunization waste management guidelines - Develop basic infrastructure and equipment for waste management as per National Healthcare Waste Management guideline	MoHP, DoHS, MD
Ownership and coordination at all level	- Regular meetings with subnational level and stakeholders and discussion on immunization - Timely information dissemination and orientation from federal level and review of guidelines and immunization activities	DoHS/ MD/FWD


% of PSBI Cases received Complete dose of Inj. Gentamycin
NEPAL
PROVINCE 1
MADHESH
BAGMATI
GANDAKI
LUMBINI
KARNALI
SUDURPASCHIM
KANCHANPUR
KAILALI
ACHHAM
DOTI
DADELDHURA
BAITADI
DARCHULA
BAJHANG
BAJURA
SURKHET
SALYAN
RUKUM WEST
JAJARKOT
DAILEKH
KALIKOT
JUMLA
HUMLA
MUGU
DOLPA
BARDIYA
BANKE
DANG
KAPILBASTU
RUPANDEHI
NAWALPARASI WEST
PALPA
ARGHAKHANCHI
GULMI
PYUTHAN
ROLPA
RUKUM EAST
BAGLUNG
PARBAT
SYANGJA
NAWALPARASI EAST
TANAHU
LAMJUNG
KASKI
MYAGDI
MUSTANG
MANANG
GORKHA
CHITAWAN
MAKWANPUR
SINDHULI
RAMECHHAP
KAVREPALANCHOK
LALITPUR
BHAKTAPUR
KATHMANDU
NUWAKOT
DHADING
RASUWA
SINDHUPALCHOK
DOLAKHA
PARSA
BARA
RAUTAHAT
SARLAHI
MAHOTTARI
DHANUSA
SIRAHA
SAPTARI
UDAYAPUR
SUNSARI
MORANG
JHAPA
ILAM
PANCHTHAR
TERHATHUM
DHANKUTA
BHOJPU
KHOTANG
OKHALDHUNGA
SOLUKHUMBU
SANKHUWASABHA
TAPLEJUNG
0.0
50.0
100.0
150.0
200.0
250.0
300.0


% of children under 5 years with Diarrhoea treated with Zinc+ORS
NEPAL
PROVINCE 1
MADHESH
BAGMATI
GANDAKI
LUMBINI
KARNALI
SUDURPASCHIM
LALITPUR
SURKHET
KAPILBASTU
BHAKTAPUR
TERHATHUM
MAKWANPUR
NAWALPARASI EAST
RASUWA
PANCHTHAR
SINDHUPALCHOK
NAWALPARASI WEST
DHADING
ACHHAM
SARLAHI
DARCHULA
BARDIYA
LAMJUNG
MAHOTTARI
BANKE
ROLPA
DADELDHURA
MUGU
RUKUM EAST
DHANUSA
BAGLUNG
HUMLA
KAVREPALANCHOK
RUKUM WEST
SINDHULI
ARGHAKHANCHI
DOLAKHA
SYANGJA
RUPANDEHI
DANG
KATHMANDU
SUNSARI
SAPTARI
RAUTAHAT
TANAHU
TAPLEJUNG
SALYAN
BAITADI
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UDAYAPUR
MUSTANG
JUMLA
JAJARKOT
MORANG
GORKHA
PARBAT
KALIKOT
KAILALI
DHANKUTA
KASKI
KHOTANG
JHAPA
DAILEKH
BAJURA
PARSA
SANKHUWASABHA
PYUTHAN
RAMECHHAP
0.0
50.0
100.0
150.0

4.2 INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESSES (IMNCI)

4.2.1 Background

Chronological development: Integrated Management of Neonatal and Childhood Illness (IMNCI)

Child survival intervention In Nepal began in 1983 with the initiation of Control of Diarrhoeal Disease (CDD) Program and Acute Respiratory Infection (ARI) Control Program in 1987. For the management of ARI Cases from household level and to maximize ARI related services, referral model and treatment model at the community level were piloted. An evaluation of this intervention in 1997 revealed that treatment model was more effective and popular in the community than referral model. In 1997/98, ARI intervention was combined with CDD and named as CB-AC program. One year later two more components, nutrition and immunization were also incorporated in the CBAC program. IMCI program was piloted in Mahottari district and was extended to the community level as well. Finally, the government decided to merge the CBAC into IMCI in 1999 and named it as Community-Based Integrated Management of Childhood Illness (CB-IMCI) as both of the program targeted same population with involvement of similar Health Service Providers. CBIMCI mainly focused in five major childhood diseases; pneumonia, diarrhoea, malaria, measles, and malnutrition. The strategies adopted in IMCI were improving knowledge and case management skills of health service providers, overall health systems strengthening and improving community and household level care practices. After successful piloting of low osmolar ORS and Zinc supplementation, it was incorporated in CB-IMCI program in 2005. Nationwide implementation of CB-IMCI was completed in 2009 and revised in 2012 incorporating important new interventions.

Important Milestones:

Year	Landmarks
1979	National Immunization Program
1983	Control of Diarrhoeal Disease (CDD) Program
1987	Acute Respiratory Infection (ARI) Control Program
1995/96	CB-ARI Program piloting
1997/98	CB-ARI intervention was combined with CDD and named as CB-AC program
1997	IMCI Program initiated from Mahottari district
1999	Nutrition and immunization, were also incorporated in the CBAC program
1999	Merge the CBAC into IMCI and named as CB-IMCI
2004	Government of Nepal formulated the National Neonatal Health Strategy
2005	Low osmolar ORS + Zinc for diarrhoea treatment Morang Innovative neonatal Intervention Pilot (MINI)
2007	Community-Based New-born Care Program (CB-NCP) was designed
2009	CB-NCP piloted in 10 districts Nationwide CB-IMCI completed
2011	Use of Chlorohexidine (CHX) for cord care
2012	CBIMCI revised incorporating new interventions Scaled up CBNCP nationwide
2014	Community Based Integrated Management of Neonatal and Childhood Illness (CB-IMNCI)
2016	Nepal Every New-born Action Plan, Establishment and Expansion of SNCU and NICU Free new born care Program,Facility Based IMNCI Program
2017	Comprehensive New-born Care Training (Level II) package
2021	Kangaroo Mother Care Program

Community-BasedNew Born Care Program

Government of Nepal formulated the National Neonatal Health Strategy in 2004, in an effort and step towards improving neonatal survival and health in the country. Although Nepal had made a significant progress in reduction of under-five and infant mortality till 2005, the reduction of neonatal mortality was observed to be very sluggish because the country had no targeted interventions for new-borns especially at community level. Based on National Neonatal Health Strategy 2004, 'Community-Based New-born Care Program (CB-NCP)' was designed in 2007 and piloted in 2009 in 10 districts. CB-NCP incorporated seven strategic interventions: behaviour change communication, promotion of institutional delivery, postnatal care, management of neonatal sepsis, care of low-birth-weightNew-born, prevention and management of hypothermia and recognition and resuscitation of birth asphyxia. Furthermore, in September 2011, Ministry of Health and Population decided to implement the Chlorhexidine (CHX) Digluconate (7.1% w/v) aiming to prevent umbilical infection of the newborn. After the evaluation in the 10 districts, the government decided to scale up in 41 districts covering 70% population by the year 2014.

CB-IMCI program contributed to reduce the prevalence of pneumonia and diarrhoea significantly over the period. The health care seeking behaviour and practices were found improved at the household level. CB-IMCI program became a role model for community-based program of Nepal with adoption of community-based approaches and behaviour change communication strategies for cases management. Other interventions that significantly contributed to reduce post-neonatal child mortality were bi-annual supplementation of Vitamin A program and immunization program. On the other hand, essential New-born care practices were also improved in CB-NCP implemented districts.

In both the programs (CB-IMCI and CB-NCP), FCHVs were considered as frontline health service providers. Though FCHVs played a significant role for promotion of healthy behaviours at community level, expected service delivery was not achieved due to their limited technical skills for case management and overburden of works. CB-NCP and CB-IMCI had similarities in interventions, program management, service delivery and target beneficiaries. Additionally, both programs had interventions like management of neonatal sepsis, promotion of essential New-born care practices, infection prevention and control practices, and management of low birth weight with Kangaroo Mother Care (KMC). Considering these issues, MoHP decided to integrate CB-NCP and IMCI into a new package i.e. CB-IMNCI aimed to reduce inequities in delivery of child health services and improve health governance.

Community-Based Integrated Management of New-born and Childhood Illnesses (CB-IMNCI)

CB-IMNCI is an integration of CB-IMCI and CB-NCP Program as per the decision of MoHP on 2071/6/28 (October 14, 2015). This integrated package of child-health intervention addresses the major problems of sick newborn such as birth asphyxia, bacterial infection, jaundice, hypothermia, and low birth weight. The program aims to address major childhood illnesses like Pneumonia, Diarrhoea, Malaria, Measles and Malnutrition among under 5 year’s children in a holistic way. Since 2016, CB-IMNCI program is being implemented in 77 districts of the country.

In CB-IMNCI program, FCHVs carry out health promotional activities for maternal, new-born and child health and provide essential commodities like distribution of iron, zinc, ORS, chlorhexidinewhich do not require assessment and diagnostic skills, and immediate referral in case of any danger signs that appear among sick new-borns and children. Health service providers counsel and provide health services like management of non-breathing cases, low birth weight babies, common childhood illnesses, and management of neonatal sepsis. Also, the program has provisioned for the post-natal visits by trained health service providers through primary health care outreach clinic.

The program has envisioned for Child Health & Immunization Services Section (CHISS), Family Welfare Division with overall responsibility of planning, management and quality assurance and monitoring ofthe CB-IMNCI program. The CHISS has been focusing continuously onmonitoring, supportive supervision, onsite coaching to enhance the clinical skill among service providers, and Routine Data Quality Assessment (RDQA) tostrengthen the CB-IMNCI program. The program aims to reach the unreached population and communities through implementation of equity and access program (EAP).

Facility-Based Integrated Management of Childhood and Neonatal Illnesses

The Facility-Based Integrated Management of Neonatal and Childhood Illnesses (FB-IMNCI) was initiated in 2016 with a package designed especially to address and bridge existing gap in the management of Neonatal and Childhood cases referred from peripheral level health institutions to higher institutions. The package is linked with the on-going Community Based Integrated Management of Neonatal and Childhood Illness (CB-IMNCI). This package addresses the major causes of childhood illnesses with Emergency Triage and Treatment (ETAT) practice at Health Facility and thematic approach to common childhood illnesses towards diagnosis and treatment especially new-born care, cough, diarrhoea, fever, malnutrition and anemia. It aims to capacitate team of health service providers at district hospital with required knowledge and skills to manage complicated under-five and neonatal cases to ensure timely and effective management of referral cases. This training package is delivered to Paramedics and Nursing staffs (3 days) and Medical Officers (6 days) working at district, provincial and federal hospitals.

Comprehensive New-Born Care program

For the purpose of reducing Neonatal mortality and for the timely management of sick New-born, "Comprehensive New-born Care Training Package (For Level II Hospital Care)" was developed in order to provide training to paediatricians, senior medical officers and medical officers working in the hospitals providing level II new-born care services. The package is strengthening health system supported by fully trained and skilled health service providers in health facilities. This is a 6-days training package focused to help Medical Officers to develop basic skills and knowledge necessary for the management of small and/or sick new-born. This package covers counselling, infection prevention& control practices, care of new-born, feeding, neonatal resuscitation, thermal protection, fluid management, identification, and management of small&/or sick neonates, management for low birth weight and neonatal sepsis and common neonatal procedures. The training started from 19th December, 2016 and is conducted in each Province every year. National Health Training Centre has developed Comprehensive New-born Care Training (Level II) package in 2017 and has been conducting training for Nurses in coordination with Family Welfare Division.

Free New-Born Care Services

Since 2016, the Government of Nepal (GoN) has made provisions on treating sick newborn free of cost through all tiers of its health care delivery outlets. Aim of this program is to prevent any sort of deprivation to health care services of the newborn due to poverty. Based on the treatment services offered to the sick-newborn, the services are classified into 3 packages: A, B and C. The new born corners in health posts and PHCCs offer Package 'A', district hospitals with Special Newborn Care Unit (SNCU) offer Package 'B', provincial and other tertiary hospitals offer Neonatal Intensive Care Unit (NICU) services under Package 'C'. The government has made provisions of required budget and issued directives to implement the free newborn care packages throughout Nepal. The goal of the Free Newborn Care Service Package is to achieve the sustainable development goal to reduce newborn mortality through increasedaccess of the newborn care services. The program includes the provision of disbursing *Cost of Care* to respective health institutions required for providing free care to inpatient sick New-born.

Nepal Every New-born Action Plan (NENAP)

MoHP initiated NENAP in line with ENAP (Every New-born Action Plan) with the vision of a country where 'there is no preventable deaths of New-born or stillbirths, where every pregnancy is wanted, every birth celebrated and women, babies and children survive, thrive and reach their full potential'. NENAP includes four strategic directions: equitable utilization of health services, quality for all, multi-sectoral approach and reform, particularly for poor and vulnerable populations. NENAP aims to achieve NMR of less than 11 deaths per 1000 live births and a stillbirth rate of less than 13 stillbirths per 1000 total births in every province by the year 2035.

KangarooMother Care Program

Kangaroo mother care (KMC) is a proven, cost-effective intervention to care for stable preterm/LBW babies that is being implemented by Government of Nepal as a special care for small and/or sick new-born. Skin to skin contact has been part of different programs/ training packages such as CB-IMNCI, FB-IMNCI, SBA Training, Comprehensive level-II new-born care etc. a full-fledged KMC program from 2021. The goal of KMC Program is to end preventable new-born deaths due to prematurity & low birth weight through skin-to-skin contact, breast feeding and early discharge from health center.

Equity and access program

The Equity and Access Program was developed to increase the access to new-born & child health services by the maximum mobilization of local community. It mainly targets the inaccessible/unreachable under-five new-borns and children by utilising different community-based interventions. The major interventions include Orientation at different level such as Municipal, Health Facility, FCHVs, Health Mother's Group, School level, distribution of "Mero baba laichithi", "Nimantrana Card", BCC activities etc.

Revision of CB-IMNCI Treatment Chart Booklet:

The treatment chart booklet has been developed as per revised treatment chart booklet 2020 published by WHO. It includes Pneumonia classification for 0-2 month's new-born, assessment of Childhood Tuberculosis as per National TB Program, revision of Nutrition chapter as per National Nutrition Program & Addition of developmental milestone of Child to monitor Early Childhood Development.

Onsite Coaching

CB-IMNCI Training has been conducted in all 77 districts. Result of IMNCI program were not satisfactory, in this regard, to enhance skill and confidence of health service provideralong with quality improvement of IMNCI Program, onsite Coaching program was designed and initiated in 2020. It helps to improve knowledge & skills through creating enabling working environment for service providers. Onsite coaching helps to retain skills & improve capacity for assessing, treating & managing cases with the help of IMNCI Coach. Coach has been developed in each Rural & Urban Municipalities and one neonatalie set with bag & mask, neonatal stethoscope, resuscitation doll, Penguin suction etc. has been supplied to each palikas for coaching purpose.

4.2.2 Goals, targets, objectives, strategies, interventions and activities of IMNCI &New-born Care program

Goal: Improve New-born child survival and ensure healthy growth and development.

Targets: Target for reduction of NMR, U-5MR & Stillbirths by NHSS, NENAP, SDGs

Indicators (Per 1000 live births)	Nepal Health Sector Strategy (2015-2020)	NENAP, By 2035	SDGs (3.2) Indicator 3.2.1/3.2.2
Neonatal Mortality Rate	17.5	11	At least as low as 12
Stillbirths		13	
Under-five Mortality Rate	28	21	At least as low as 20*

**- Target revised by National Planning Commission, Nepal, global target is 25 per 1000 live births*

Objectives

- To reduce neonatal morbidity and mortality by promoting essential New-borncare services&managing major causes of illness
- To reduce childhood morbidity and mortality by managing major causes of illness among under 5 years of age children

Strategies

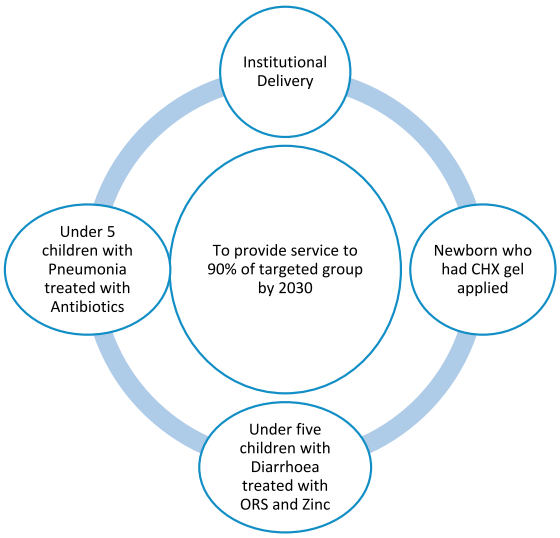
- Quality of care through system strengthening and referral services for specialized care
- Ensure universal access to health care services for New-born and under 5 years of age children
- Capacity building of healthservice providers and FCHVs
- Increase service utilization through demand generation activities
- Promote decentralized and evidence-based planning and programming

4.2.3 Major interventions

- New-born Specific Interventions
  - Promotion of birth preparedness plan
  - Promotion of essential New-born care practices and postnatal care to mothers and New-born
  - Identification and management of non-breathing babies at birth
  - Identification and management of preterm and low birth weight babies
  - Management of sepsis among young infants (0-59days) including diarrhoea
- Child Specific Interventions
  - Case management of children aged between 2-59 months for 5 major childhood diseases (Pneumonia, Diarrhoea, Malnutrition, Measles and Malaria)
- **Capacity enhancement & quality assurance**
  - Onsite coaching (guidelines development /revision, coach development, coaching &mentoring)
  - Routine Data Quality Assessment
- Cross-Cutting Interventions
  - Behavioural change communications for healthy pregnancy, safe delivery and promotion of personal hygiene and sanitation
  - Improved knowledge related to Immunization and Nutrition and care of sick children
  - Improved interpersonal communication skills of HSPs and FCHVs
  - Increased community participation through equity & access program (EAP).

Vision 90 by 30

Figure 4.2.1 CB IMNCI Program Vision



CB-IMNCI program has a vision to provide targeted services to 90% of the estimated population by 2030 as shown in the diagram.

4.2.4 Major activities

Major activities carried out under the IMNCI programme in FY 2077/78 areas shown in the table below:

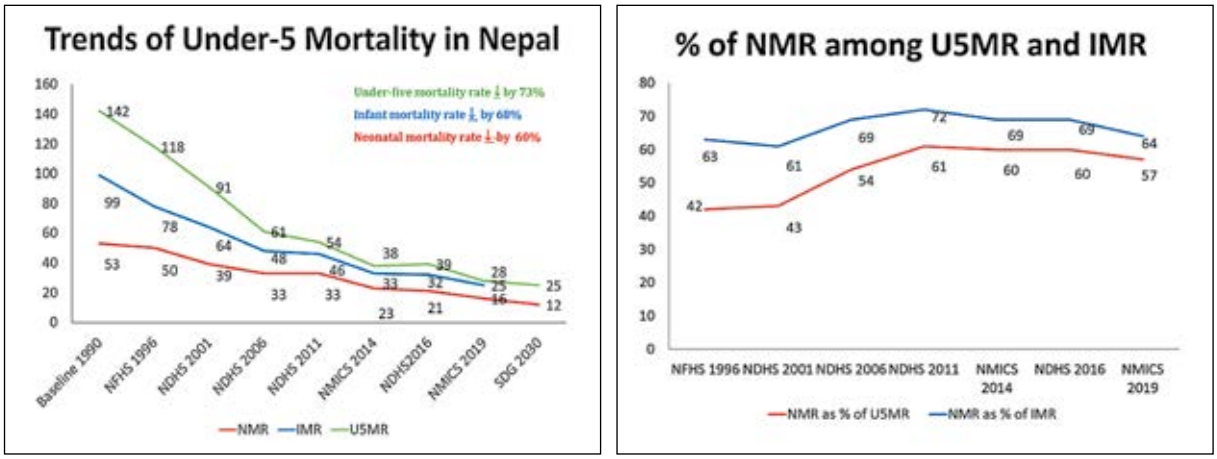
Capacity Building
FB IMNCI Training for Medical Officer
FB IMNCI training for nursing staffs and paramedics
CBIMNCI onsite coaching for health workers
Capacity building of provincial and district level managers and focal persons through orientation (7 provinces-7)
Review and planning meeting with province and district stakeholders at all provinces
CBIMNCI training to health service providers
Orientation of Equity and Assess guideline
Training on Routine Data Quality Assessment (RDQA)
IEC/ BCCC activities at Federal, Provincial, District and local level
Procurement: Equipment and supplies
Procurement of various equipment, commodities, and medicines for IMNCI programs (ORS, Zinc, Amoxicillin, Gentamycin, Chlorohexidine gel) at provincial level.
Procurement and distribution of Chlorhexidine (NaviMalham) from federal level.
Finalization of specification for SNCU/NICU and KMC unit equipment
Procurement of equipment for SNCU/NICU
Preparation/Revision of Guidelines, Protocols and Packages
Development of Preterm Care Guideline
Revision of CBIMNCI Coaching guideline and Equity and Access Guideline
Revision of FB-IMNCI training package
New-born Care Services Mentoring Guideline updated

Revision of Comprehensive New-born Care (Level II) Training package
Establishing/Strengthening SNCU/NICU
Total NICU established till date: 13 hospitals Total SNCU established till date: 61hospitals
Printing of training materials
Printing of FB-IMNCI training manuals, Comprehensive New-born Care (Level II) Training Materials (Guidelines, Handbook, Chart, Flex, etc.)
Implementation of New-born services and programs
Implementation of Free New-born Care Program at federal, provincial, district and local levelhospital.
Implementation of Point of Care Quality Improvement Program (POCQI)
Orientation on Recording & Reporting tools of New-born Care Program

Neonatal Mortality Rate and Under-five Mortality Rate (National and Global Status)

Globally, Under-5 years children mortality rate decreased by 59%, from an estimated rate of 93 deaths in 1990 to 37 deaths per 1000 live births in 2020. One in every 11 children died before reaching age 5 years in 1990 while one in every 27 children in 2018. As per WHO Report 2020, an estimated 5 million under 5 years children died, mostly from preventable and treatable causes and among them, approximately half of deaths were New-born deaths (within 28 days of birth). As per NDHS 2016, Neonatal Mortality Rate and U-5 Mortality Rate was found 21 and 39 per 1000 live births and Government of Nepal has set a target to reduce NMR and U-5MR to as low as 12 and 20 per 1000 live births by 2035.

Figure 4.2.2 Under five years children Mortality Rate Global and National Status



4.2.5 IMNCI Program Monitoring Key Indicators and current status of NMR and u-5 MR

Regular monitoring is important for the evaluation of the program and ultimately for the purpose of improvement of program. Therefore, CB-IMNCI program has identified 6 major indicators to monitor the programs that are listed below:

- % of institutional delivery
- % ofnew-born who had applied Chlorhexidine gel immediately after birth
- % of infants (0-2 months) with PSBI receiving complete dose of Injection Gentamicin
- % of under 5 children with pneumonia treated with antibiotics
- % of under 5 children with diarrhoea treated with ORS and Zinc
- Stock out of the 5 key CB-IMNCI commodities at health facility (ORS, Zinc, Gentamicin, Amoxicillin, CHX)

All indicators except the last one are obtained from HMIS**.** It is expected that if there is high institutional delivery, there would be good essential New-born care and immediate management of complications like birth asphyxia that will ultimately contribute in reducing the neonatal mortality.

Table 4.2.1: Status of CB IMNCI program monitoring indicators by province

Indicators	Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	National
% of Institutional Delivery	2075/76	62	52.7	61.5	47.8	78.8	73.2	71	**63.2**
	2076/77	63.4	53.6	67.8	46.5	81.4	77.5	71.1	**65.6**
	2077/78	59.7	54.4	61.7	42.3	79.7	87.1	82.5	**64.9**
% of newborn applied with CHX Gel	2075/76	53.2	73	39.5	45.1	64.1	87.5	74.5	**59.6**
	2076/77	70.7	73.9	74.2	89.8	78.2	95.3	95	**79**
	2077/78	74.9	70.5	71.3	88.3	87.1	81.3	94.1	**79.2**
% of PSBI Cases received complete dose of Inj. Gentamycin	2075/76	30.9	58.8	17.3	6.5	50.8	56.8	55.1	**46.3**
	2076/77	18.7	39.3	13.6	20.6	51.4	66.9	55.8	**44.65**
	2077/78	37.8	16.6	25.2	22.8	61.9	65.2	69	**50**
% ofpneumonia cases treated with antibiotics	2075/76	128	203	111	145.3	127.3	120.3	113.6	**136.1**
	2076/77	171.3	240.1	133.9	161.9	138.2	104.1	138.4	**155.9**
	2077/78	169.8	206.8	149.2	133.1	121.7	102.1	131.7	**149.7**
% of diarrheal cases treated with ORS and Zinc	2075/76	89.5	102.3	92.6	97.3	94.4	98.4	93.9	**95.5**
	2076/77	93	92.1	93.8	99.9	96	95.8	96.7	**94.8**
	2077/78	92.1	97.1	94.4	102.4	96.8	96.3	97.2	**96.2**

Source: HMIS

The national average for institutional deliveries in 2077/78 was 64.9 percent, with lowest inGandaki Province (42.3 %) and highest in Karnali Province (87.1 %).Chlorhexidine was applied in 79.2 percent of Newborn's umbilical cord (HF+ FCHV) among total reported live births. Province wise variation was observed in CHX use with highest use in Sudurpaschim (94.1%) and lowest in Madhesh Province (70.5%). Half of the PSBI cases among under- two months child received complete dose of Inj. Gentamicin at national level in the year FY 2077/78. Three provinces i.e., Lumbini, Karnali and Sudurpaschim have administered complete dose of Gentamicin in more than 50% of PSBI cases and four provinces have administered in less than 50 % of cases with lowest 16.6 % complete dose administration in Madhesh Province.

Use of antibiotics for pneumonia treatment (excluding FCHVs, includes pneumonia cases of HF & PHC-ORCs) was more than 100 percent in all seven provinces, with national average of 149.7%; highest use was observed in Madhesh Province (208.8%) and lowest in Karnali (102.1%). Pneumonia cases reported by FCHV were used to be included till 2073/74.The figure exceeded 100 percent because the treatment of cases by antibiotics other than pneumonia was also added like skin infection, ear infection etc. which is actually a reporting error. As per IMNCI treatment protocol, all diarrhoeal cases should be treated with ORS and Zinc. In the year 2077/78, 96.2% of U5 children suffering from diarrhoea were treated with ORS and Zinc at National level with, highest in Gandaki (102.4%) and lowest in Province 1 (92.1 %).

Figure 4.2.3 Percentage of institutional delivery at provincial and national level of three FY.

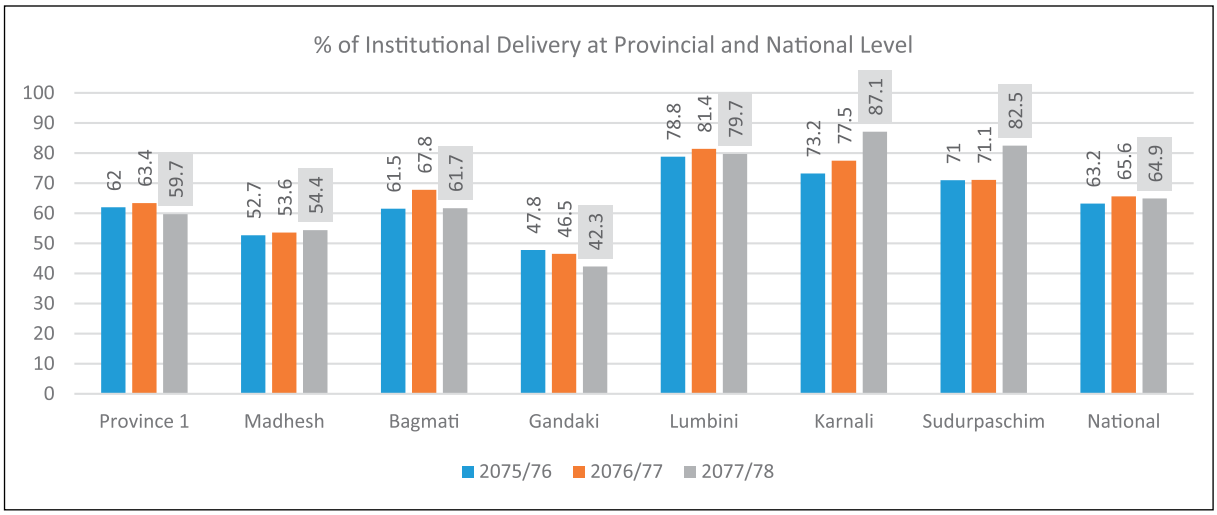


Figure 4.2.4 Percentage of new-born applied with CHX Gel at provincial and national level of three FY.

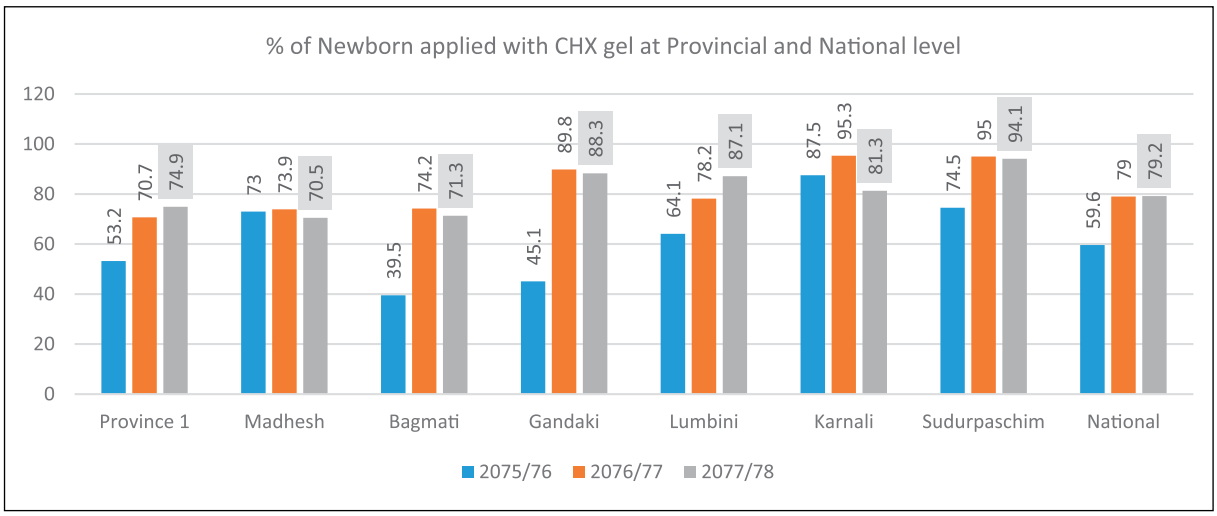


Figure 4.2.5 Percentage of PSBI cases treated with complete dose of Injection Gentamycin at provincial and national level of three FY.

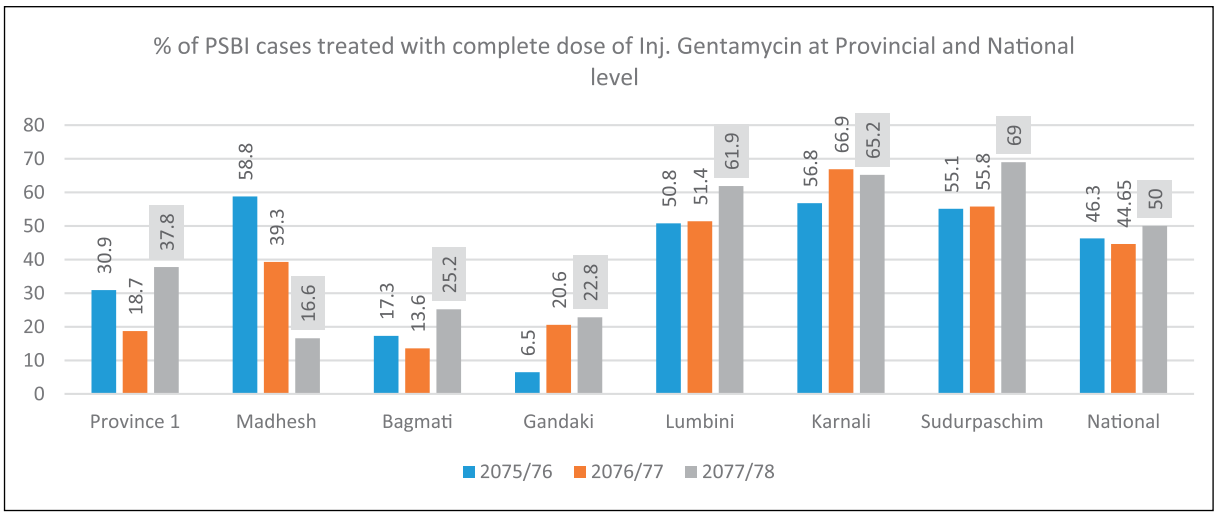


Figure 4.2.6 Percentage of pneumonia cases treated with antibiotics at provincial and national level of three FY.

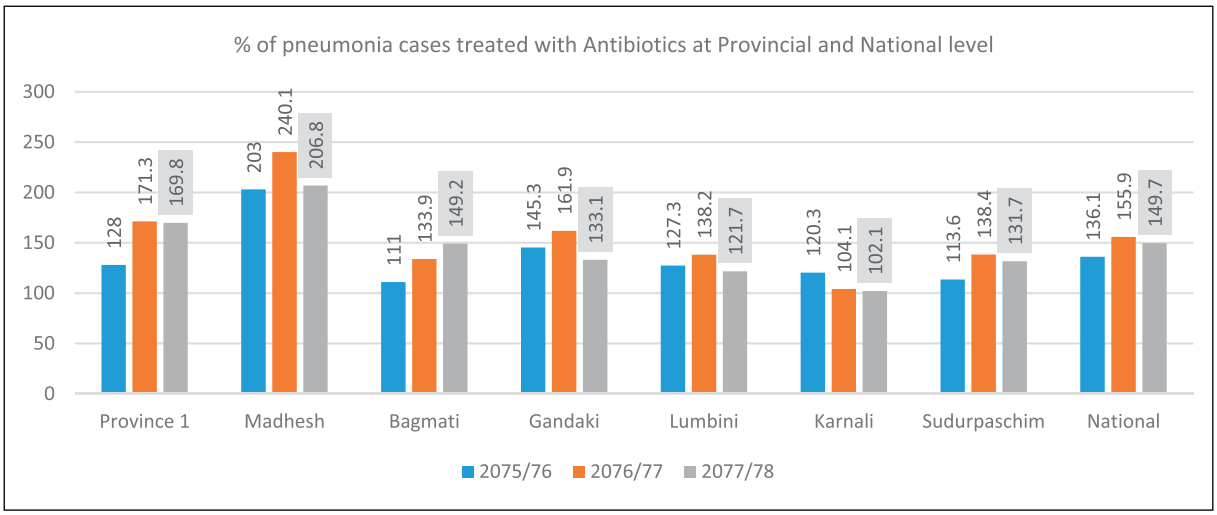
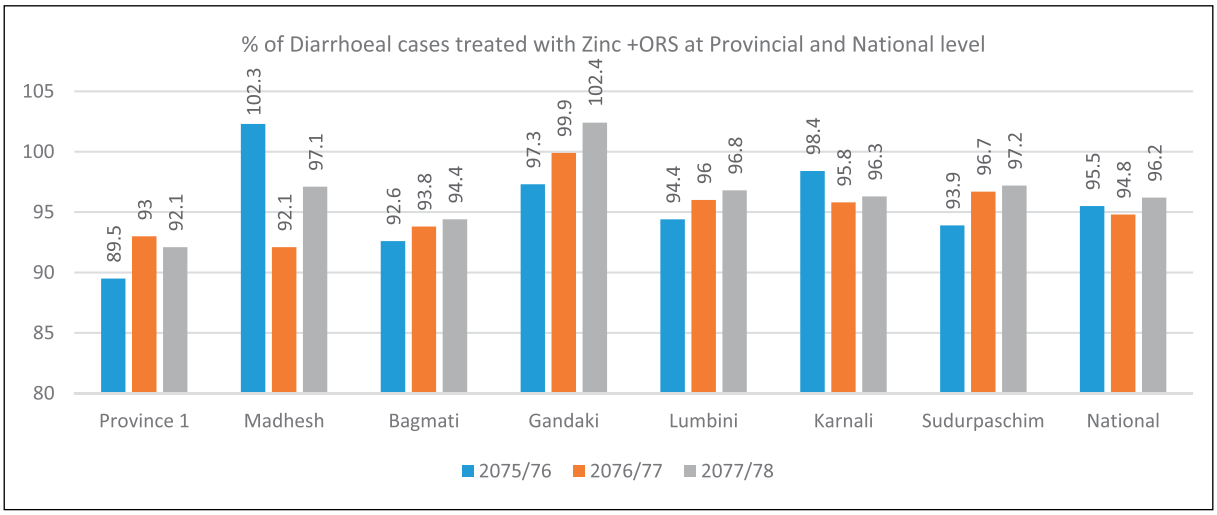


Figure 4.2.7 Percentage of diarrhoeal cases treated with Zinc+ ORS at provincial and national level of three FY.



4.2.6 Key Achievements in the management of 0-28 days New-born

Since FY 2064/65, IMNCI services data (as received from Health Facilities, PHC-ORCs and FCHVs) has been incorporated into HMIS. Therefore, from FY 2064/65 onwards, service provided at community level (PHC/ ORCs and FCHVs) is considered as community level data whereas total service provided from Health Facility level in addition with community level constitutes the national aggregate data for this program. CB-IMNCI program has been initiated from FY 2071/72 and from FY 2071/72 Health Facility Level and Primary Health Care/Out Reach Clinics (PHC/ORC) data has been incorporated into HMIS. Consequently, the role of FCHV at community level has been redefined and limited to counselling service for Newborn care. Obviously, the treatment protocol has also been changed and role of FCHVs at the community level has been assigned as health promoters/counsellors rather than health service providers. As per the new reporting and recording system, the achievements of management of under-5 children are given in the table below.

Table 4.2.2: Classification and treatment of 0-28 days Newborn cases by province

Indicators	Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	National	
									No.	% among total cases
Total Cases (HF+ORC)	2075/76	5233	3935	3270	2479	6536	3133	4520	**29106**	**NA**
	2076/77	7945	6650	5451	2787	8349	4672	7043	**42897**	**NA**
	2077/78	2755	3631	2646	1701	6361	2148	2571	**21813**	**NA**
Possible Severe Bacterial Infection (PSBI) HF+ORC	2075/76	487	278	258	125	1024	595	635	**3402**	**11.7**
	2076/77	569	478	405	174	959	929	829	**4243**	**9.89**
	2077/78	190	357	161	50	714	422	426	**2320**	**10.63**
Local Bacterial Infection (HF+ORC)	2075/76	2595	2249	1400	821	2075	1235	2351	**12726**	**43.7**
	2076/77	4539	4086	2705	1225	3122	2244	3914	**21835**	**50.9**
	2077/78	1433	1918	1224	540	1350	966	1276	**8707**	**39.91**
Jaundice (HF+ORC)	2075/76	301	136	267	314	297	106	114	**1535**	**5.3**
	2076/77	276	244	220	230	290	124	74	**1458**	**3.4**
	2077/78	127	139	119	150	192	80	64	**871**	**3.9**
% of low weight or feeding problem (HF Only)	2075/76	4.7	4.9	6.7	4.5	4.2	9.5	6.9	**1656**	**5.7**
	2076/77	2.5	2.4	2.8	3	3.4	5.1	4.5	**1409**	**3.3**
	2077/78	5	8.4	2.6	1.7	3.5	13.5	8.9	**1292**	**5.9**
Referred (HF+ORC)	2075/76	268	207	195	88	282	167	202	**1409**	**4.8**
	2076/77	448	293	223	145	354	183	230	**1876**	**4.4**
	2077/78	161	143	129	72	274	115	99	**993**	**4.5**
Deaths (HF+ORC)	2075/76	27	2	12	6	20	9	26	**102**	**0.4**
	2076/77	16	15	14	21	15	4	30	**115**	**0.26**
	2077/78	13	16	14	4	40	17	19	**114**	**0.52**
FCHV Program										
Sick Baby	2075/76	2576	2982	1567	2649	1965	1087	1495	**14321**	**NA**
	2076/77	2234	2180	1736	562	1774	560	1782	**10828**	**NA**
	2077/78	2554	2463	1373	591	1183	378	655	**9197**	**NA**
Treated with Cotrim and Referred	2075/76	1077	1002	228	119	687	459	436	**4008**	**28**
	2076/77	371	520	145	122	322	298	227	**2005**	**18.5**
	2077/78	293	668	218	9	195	104	101	**1588**	
Deaths	2075/76	524	93	139	63	151	68	216	**1254**	**NA**
	2076/77	226	63	165	54	144	118	118	**936**	**NA**
	2077/78	531	80	345	52	195	103	209	**1515**	**NA**

Source: HMIS

A total of 21,813 new-born cases were registered and treated both in health facility and PHC/ORC clinic in FY 2077/78. The trend shows that the treatment of new-borns in HF and PHC/ORC clinic has decreased compared to last year, which may be due to less cases than previous year. The highest of 6,361 new-born cases in Lumbini Province and lowest of 1,701 in Gandaki Province were treated.

In total 2,320 (10.63%) cases were classified as Possible Severe Bacterial Infection (PSBI) at national level. The proportion of PSBI was highest in Lumbini Province (30.7%) and lowest in Gandaki Province (0.21 %). Likewise, 39.9% of total cases were classified as LBI, 3.9% as Jaundice, 5.9% as Low Birth Weight or Breast-Feeding Problem. Data shows there is not any remarkable change in classification and treatment of LBI and Jaundice.The proportion of LBI is highest in Madhesh Province (22.02%) and lowest in Gandaki province (6.2%) among national total

FCHV had identified 9,197 cases of sick New-born. Among them, 1588 were treated with Cotrim and referred by FCHV. A total of 1,515 deaths have been reported by FCHV in the FY 2077/78.

4.2.7 Management of 0-2 Months Children

Table 4.2.3: Classification and treatment of 0-28 days Newborn cases by province

Indicators	Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	National	
									No.	% among total cases
Total Cases (HF+ORC)	2075/76	10718	8706	5970	3910	10421	6132	7849	53706	NA
	2076/77	7945	6652	5432	2759	8349	4672	7047	42856	NA
	2077/78	5684	6909	4555	2400	9830	3970	4352	37700	NA
Possible Severe Bacterial Infection (PSBI) HF+ORC	2075/76	910	606	429	199	1438	1038	1063	5683	10.58
	2076/77	604	478	404	150	966	829	829	4260	9.9
	2077/78	328	676	234	79	941	725	659	3642	9.5
Local Bacterial Infection (HF+ORC)	2075/76	6078	5642	2641	1510	3583	2681	4067	26202	48.78
	2076/77	4539	4086	2702	1203	3122	2244	3915	21811	50.89
	2077/78	3383	4053	2263	907	2326	1942	2252	17126	45.42
Jaundice (HF+ORC)	2075/76	488	233	347	450	431	182	165	2296	4.27
	2076/77	308	245	220	215	292	124	74	1478	3.44
	2077/78	182	180	162	179	255	118	79	1155	3.06
% of Low weight or feeding problem	2075/76	6.4	5.7	6.6	4.8	4.7	9.4	7.1	3415	6.3
	2076/77	5.3	6.8	5.3	5.2	5.5	8.5	7.5	2709	6.3
	2077/78	7.4	4.7	6.1	5.2	3.8	7.3	11	2302	6.1
Referred (HF+ORC)	2075/76	545	395	307	124	410	258	307	2346	4.3
	2076/77	448	293	223	138	354	183	230	1869	4.36
	2077/78	265	232	219	108	379	177	144	1524	4.04
Deaths (HF+ORC)	2075/76	39	18	12	7	24	12	28	140	0.26
	2076/77	16	15	14	8	15	4	30	102	0.23
	2077/78	18	18	17	4	43	18	44	162	0.42
FCHV Program										
Sick Baby	2077/78	5245	5526	3708	1330	2772	1466	2416	22463	NA
Treated with Cotrim and Referred	2077/78	1134	1977	758	47	503	379	427	5225	23.2
Deaths	2077/78	558	83	371	60	220	105	226	1653	NA

Source: HMIS

A total of 37,700 children (0-2 months) cases were registered and treated both in health facility and PHC/ ORC clinic in FY 2077/78. The highest of 9,830 children (0-2 months) cases in Lumbini Province and lowest of 2,400 in Gandaki Province were reported.

A total 3,642 cases were classified as Possible Severe Bacterial Infection (PSBI) at national level. Highest number of PSBI cases was reported at Lumbini province and lowest cases at Gandaki province. The number of PSBI cases reported found less than of previous year at provincial as well as national level. Similarly, 17,126 LBI cases were reported at national level, with highest 4,053 cases at Madhesh Province and lowest at Gandaki province. Among total cases, 3.06% cases were jaundice with 1,155 cases and 6.1% low weight or feeding problem. Only 4 % of total cases were referred and only 0.42% deaths reported in FY 077/78.

FCHV had identified 22,463 cases of children, 0-2 months old. Among them, 23.2 percent were treated with Cotrim and referred by FCHV. A total of 1653 deaths have been reported by FCHV in the FY 2077/78.

4.2.8 Key achievement for Management of 2-59 months children

Incidence & Case Fatality of Diarrhoea among Under-5 years Children

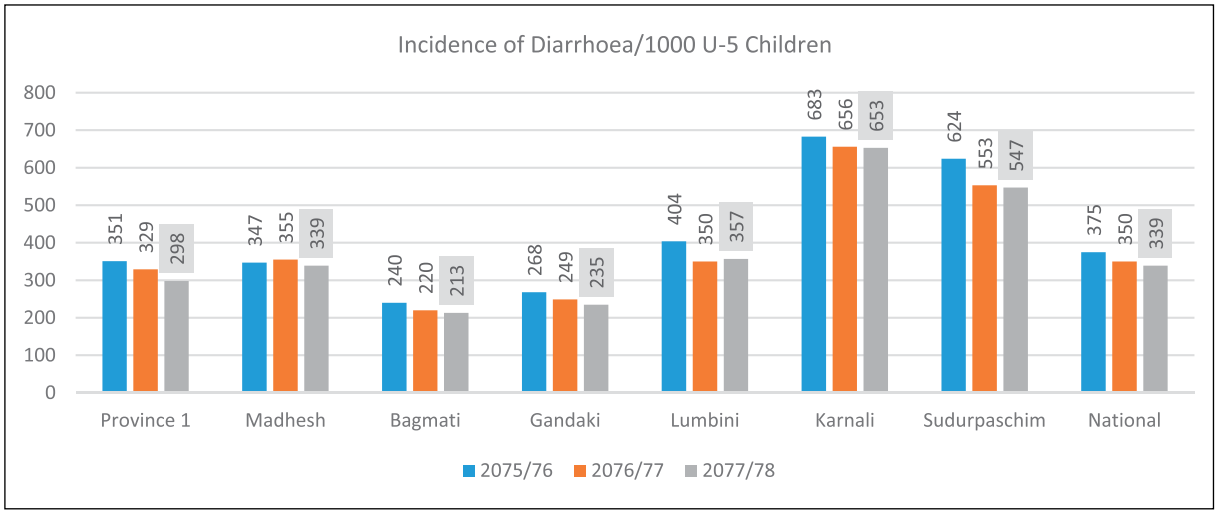
Table 4.2.4: Incidence and case fatality of Diarrhea among children under 5 years of age by Province

Indicators	Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	National
Estimated <5 years population prone to Diarrhoea	2075/76	492953	620489	637580	251331	505366	179694	289841	**2977254**
	2076/77	496934	629490	647368	252307	511668	182278	293876	**3013891**
	2077/78	497208	634058	652626	251327	514162	183481	295726	**3028588**
Incidence of Diarrhoea/1000 U5 Population	2075/76	351	347	240	268	404	683	624	**375**
	2076/77	329	355	220	249	350	656	553	**350**
	2077/78	298	339	213	235	357	653	547	**339**
Diarrhoeal Deaths	2075/76	8	11	18	14	1	4	7	**63**
	2076/77	50	10	5	3	1	5	0	**74**
	2077/78	14	3	28	0	3	1	1	**50**
Diarrhoea Case Fatality Rate per 1000 (HF+ORC)	2075/76	0.16	0.11	0.43	0.69	0.01	0.09	0.12	**0.17**
	2076/77	0.16	0.12	0.14	0.16	0.01	0.08	0	**0.15**
	2077/78	0.38	0.04	0.81	0	0.05	0.02	0.02	**0.16**

Source: HMIS

As shown in table 4.2.3, incidence of diarrhoea per thousand under 5 years children was 339 per 1,000 in FY 2077/78, with high incidence at Karnali Province (653) followed by Sudurpaschhim (547) and lowest incidence reported at Bagamti (213). Five-year trend shows decreasing incidence of diarrhoea at national and at Province 1, Bagmati, Gandaki, Karnali and Sudurpaschim. In FY 077/78, 28 deaths due to diarrhoea reported at Bagmati Province at health facility and PHC/ORC, no deaths at Gandaki Province and altogether 50 deaths reported at national level. Case fatality rate of diarrhoea across all the provinces was found below 1 with 0.16 at national level.

Figure 4.2.8Incidence of Diarrhoea/1000 U-5 Children at provincial and national level of three FY.



Diarrhoea- Classification of diarrhoeal cases by province

IMNCI program has created an enabling environment to health service providers for better identification, classification and treatment of diarrhoeal diseases. As per IMNCI national protocol, diarrhoea has been classified into three categories: 'No Dehydration', 'Some Dehydration', and 'Severe Dehydration'.

In FY 2077/78, a total of 988,163 (32% - population proportion) diarrhoeal cases were reported out of which more than one third (32%) were reported from health facilities and ORC and rest two third (67.7%) by FCHVs which showed similar trend like that of previous year. While there were decreasing trend in diarrhoeal cases among four provinces except Lumbini and Karnali with slightly increased reported diarrhoeal cases in FY 2077/78. Among registered cases in Health Facilities and PHC/ORC, more than three fourth (86.98%) were classified as having no dehydration, about one fifth (12.83%) some dehydration. Severe dehydration remained below 1% across all provinces and at national level as well. Among total diarrhoeal cases reported at HF and PHC-ORC in FY 077/78, 86.98% were No dehydration diarrhoea, with severe dehydration at national level. More than 80% of diarrhoea cases reported at all provinces were found no dehydration diarrhoea. More than 80% of diarrhoea cases reported at all provinces were found no dehydration diarrhoea.12.82% with some dehydration and 0.19%.

Figure 4.2.9 Total diarrhoeal cases and classification of cases at provincial and national level of three FY

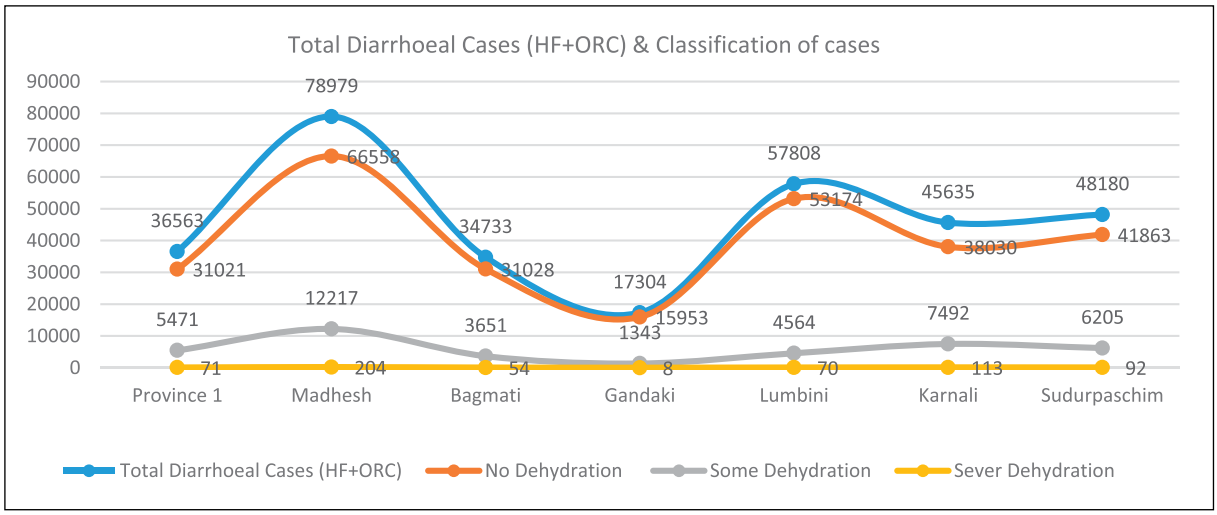


Table 4.2.5: Reported diarrhoea cases and classification of cases by province (2-59 months children)

Indicators		Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	Total National Cases
Total Diarrhoeal Cases (HF+ORC+FCHV) Percent distribution by Province		75/76	174099	216837	154300	67857	205759	123696	182325	1124873
			15.48	19.28	13.72	6.03	18.29	11	16.21	100%
		76/77	158134	207882	139378	61502	173743	114258	158105	1013002
			15.61	20.52	13.76	6.07	17.15	11.28	15.61	100
		77/78	143521	199795	136393	57845	178961	114791	156857	988163
			14.52	20.21	13.80	5.85	18.11	11.61	15.87	100
Diarrhoeal Cases (HF+ORC)	Total diarrhoeal cases (HF+ORC)	75/76	49678	97157	41446	20249	71262	45227	56183	381026
		76/77	40204	80990	35454	17919	55141	41661	53534	314909
		77/78	36563	78979	34733	17304	57808	45635	48180	319182
	No Dehydration	75/76	41225	77587	36937	18438	62322	36578	49288	322375
			82.98	79.86	89.12	91.06	87.45	80.88	87.72	84.57
		76/77	33399	66365	31329	16198	49741	34072	37768	268872
			83.1	81.9	88.4	90.4	90.2	81.8	86.8	85.38
		77/78	31021	66558	31028	15953	53174	38030	41863	277627
			84.84	84.27	89.33	92.19	91.98	83.33	86.92	86.98
	Some Dehydration	75/76	8257	19209	4409	1744	8579	8423	6746	15.05
			16.62	19.77	10.64	8.61	12.04	18.62	12.01	15.05
		76/77	6618	14322	4041	1701	5246	7421	5672	45021
			16.5	17.7	11.4	9.5	9.5	17.8	13	14.3
		77/78	5471	12217	3651	1343	4564	7492	6205	40943
			14.96	15.46	10.51	7.76	7.89	16.41	12.88	12.82
	Severe Dehydration	75/76	196	361	100	67	361	226	153	1464
			0.39	0.37	0.24	0.33	0.51	0.5	0.27	0.38
		76/77	187	309	84	20	154	168	94	1016
			0.47	0.38	0.24	0.11	0.28	0.4	0.22	0.32
		77/78	71	204	54	8	70	113	92	612
			0.19	0.25	0.15	0.046	0.12	0.24	0.19	0.19
FCHV Program	Diarrhoeal Cases	75/76	124421	119680	112854	47608	134497	78469	126138	743667
			11.06	10.64	10.03	4.23	11.96	6.98	11.21	66.11
		76/77	117930	126886	103924	43583	118602	72597	114571	698093
			11.19	12.04	9.87	4.13	11.25	6.89	10.87	66.27
		77/78	106958	120816	101660	40541	121153	69156	108697	668981
			15.98	18.05	15.19	6.06	18.11	10.33	7.27	67.69

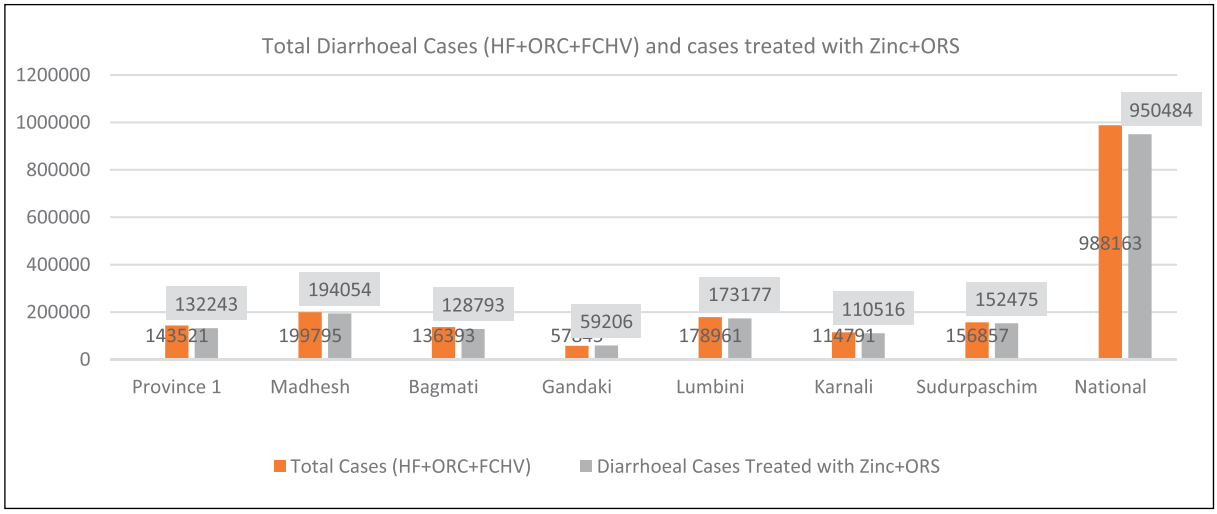
Treatment of diarrhoea: In FY 2077/78, the proportion of diarrhoeal cases treated with ORS and Zinc as per IMNCI national protocol at national level was 96% which was almost similar to the previous year trend. There was slight difference among provinces but more than 90% of diarrhoeal cases were found treated with Zinc and ORS in all provinces. Likewise, less than 1% severe diarrhoeal cases were treated with intravenous (IV) fluid at health facilities level in all provinces and at national level as well.

Table 4.2.6: Treatment of diarrhoea cases by province

Indicators	Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	National
Total Cases (HF+ORC+FCHV)	2075/76	174099	216837	154300	67857	205759	123696	182325	1124873
	2076/77	158134	207882	139378	61502	173743	114258	158105	1013002
	2077/78	143521	199795	136393	57845	178961	114791	156857	988163
Diarrhoeal cases treated with Zinc+ORS (HF+ORC+FCHV)	2075/76	155819	221745	142884	66056	194330	121983	171281	1074098
		89.50%	102.30%	92.60%	97.35%	94.45%	98.62%	93.94%	95.49%
	2076/77	147065	191468	130578	61458	166713	109502	152880	959844
		93%	92.10%	93.80%	99.90%	96%	95.80%	96.70%	94.80%
	2077/78	132243	194054	128793	59206	173177	110516	152475	950484
		92.14%	97.12	94.42	102.35	96.76	96.27	97.20	96.18
Diarrhoeal cases providedintrave-nous Fluid (HF)	2075/76	368	715	233	177	747	380	259	2879
		0.21%	0.33%	0.15%	0.26%	0.36%	0.31%	0.14%	0.26%
	2076/77	243	523	227	70	399	292	143	1897
		0.21%	0.41%	0.22%	0.16%	0.34%	0.40%	0.12%	0.27%
	2077/78	265	496	109	25	269	232	215	1611
		0.25%	0.41%	0.11%	0.06%	0.22%	0.34%	0.20%	0.24%

Source: HMIS

Figure 4.2.10 Total diarrhoeal cases (HF+ORC+FCHV) and cases treated with Zinc+ORS



Acute Respiratory Infections

ARI management is one of the components of IMNCI program. As per IMNCI protocol, every ARI cases should be correctly assessed and classified as no pneumonia, pneumonia or severe pneumonia, and given home therapy, treated with appropriate antibiotics or referred to higher centre as per indications.

Table 4.2.7: Acute respiratory infection (ARI) and pneumonia cases by provinces

Indicators	Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	National
Target Population under 5 years prone to ARI	2075/76	492953	620489	637580	251331	505366	179694	289841	**2977254**
	2076/77	496934	629490	647368	252307	511668	182278	293876	**3013891**
	2077/78	497208	634058	652626	251327	514162	183481	295726	**3028588**
Total ARI cases (HF+ORC)	2075/76	156682	153700	105247	62907	129872	79432	101937	**789777**
	2076/77	147621	156829	104459	55347	139947	89985	102541	**796709**
	2077/78	114823	140479	82336	46436	107492	74217	78662	**644445**
ARI Incidence per 1000 <5 years children	2075/76	693	498	431	610	579	941	930	**608**
	2076/77	655	480	428	563	578	993	904	**594**
	2077/78	549	458	385	507	515	889	832	**533**
Total Pneumonia Cases (HF+ORC)	2075/76	33009	23990	23899	9194	23634	17503	19658	**150887**
	2076/77	25491	19380	19351	6729	22037	18031	18004	**129034**
	2077/78	15728	14764	11958	4196	11332	12098	10391	**80465**
Incidence of Pneumonia per 1000 per U5 children	2075/76	116	65	55	58	76	159	110	**83**
	2076/77	51	31	30	30	27	99	61	**43**
	2077/78	52	40	31	28	38	95	64	**45**
% of Pneumonia among ARI Cases (HF+ORC)	2075/76	21.1	15.6	22.7	14.6	18.2	22	19.3	**19.1**
	2076/77	17.3	12.4	18.5	12.2	15.7	20	17.6	**16.2**
	2077/78	13.69	10.5	14.52	9.03	10.54	16.3	13.2	**12.48**
% of Severe pneumonia among new cases	2075/76	0.27	0.34	0.2	0.19	0.19	0.52	0.24	**0.27**
	2076/77	0.25	0.26	0.16	0.07	0.18	0.37	0.19	**0.22**
	2077/78	0.12	0.25	0.11	0.08	0.12	0.24	0.19	**0.16**
% of Pneumonia treated with Antibiotic (HF+ORC)	2075/76	170.4	285.5	141.7	198.2	162.4	131.8	147.7	**177.2**
	2076/77	171.3	240.1	133.9	161.9	138.2	104.1	138.4	**155.9**
	2077/78	169.8	206.8	149.2	133.1	121.7	102.1	131.7	**149.7**
Deaths due to ARI (HF+ORC)	2075/76	60	41	31	18	15	2	11	**178**
	2076/77	23	3	31	10	3	5	30	**105**
	2077/78	20	29	14	1	11	7	2	**84**
ARI Case Fatality Rate per 1000 at HF	2075/76	0.12	0.07	0.05	0.07	0.03	0.01	0.04	**0.06**
	2076/77	0.16	0.02	0.3	0.08	0.02	0.06	0.29	**0.13**
	2077/78	0.17	0.20	0.17	0.02	0.10	0.09	0.02	**0.13**
FCHV Program									
Total ARI Cases	2075/76	187145	157630	171395	91537	164822	91001	169529	**1033059**
	2076/77	177883	145722	173126	86772	155650	91031	163218	**993402**
	2077/78	157932	149835	168676	80965	157326	88871	167308	**970913**

Source: HMIS

In FY 2077/78, a total of 644,445 ARI cases were registered at HF and PHC/ORC, out of which 12.48 % were categorized as pneumonia cases and 0.16 % were severe pneumonia cases.

The incidence of pneumonia (both pneumonia and severe pneumonia at HF and PHC/ORC) at national level was 45 per 1000 under- five year children. The incidence of pneumonia among under-five year children decreased slightly compared to that of last FY. Highest ARI incidence was observed at Karnali Province (889/1000 U5 children) followed by Sudur Paschhim (832/1000 U5 children) and least at Bagmati (385/1000 U5 children). Similarly, Bagmati and Karnali Province had the highest percentage of pneumonia cases among ARI cases (14.52 % and 16.3%) and Gandaki Province has the lowest (9.03 %).

The total ARI-related deaths at health facilities were reported to be 84 which is lowercompared to previous FY 2075/76 which was 105. The ARI case fatality rates per thousand at health facility remain same 0 .013 per 1000 in FY 2077/78 compared to last fiscal year FY 2076/77. ARI case fatality rate shows a wide variation in between the provinces ranging from the lowest 0.02 per 1000 in Gandaki and SudurPaschim Province to the highest 0.17per 1000 in Province 1 and Bagmati.

Figure 4.2.11 Total ARI and Pneumonia cases (HF+ORC) at provincial and national level of three FY.

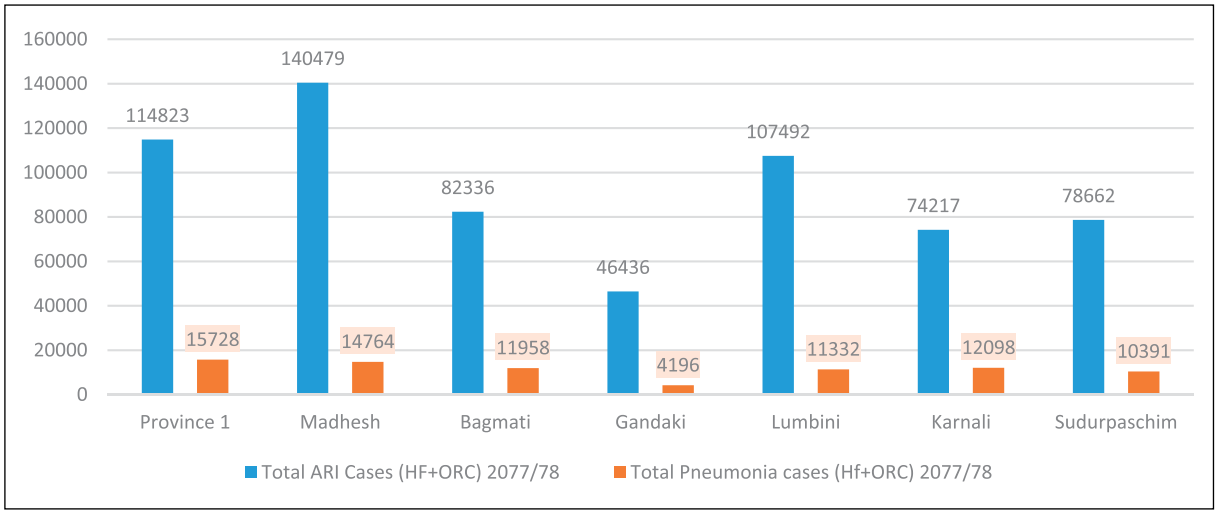


Figure 4.2.12 Percentage distribution of Pneumonia cases by province FY77/78.

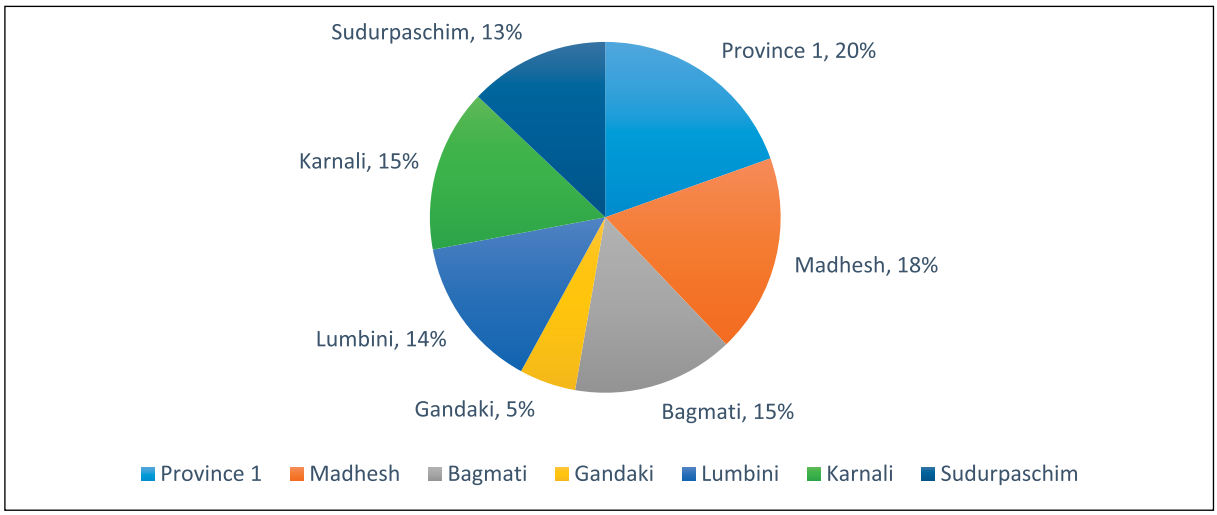


Figure 4.2.12 Incidence of Pneumonia among children under five years (per 1000) at provincial and national level of three FY.

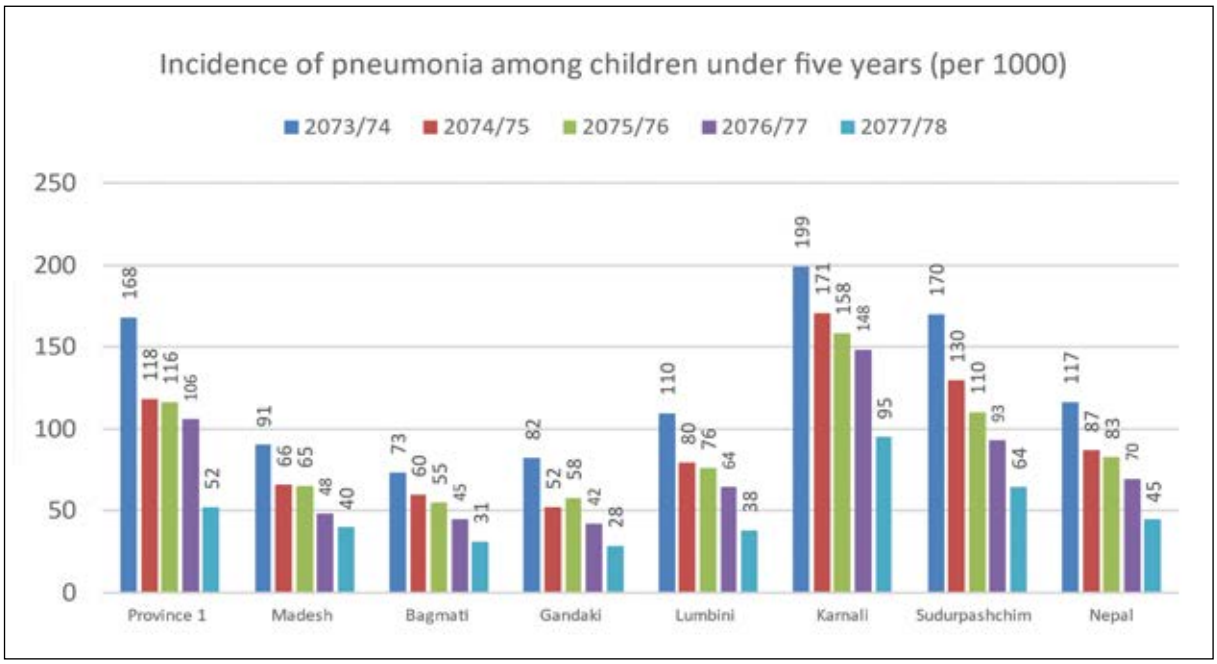
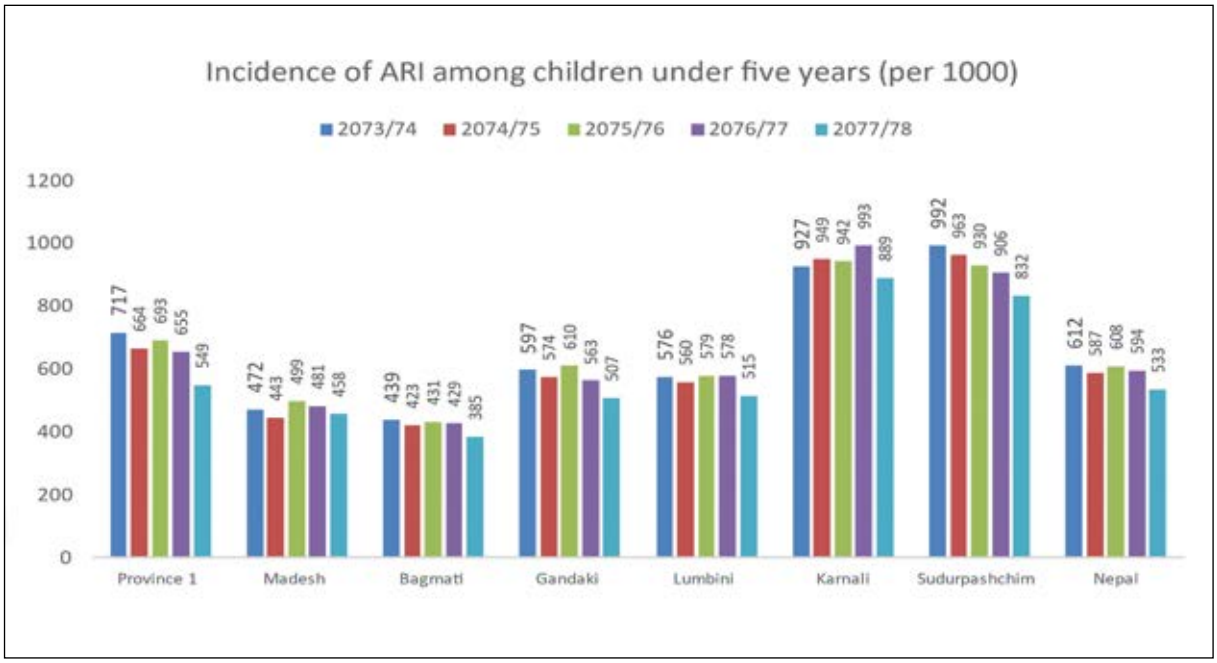


Figure 4.2.13 Incidence of ARI among children under five years (per 1000) at provincial and national level of three FY.



Other common childhood illnesses (2-59 months children)

IMNCI Program also focuses on identification and treatment of malaria, malnutrition, measles, and of other common illnesses among children under five years; ear infection, very severe febrile disease and anaemia. The interventions to address malnutrition among children are led by Nutrition Section and interventions to address measles and other vaccine preventable diseases are being led by child health & immunization services section, and malaria is led by EDCD.

The Child Health & Immunization Services Section-IMNCI program actively collaborates with NPI Program, Nutrition Sections and with EDCD for the reduction of measles, malnutrition and malaria in an integrated approach.

Table 4.2.8: Classification of cases as per CB-IMNCI protocol by province (FY 2077/78)

Indicators	Year	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim	National
Malaria Falciparum	2075/76	14	49	2	10	26	23	16	140
	2076/77	26	6	1	8	13	3	35	92
	2077/78	3	12	2	0	19	3	0	39
Non-Falciparum	2075/76	11	332	31	38	234	61	67	774
	2076/77	40	172	5	21	146	19	36	439
	2077/78	17	11	3	0	18	0	14	63
Very Severe Febrile Disease	2075/76	0	0	0	0	0	0	0	0
	2076/77	55	123	66	19	330	66	22	681
	2077/78	12	70	27	3	21	13	26	172
Measles	2075/76	197	312	409	62	150	57	75	1262
	2076/77	83	333	260	30	92	62	22	681
	2077/78	77	154	121	15	59	36	30	492
Ear Infection	2075/76	15053	29942	9731	5661	17869	9205	10321	97782
	2076/77	13423	26130	9847	5817	16629	9282	9256	90384
	2077/78	11819	27672	8669	4610	15772	9126	8016	85684
Severe Malnutrition	2075/76	590	2411	420	468	2288	1185	1754	9116
	2076/77	607	1882	519	307	1226	764	1060	6365
	2077/78	422	1521	512	212	1212	595	933	5407
Anemia	2075/76	473	1943	582	353	1328	514	888	6081
	2076/77	394	1131	550	227	848	268	350	3768
	2077/78	381	713	569	64	395	106	238	2466

Source: HMIS, 2077/78

Under the IMNCI programme, Health service providers identified 39 falciparum malaria cases, 63 non-falciparum malaria cases, 492 measles cases, 85684 ear infection cases, 5407 severe malnutrition cases and 2466 anaemia cases in children under five years of age in 2077/78. There were 172 reported cases of very severe febrile disease in this fiscal year. Three years trend shows decreasing trend of malaria falciparum, non-falciparum, very severe febrile disease, measles, ear infection, severe malnutrition and of anaemia at national level.

Problem, constraints and actions to be taken and responsibility

Problem/ Constraint	Action to be taken	Responsibility
No provision of CBIMNCI dedicated officer at province & municipalities	Assign an officer for this report of CBIMNCI	MoHP, DoHS, FWD Province / Municipality
Lack of designated Human Resource in Hospital for SNCU/ NICU/KMCU	Deployment of HR as per need Training to MO, nursing and related staff about NICU/SNCU/KMCU.	MoHP, FWD, Province, Hospitals
Inadequate IEC and BCC activities as compared to the approved program implementation guideline, so as to improve the demand of CH services	Prioritize IEC/SBCC interventions to improve the demand for CH services by all concerned stakeholders.	NHEICC, FWD, HO, Palikas, HF
Frequently stockouts of essential commodities in districts, municipality and community level.	Timely procurement and supply of commodities based on the LMIS Reports.	FWD, MD
Poor service data quality and inconsistency of data of service data quality.	Carry out RDQA-online/offline	MD, FWD
Low coverage &quality of care.	Strengthen quality improvement Onsite coaching	MD, FWD, Province, HO
Increasing proportion of severe pneumonia cases	Targeted interventions (BCC activities, and for early detection, treatment and referral) need to be focused	Province, HO
Limited engagement of private sectors	Ensure and encourage involvement of private sector to ensure quality services are provided with proper follow up of childhood treatment protocols at each level	DoHS, FWD
Inappropriate referral mechanism	Strengthen the referral mechanism and referral pathway feedback & sharing the outcome of the case management.	FWD, HO
Required to establish Neonatal Intensive Care Unit in hospitals	Expansion of NICU in hospitals	FWD, Health Directorate
Low unit price for Free Newborn Care Service.	Revision of Free new-born care package cost	FWD

4.3 NUTRITION

4.3.1 Background

Nutrition is a basic component of human life and is essential for people of all age groups. Pregnant women, lactating mothers, adolescents and children have particular nutritional requirements and require special attention. The effect on the body due to an imbalance in our food intake compared to our actual nutritional requirements is called malnutrition. The term malnutrition encompasses undernutrition as well as overweight and obesity. The various forms of undernutrition are stunting, underweight, wasting and micronutrient deficiencies. Factors such as healthcare, food security, education, consumption of purified water, hygiene, sanitation, access to resources and empowerment play a major role in the development of malnutrition.

Malnutrition has devastating consequences: it slows economic growth and perpetuates poverty through direct losses in productivity from poor physical status and indirect losses from poor cognitive function and increased health costs. Hunger and undernutrition often result in the vicious cycle of malnutrition and infections that leads to poor physical, cognitive and intellectual development, reduced productivity and compromised socioeconomic development. The term malnutrition covers a range of short and long-term conditions that result in physiological impairment caused by lack of or excess of nutrients in the body. Malnutrition includes both undernutrition and overnutrition. Under-nutrition includes wasting and nutritional oedema (Acute Malnutrition), stunting (Chronic Malnutrition), intrauterine growth restriction leading to low birth weight, and micronutrient deficiencies. These conditions may be experienced over a scale of severity and are usually classified into moderate and severe forms. They may occur in isolation within an individual or in combination.

The Nutrition Section of the Family Welfare Division (FWD), Department of Health Services (DoHS), Ministry of Health and Population (MoHP) is responsible for the implementation and regulation of all the nutrition specific interventions throughout the country. The ultimate goal of the National Nutrition Program is “to achieve the well-being of all people in order to maintain a healthy life and to be able to contribute to the socio-economic development of the country, through the implementation of the nutrition program in collaboration with all relevant sectors.” Nutrition interventions are cost effective, high quality and essential investments which contribute towards the achievement of many of the Sustainable Development Goals (SDGs). Without adequate and sustained investments in nutrition, the SDGs will not be realized. Our goal to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” is stated in the SDGs and at least 12 of the 17 SDGs contain indicators that are highly relevant to nutrition.

Focus on nutrition — The Government of Nepal (GoN) is committed to ensuring that all its citizens have access to adequate nutritious food, healthcare and other social services that impact nutrition outcomes. The Constitution of Nepal (2015) ensures the right to food, health and nutrition for all citizens. Nutrition is a globally recognized development agenda. Since 2000, several global movements have advocated on the importance of nutrition for development. In 2012 the World Health Assembly Resolution 65.6 endorsed a comprehensive implementation plan on maternal, infant and young child nutrition, which specified a set of global nutrition targets to be achieved by 2025 (as compared to the NDHS 2011 baseline levels):

1. Achieve a 40% reduction in the number of children under-5 who are stunted.
2. Achieve a 50% reduction of anaemia in women of reproductive age.
3. Achieve a 30% reduction in low birth weight; ensure that there is no increase in childhood overweight.
4. Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%.
5. Reduce and maintain childhood wasting to less than 5%.

The Scaling-Up-Nutrition (SUN) initiative calls for multi-sectoral actions for improved nutrition during the first 1,000 days of life and the Road Map for Scaling-Up-Nutrition (SUN) was released in September 2010. "Nepal was the fifth country to join the SUN Movement on the 5th of May 2011 as an early riser, it adopted the Multi-sector Nutrition Plan in 2012 with a 10-year vision (2013-2022) and five-year plans (2013-2018) to reduce chronic undernutrition with a focus on children in their first 1,000 days of life. Similarly, on April 2016, the United Nations General Assembly agreed on a resolution proclaiming the UN Decade of Action on Nutrition from 2016 to 2025 with an aim "to provide a clearly-defined time-bound operational framework that works within existing structures and available resources to implement the commitments made at the Second International Conference on Nutrition and the 2030 Agenda for Sustainable Development."

Policy initiatives — The National Nutrition Strategy was officially unveiled in 2077 (2020) and it aims to address all forms of malnutrition by implementing nutrition specific and sensitive interventions through the health sector and provide strategic and programmatic direction for nutrition interventions in Nepal through the health sector. Similarly, Multi-sector Nutrition Plan (MSNP-II 2018-2022) which is a broader national policy framework for nutrition, within and beyond the health sector, coordinated by the National Planning Commission (NPC), provides national policy guidance for nutrition specific and nutrition sensitive interventions as well as creating an enabling environment for nutrition interventions throughout the country. The National Health Policy, 2076 (2019) focuses on improving nutrition through the effective promotion of quality, nutritious foods produced locally. A Nutrition Technical Committee (NUTEC) led by the Director of the Family Welfare Division was established in 2011. NUTEC comprised of technical experts from relevant Government Ministries and Departments, UN Agencies and Development Partners. It provides technical guidance for nutrition specific and sensitive interventions through multisector coordination and a joint decision-making process.

In alignment with the SDG roadmap (2015-2030), National Nutrition Strategy 2020 (2077), the Fifteenth Periodic Plan (2019/20-2023/24), the National Multi-Sector Nutrition Plan (MSNP-II), National Health Policies, the National Health Sector Strategic Plan (NHSSP – III) and the National Agriculture Development Strategy (ADS), the Nutrition Section of the Family Welfare Division has developed national nutrition strategies and plans for improving maternal, infant and young child nutrition assisted by nutrition experts, relevant agencies and members of the Nutrition Technical Committee. Moreover, as recommended by the Nepal Nutrition Assessment and Gap Analysis (NAGA 2009/2010) and guided by the MSNP, MoHP conducted an Organization and Management Survey in 2012–2013,towards establishing a National Nutrition Centre as an apex body under the Ministry of Health and Population for all nutrition specific interventions.

4.3.2 Malnutrition in Nepal

Nepal has significantly reduced stunting and underweight among children under-5 years of age, with the level of stunting reduced from 57% in 2001 to 32% in 2019 (NMICS). However, wasting levels has remained stagnant over the last decade; 11 % in 2001, 13 % in 2006, 11 % in 2011, 10 % in 2016 (NDHS) and 12 % in 2019 (NMICS). Despite the progress made in the reduction of stunting and underweight among children under 5 years of age, all forms of undernutrition are still significant public health issues as their levels are higher than the globally recommended thresholds. The prevalence of stunting varies according to geography, socioeconomic status and caste/ethnicity. Over the last decade, the prevalence of stunting is highest in the hill and mountain regions of Sudurpaschim and Karnali Provinces whereas wasting prevalence is higher in the Terai belt.

Overweight and obesity levels among women of reproductive age is rising; it was at 7 % in 2001, 9 % in 2006, 14 % in 2011 and 22 % in 2016 (NDHS) making it an emerging issue that needs to addressed. Adolescent undernutrition is also an issue of concern, according to the Nepal National Micronutrient Status Survey of 2016, 23 % of adolescent boys and 11 % of adolescent girls were thin for their age. The prevalence of anaemia among children aged 6-23 months (69 %), children under 5 years (53 %), adolescent girls (44 %), women

of reproductive age (41 %), pregnant and lactating women (46 %) is alarmingly high in many subgroups of population according to the NDHS 2016. The prevalence of Zinc deficiency among children aged 6-59 months and women belonging to the reproductive age group is 21 % and 24 % respectively (NNMSS 2016), is also quite high indicating that micronutrient deficiencies are also a significant public health problem.

According to NMICS 2019, the rate for exclusive breastfeeding of children aged 0-5 months has declined from 66 % in 2016 to 62 % in 2019. Only 40 % of children aged 6-23 months are receiving recommended levels of diversified foods (Minimum Dietary Diversity) and 30 % are receiving nutritionally adequate foods (Minimum Acceptable Diet). Differences in infant and young child feeding practices have been observed among different subgroups of the population according to geography, socioeconomic status and caste/ethnicity.

4.3.3 Efforts to address undernutrition

The Ministry of Health and Population has been implementing several nutrition specific interventions to address maternal, adolescent and child malnutrition in Nepal. This began with the growth monitoring of young children along with the promotion, protection and support for early initiation, exclusive and extended breastfeeding and appropriate complementary feeding followed by community-based micronutrient supplementation. In recent years, the Family Welfare Division of DoHS/MoHP has been implementing the following interventions:

Table 4.3.3.1 Nationwide implemented nutrition programs

SN	Programs
1	Maternal, Infant and Young Child Nutrition
2	Growth Monitoring and Promotion
3	Control and Prevention of Iron Deficiency Anaemia
4	Control and Preventions of Vitamin A Deficiency Disorders
5	Control and Prevention of Iodine Deficiency Disorders
6	Control of Intestinal Helminths Infestations
7	Promotion of Food Based Dietary Guideline
8	Roller Mill Fortifications/Flour Fortification with Micro-nutrients
9	School Health and Nutrition Program (Adolescent IFA distribution)

Table 4.3.3.2 Programs at Scale Up

SN	Programs	Coverage (districts) 2076-77	Coverage (districts) 2077-78
1	Integrated Infant and Young Child Feeding and Multiple Micro-nutrient Powder (Balvita) Community Promotion Program	45	52
2	Integrated Management of Acute Malnutrition (IMAM) Program	36 (458 OTCs)	56 (863 OTCs)
3	Comprehensive Nutrition Specific Interventions (CNSI) Program	28	52
4	Maternal and Child Health and Nutrition (MCHN) Program	6	6
5	Maternal Baby Friendly Hospital Initiative (MBFHI)	5	10

4.3.4 Objectives of National Nutrition Program

The overall objective of the national nutrition program is to enhance nutritional well-being, contribute to reduce child and maternal mortality and enable equitable human development. The National Nutrition Strategy 2077 adopted the following fundamental principles and approaches: a) nutrition plan and activities as per the federal structure; b) gender equality and social inclusion; c) expansion of program to unreached groups and communities; d) transparency, responsibility and accountability; e) good governance; f) evidence-based nutrition service; g) private sector engagement; h) mobilization of local resources; and i) community participation.

According to the National Nutrition Strategy 2077, the specific objectives of the national nutrition program are as follows:

1. Improve the nutritional status of infant, young children, adolescent girls and women by increasing access to nutrition specific and nutrition sensitive services.
2. Improve the quality of nutrition specific and nutrition sensitive interventions and build capacity of the service providers.
3. Increase the demand of nutrition specific and nutrition sensitive interventions through public awareness, promote good nutrition behaviors and inhibit harmful behaviors.
4. Timely expansion of nutrition services.

4.3.5 Current Global Nutrition Targets and Nepal's Status

a. Sustainable Development Goals

Nepal has developed a National Sustainable Development Goal's Road Map and set targets. Without adequate and sustained investments in good nutrition, the SDGs will not be realized. The ambition to 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture' is captured in SDG 2; however, at least 12 of the 17 Goals contain indicators that are highly relevant to nutrition. Similarly, in 2012, the World Health Assembly Resolution 65.6 endorsed a Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition, which specified six global nutrition targets for 2025. Based on the SDGs and nutrition targets set by the Global Health Assembly, Nepal has developed its own set of nutrition targets to be achieved by 2030 which are as follows:

Table 4.3.5.1 Nepal's progress against the MSNP II, WHA and SDG targets (2001–2016)

Indicators	Status (%)				Target (%)		
	NDHS 2001	NDHS 2006	NDHS 2011	NDHS 2016	MSNP 2022	WHA 2025	SDG 2030
Stunting among children < 5 years	57	49	41	36	28	24	15
Wasting among children < 5 years	11	13	11	10	7	<5	4
Underweight among children < 5 years	43	39	29	27	20	15	10
Percentage of LBW	-	14	12	12	10	≤1.4	≤1.4
Exclusive breastfed	-	53	70	66	80	85	90
Fed according to recommended IYCF practices	-	-	24	36	60	70	80
Overweight and Obesity among children < 5 years	-	-	-	2.1	1.4	1	<1
Anaemia among children < 5 years	-	48	46	53	28	20	<15
Anaemia among children aged 6-23 months	-	78	69	68	-	60	<50
Anaemia among WRA (15-49)	-	36	35	41	24	20	<15
Anaemia among pregnant women	-	42	48	46	-	35	<25
Anaemia in adolescent women (15-19)	-	39	38.5	43.6	25*	35	<25
Body mass index (<18.5kg/m^2) among women	26	24	18.2	17	12	8	<5
Overweight and Obesity among women	-	9	14	22	18	15	<12
Anaemia in adolescent women aged 10-19 years			38.5	43.6	-	-	<15

4.3.6 Program strategies

The 4 major strategies laid out by National Health Policy, 2076 for improving nutrition in Nepal are as follows:

1. Policies related to multi-sector nutrition and food security related programs will be updated and implemented with high priority
2. While promoting the dietary diversification and consumption of balanced diet among women and children of various age groups, short-term, medium term and long-term means will be followed at all levels
3. School Health Program and Nutrition Education will be strengthened, developed and implemented
4. While encouraging the consumption of healthy foods, homestead food production will be promoted

Table 4.3.6.1 Specific strategies to improve nutrition in Nepal

Control of protein energy malnutrition (PEM)

- Promote breastfeeding within one hour of birth and avoid pre-lacteal feeding.
- Promote exclusive breastfeeding for first six months and the timely introduction of complementary food.
- Ensure continuation of breastfeeding for at least 2 years and introduction of appropriate complementary feeding after 6 months.
- Strengthen the capacity of health workers and medical professionals for nutrition and breastfeeding management and counselling.
- Improve knowledge and skills of health workers on growth monitoring and promotion and nutrition counselling
- Strengthen the system of growth monitoring and its supervision and monitoring.
- Promote the use of appropriate locally available complementary foods.
- Increase awareness on the importance of appropriate and adequate nutrition for children and pregnant and lactating mothers.
- Strengthen the knowledge of health personnel on the dietary and clinical management of severely malnourished children.
- Distribute fortified foods (super cereal, fortified rice) to pregnant and lactating women and children aged 6 to 23 months in food deficient areas.
- Improve maternal and adolescent nutrition and low birth weight through improved maternal nutrition.
- Create awareness of the importance of additional dietary intake during pregnancy and lactation.
- Strengthen nutrition education and counselling mechanism.

Control of iron deficiency anaemia (IDA)

- Advocate to policy makers to promote dietary diversity.
- Iron folic acid supplementation for pregnant and post-partum mothers.
- Iron fortification of wheat flour at roller mills.

Household food security

- Promote kitchen garden and agricultural skills.
- Promote raising of poultry, fish and livestock for household consumption.
- Inform community people how to store and preserve family food.
- Improve technical knowledge of food processing and preservation.
- Promote women's group for income generating activities.

Improved dietary practices

- Conduct a study to clarify the problems of culturally related dietary habits
- Promote nutrition education and advocate for good diets and dietary habits.
- Develop and strengthen programmes for behaviour change to improve dietary habits.
- Strengthen nutritional education and advocacy activities to eliminate food taboos that affect nutritional status.
- Promote the household food security program.

Infectious disease prevention and control

- Promote knowledge, attitudes and practices that will prevent infectious diseases.
- Ensure access to appropriate health services.
- Improve nutritional status to increase resistance against infectious disease
- Improve safe water supplies, sanitation and housing conditions.
- Improve food hygiene.

School Health and Nutrition Programme

- Build capacity of policy and working level stakeholders.
- The biannual distribution of deworming tablets to grade 1 to 10 school children.
- Distribution of iron folic acid tablet to 10-19 years adolescent girls.
- Celebrate School Health and Nutrition (SHN) week in June every year to raise awareness on importance of nutrition at the community level through school children and health workers.

- Intermittent iron folic acid supplementation for adolescent girls.
- Multiple micronutrient supplementation for children aged 6-23 months.
- Create awareness of importance of iron in nutrition, promote consumption of iron rich foods and promote diverse daily diets.
- Control parasitic infestation among nutritionally vulnerable groups through deworming pregnant women and children aged 12-23 months.
- Meet the requirement of iron and other micronutrient through food fortification

Control of iodine deficiency disorders

- The universal iodization of salt.
- Strengthen implementation of the Iodized Salt Act, 2055 to ensure that all edible salt is iodized.
- The social marketing of certified two-child logo iodized salt.
- Ensure the systematic monitoring of iodized salt.
- Increase the accessibility and market share of iodized packet salt with the two-child logo.
- Create awareness about the importance of using iodized salt to control iodine deficiency disorder (IDD) through social marketing campaign.

Control of vitamin A deficiency

- The biannual supplementation of high dose vitamin A capsules to all children aged 6-59 month.
- Post-partum vitamin A supplementation for mothers within 42 days of delivery.
- Strengthen implementation of vitamin A treatment protocol for severe malnutrition, persistent diarrhoea, measles and xerophthalmia.
- Nutrition education to promote dietary diversification and consumption of vitamin A rich foods.
- Ensuring the availability of vitamin, A capsules at health facilities.
- Increase awareness of importance of vitamin A supplementation.
- Advocate for increased home production, consumption and preservation of vitamin A rich foods.
- Distribute first aid kits to public schools.
- Introduce child-to-child and child-to-parent approaches.
- Coordination with school meal program implemented by Ministry of Education.

Integrated management of acute malnutrition

- Build capacity of health workers for the management of acute malnutrition and FCHVs on screening of children < 5 years, refer the children with severe acute malnutrition to appropriate facility for therapeutic treatment and care and counselling services for the prevention of acute malnutrition.
- Establish and implement the key parts of the IMAM programme: community mobilization, inpatient therapeutic care, outpatient therapeutic care, management of complications of severe acute malnutrition and management of MAM.
- Implement the IMAM program following four key principles: maximum coverage & access, timeliness of service provision, appropriate medical and therapeutic care and care as long as it is needed.
- Integrate the management of acute malnutrition across sectors to ensure that treatment is linked to support for rehabilitating cases and to wider malnutrition prevention programme and services.
- Support and promote IYCF, water, sanitation and hygiene (WASH), early childhood development, social protection and child health and care along with the management of acute malnutrition.
- Promote the IMAM programme as the bridge between emergency and development programs.
- The supportive supervision and monitoring of IMAM program activities.
- Harmonize the community and facility-based based management of acute malnutrition.
- Strengthen the coordination and capacity of nutrition rehabilitation homes.
- Implementation of food aid (supplementary food distribution) as a prevention of malnutrition in food insecure district as a MCHN program.
- Strengthen the use of the vitamin A treatment protocol.

• Promote the consumption of vitamin A rich foods and a balanced diet through nutrition education. • Provide vitamin A capsules (200,000 IU) to postpartum mothers through healthcare facilities and community volunteers. Low birth weight prevention • Reduce maternal malnutrition by preventing PEM, VAD, IDD and IDA. • Reduce the workload of pregnant women. • Increase awareness on the risks of smoking and alcohol for pregnant women. • Increase awareness of risks of early pregnancy to infant and maternal health. • Promote activities for nutrition monitoring and counselling at antenatal clinics. • Provide nutritious food such as super cereal to pregnant women residing in highly food insecure	Nutrition in emergencies • Establish and strengthen effective leadership for nutrition cluster interagency coordination, with links to other clusters coordination mechanisms on critical inter-sectoral issues. • Initiate nutritional assessment and surveillance systems and/or reinforce for humanitarian assessment and information management. • Build adequate capacity of nutrition cluster members, partners, health workers, FCHVs and relevant stakeholders for nutrition in emergency preparedness and response and recovery actions • Support for appropriate maternal, infant and young child feeding (IYCF) and care to be accessed by affected women and children. • Ensure access to appropriate management and care services for the children and women with acute malnutrition. • Ensure access to micronutrients from fortified foods, supplements or multiple micronutrients for children and women. • Ensure access to relevant information about nutrition program activities for children and women. Lifestyle related diseases • Create awareness among adults about the importance of maintaining good dietary habits. • Develop the capacity for nutritional counselling at health facilities. • Create awareness among adolescents and adults about the importance of controlling smoking and body weight. • Create awareness to increase physical activity and improve stress management.

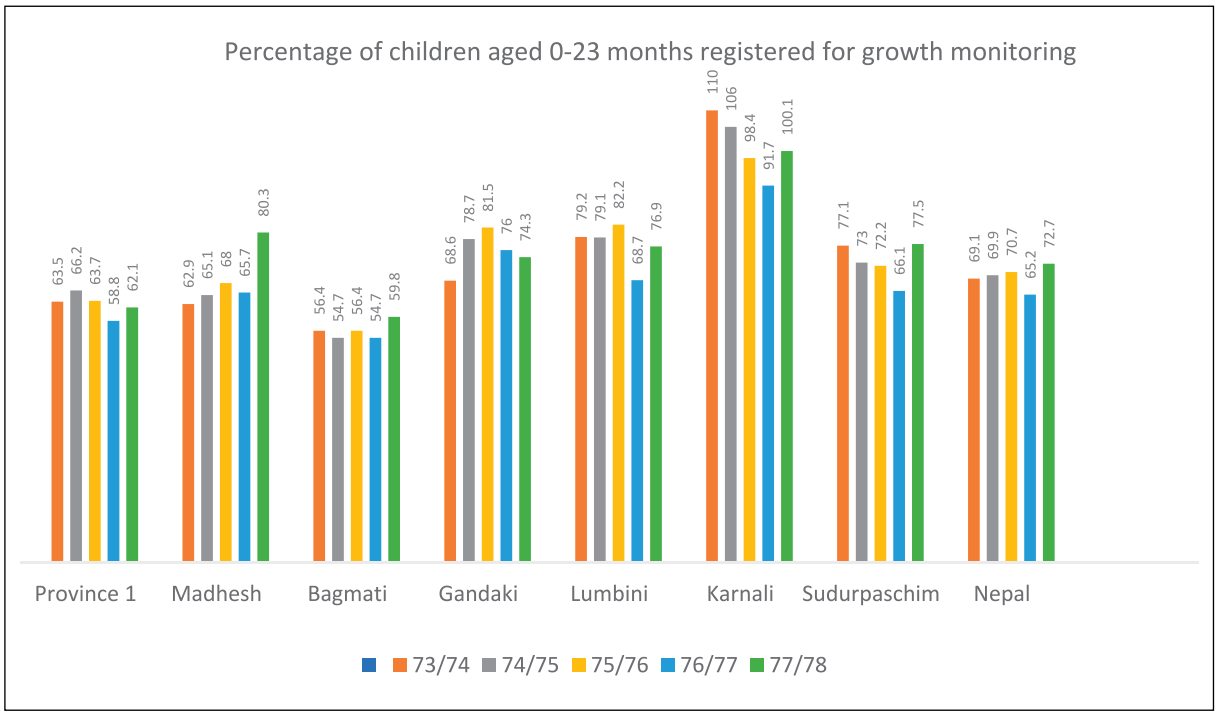
4.3.7 Major achievements

4.3.7.1 Growth monitoring and promotion

Monitoring the growth of children less than two years of age helps prevent and control protein-energy malnutrition and provides the opportunity for taking preventive and curative actions. Growth monitoring of children and counseling to improve their nutritional status is available at all health facilities across all local levels. Health workers monitor the growth of children once a month using the growth monitoring card that is based on the WHO growth standards.

A 5 year trend shows that the percentage of children registered for growth monitoring, nationally, remains in and around 70% (Figure 4.3.7.1.1). In this FY 2077/78, coverage increased to 72.7% from 65.2% in FY 2076/77. Karnali Province has consistently recorded the highest coverage and Bagmati Province has recorded the lowest coverage over the last 5 years.

Figure 4.3.7.1.1 Percentage of children aged 0-23 months registered for Growth Monitoring



Source: HMIS/DoHS

The average number of growth monitoring visits per child has remained around 3 visits for the last 5 years. There has been a slight increase from 3.1 in FY 2076/77 to 3.3 in this FY 2077/78 (Figure 4.3.7.1.2). In this FY 2077/78, Sudurpaschim Province had the highest number of average growth monitoring visits at 4.6 and Madhesh Province had the lowest at 2.2. These figures highlight the less than satisfactory coverage of and compliance for the Growth Monitoring and Promotion Program nationwide.

In FY 2077/78, out of the total number of children who were registered for growth monitoring, nationally, 3.4% were underweight (Figure 4.3.7.1.3). The 5 year trend shows that around 3-6% of children registered for growth monitoring are underweight. According to the compiled data, during this FY 2077/78, the highest proportion of underweight children were in Madhesh Province (6.5%) followed by Karnali Province (4.5%) while the lowest was in Gandaki Province (0.9 %).

The proportion of newborns with low birth weight, nationally, has reduced marginally from 12.8% in FY 2076/77 to 11.2% in this FY 2077/78 (Figure 4.3.7.1.4). The data shows that the percentage of newborns with low birth weight has remained stagnant around 11-12 % over the last 5 years. In this FY 2077/78, Province 1 shows the highest percentage of newborns with low birth weight at 13.7% and Karnali Province shows the lowest at 7%.

Figure 4.3.7.1.2 Average number of growth monitoring visits per child (0-23 months)

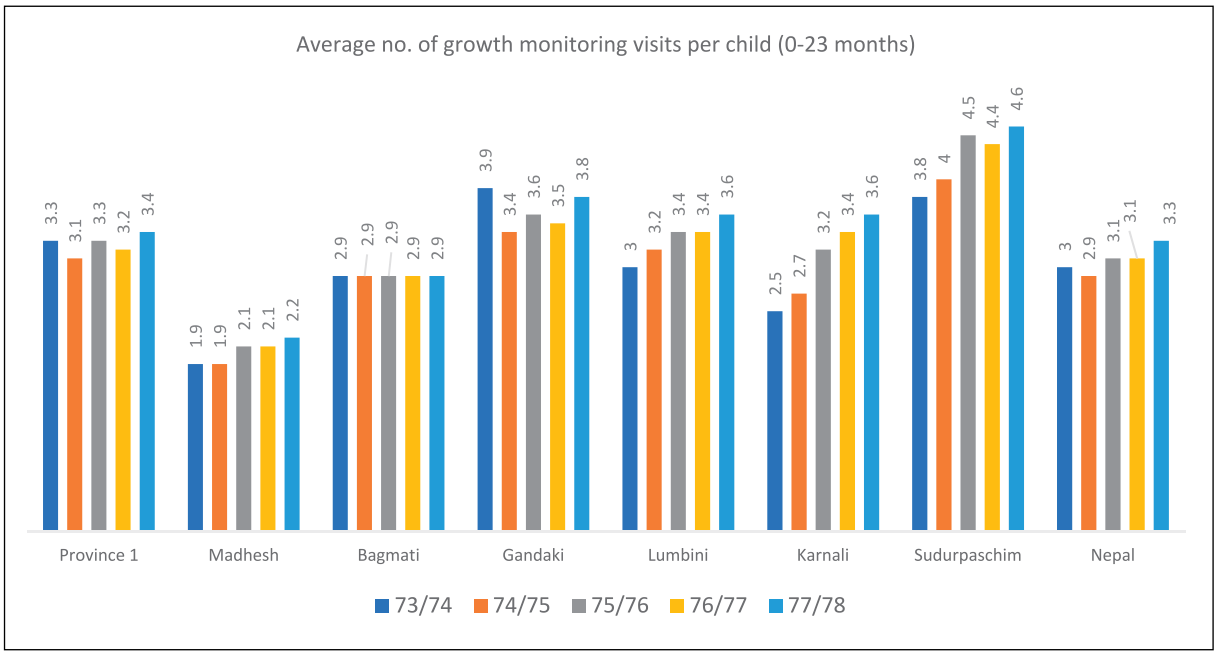
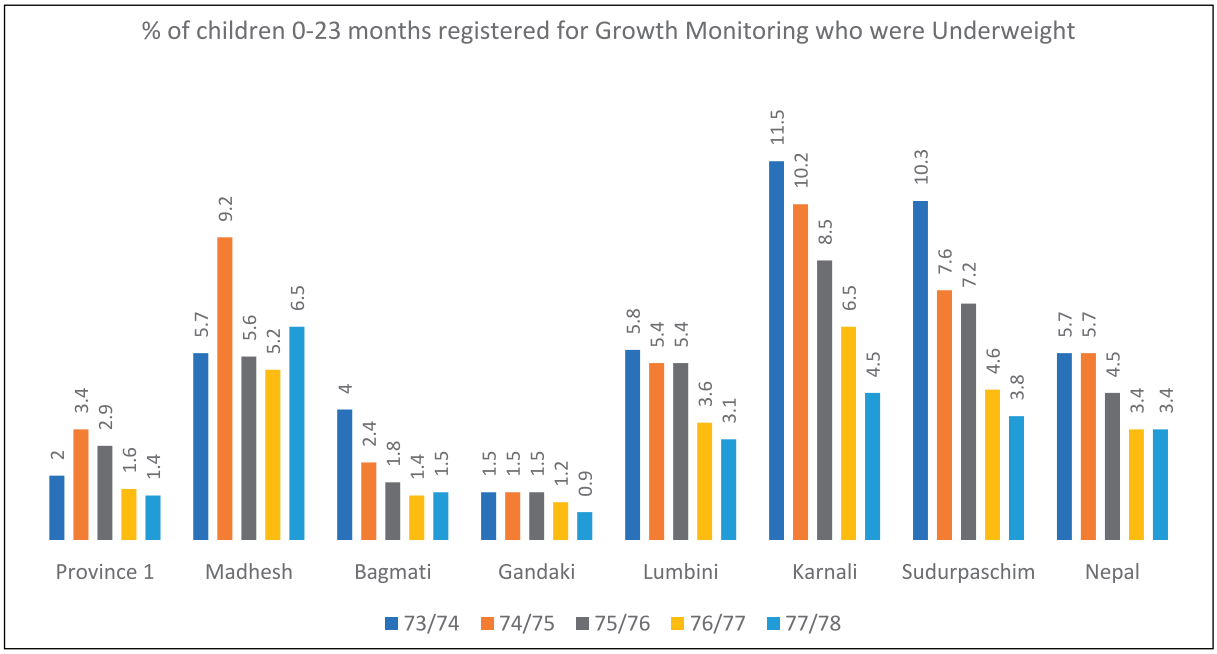
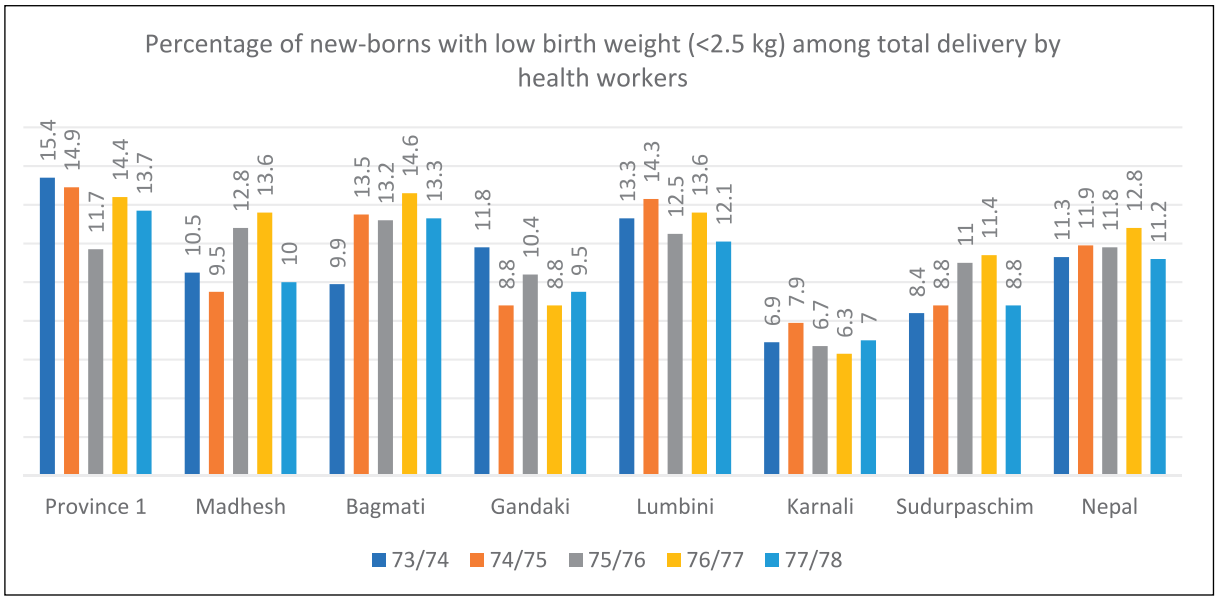


Figure 4.3.7.1.3 Percentage of children aged 0-23 months registered who were Underweight



Source: HMIS/DoHS

Figure 4.3.7.1.4 Percentage of newborns with LBW among total deliveries by health workers



Source: HMIS/DoHS

4.3.7.2 Infant and young child feeding (IYCF)

An appropriate feeding and care practice for infant and young children is essential to enhance child survival, growth and development. The infant and young child feeding (IYCF) practices include early initiation of breastfeeding within an hour of childbirth, exclusive breastfeeding for six months and providing nutritionally adequate and appropriate complementary feeding starting from six months with continued breastfeeding up to two years of age or beyond. Improving care practices related to IYCF is a priority strategy of the MoHP. The IYCF programme has been ongoing in all 77 districts from the FY 2072/73.

Nationally, the 5 year data trend shows an increase in exclusive breastfeeding among children aged 0-6 months from 25.1% in FY 2073/74 to 36.9% in this FY 2077/78 (Figure 4.3.7.2.1). The national average at 36.9% is much lower than the NDHS 2016 figure which is 66% and the recent MICS 2019 which shows 62.1%. The province wise breakdown for this FY 2077/78 shows that Karnali Province has the highest percentage of exclusively breastfed children aged 0-6 months at 62.1% and Madhesh Province has the lowest at 26%.

The percentage of children aged 6-8 months who received complementary food, nationally, has increased from 30.6% in FY 2073/74 to 35.7% in this FY 2077/78 (Figure 4.3.7.2.2) although it is much lower than the MICS 2019 figure of 86%.

Data for the provinces shows Karnali Province at 70.3% having the highest percentage of children aged 6-8 months who received complementary food and Province 1 at 22.1% with the lowest percentage. These statistics show the need to highlight the importance of timely introduction of complementary feeding and the consequent need to provide appropriate counselling to mothers and caregivers to improve their feeding practices.

Figure 4.3.7.2.1 Percentage of children (0-6 months) who were exclusively breastfed

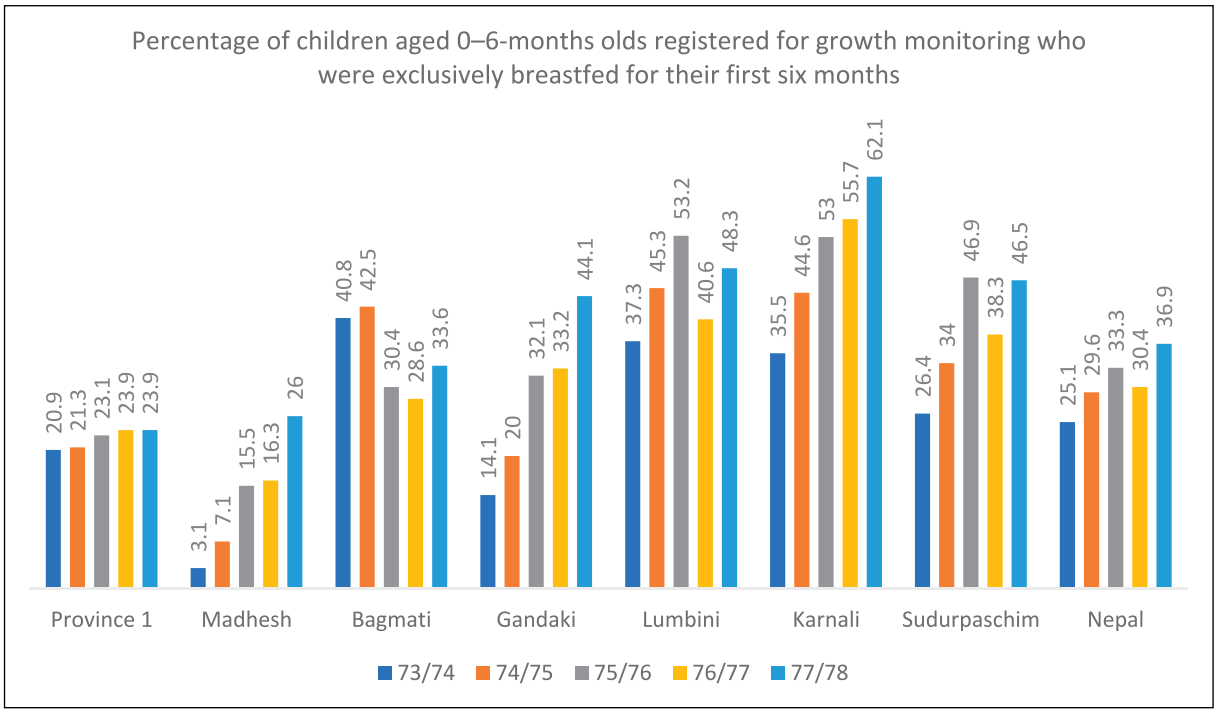
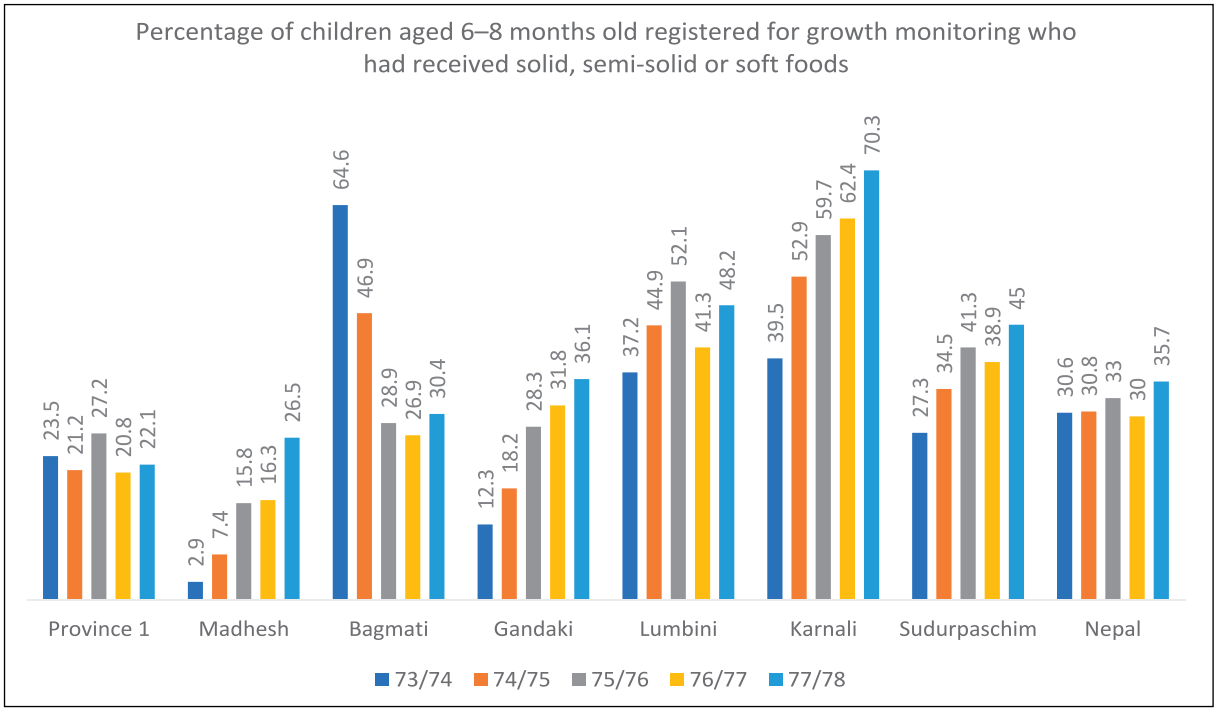


Figure 4.3.7.2.2 Percentage of children (6–8 months) who had received solid, semi-solid or soft foods



Source: HMIS/DoHS

4.3.7.3 Integrated management of acute malnutrition (IMAM)

The Integrated Management of Acute Malnutrition (IMAM) Program (previously known as Community based Management of Acute Malnutrition [CMAM] program) provides treatment for children aged 0-59 months with Severe Acute Malnutrition (SAM) through inpatient and outpatient treatment services at health facility and community levels. This program was piloted in 2009/10 in five districts, namely Achham, Kanchanpur, Mugu, Bardiya and Jajarkot. After the pilot evaluation in 2011/12, this programme was shifted from CMAM to IMAM program and gradually scaled up throughout the country covering many more districts. In the first phase, IMAM was scaled up to 11 districts in 2013, namely Achham, Kanchanpur, Bardiya, Jajarkot, Jumla, Mugu, Kapilvastu, Sarlahi, Dhanusa, Saptari and Okhaldhunga and in 2015, it was further scaled up to 14 earthquake affected districts: Bhaktapur, Dhading, Dolakha, Gorkha, Kathmandu, Kavre, Lalitpur, Makwanpur, Nuwakot, Okhaldhunga (repeated from scaled up district), Ramechhap, Rasuwa, Sindhuli and Sindhupalanchowk.

In 2016, to address the nutrition impacts of droughts, the program was further scaled up to 8 additional districts: Kalikot, Humla, Dolpa, Bajhang, Bajura, Baitadi, Dadeldhura and Parsa. In 2017, the program was scaled up in Doti, Rukum East and West, Nawalparasi East and West, Mahottari, Khotang and Panchthar districts. Due to the massive flood in the Terai in 2017, it was further scaled up to Jhapa, Morang, Sunsari, Siraha, Rautahat, Bara, Kailali, Dang and Banke districts. In the meantime, the program was also implemented in Myagdi, Sankhuwasabha, Rupandehi, Khotang, Udaypur and Chitwan. In Chitwan, the program was implemented in only a few places to address the issues of SAM children in the Chepang communities. The program has also been scaled up in Darchula. With the implementation of the Comprehensive Nutrition Specific Interventions (CNSI) training package the IMAM program will be scaled up to include many other districts. Along with MIYCN promotion and support, the IMAM program aims to integrate nutrition support across health, early childhood development, WASH and social protection sectors for the continued rehabilitation of cases and to widen the reach of malnutrition prevention programs and services. The program also acts as a bridge between emergency and development nutrition interventions.

In the IMAM districts, prevention and treatment of wasting is ongoing through 863 outpatient therapeutic centers (OTCs) located at local health facilities with community-based screening of 6-59 months children by female community health volunteers (FCHV) using color coded mid-upper arm circumference (MUAC) tape and referral of identified SAM children to the OTCs for treatment. Similarly, the MoHP has established 22 nutritional rehabilitation homes (NRHs) in different federal and provincial level hospitals for inpatient treatment of severe acute malnutrition as well.

Along with promotion and support of maternal infant and young child nutrition (MIYCN), the IMAM program aims to integrate across health, early childhood development, WASH, and social protection sectors for the continued rehabilitation of SAM cases and to widen the reach of malnutrition prevention programs and services.

In terms of progress for the treatment of severe acute malnutrition, Government of Nepal treated 8,964 children under five years with SAM in the 863 OTCs, inpatient therapeutic centers (ITCs) and 22 nutritional rehabilitation homes (NRHs) in this FY 2077/78 (i.e. from July 2020 to June 2021) altogether 8,964 under five children with SAM received treatment from the OTCs, ITCs and NRHs. The following table shows the treatment of SAM at NRHs, OTCs and ITCs.

Table 4.3.7.3.1 Children getting services through IMAM program in FY 2077/78

S. N	Place of treatment	# of children admitted	# of children Discharged	# of children recovered	# of children defaulted	# of children died
1.	Outpatient Therapeutic Centers (OTCs)	7,103	6,681	5,054	867	19
3.	In-patient Therapeutic Centers (ITCs)	274	239	168	11	0
4.	Nutrition Rehabilitation Homes (NRH)	1,587	1,537	1,348	78	1
Total		**8,964**	**8,457**	**6,570**	**956**	**20**
%				**77.68**	**11.30**	**0.23**

Source: HMIS and NRH data

Among the 8,694 children admitted, 77.68% recovered, less than 0.23% died and 11.30% were defaulters. The sphere standard for the IMAM program is a recovery rate >75%, defaulter rate <15% and death rate <10%.

4.3.7.4 Nutrition rehabilitation homes (NRH)

Nutrition Rehabilitation Homes (NRH) provide facility-based management of severe acute malnutrition integrated with hospital services. In Nepal, these NRHs are associated with primary, secondary and tertiary level hospitals. The first Nutrition Rehabilitation Home (NRH) was established in 1998 in Kathmandu with an aim to reduce child mortality caused by malnutrition through inpatient rehabilitation of severe acute malnutrition for children under-five years of age. Since then, NRHs have been scaled up in different places across Nepal. The NRH not only treats and manages severe acute malnutrition but also provides nutrition education and counselling to the guardians/parents for the management of moderate acute malnutrition as well as good nutrition and health care practices for their children. In the FY 2075/76, a total of 2,226 children under-five years with severe acute malnutrition (SAM) were admitted in 18 NRHs and among them 2,193 children were discharged on recovery. In the last FY 2076/77, a total of 1,671 children with severe acute malnutrition were admitted in 21 NRHs and among them 1,679 were discharged on recovery. The discharge rate was high because of additional children admitted over the last Fiscal Year. Along with the treatment of children, a total of 5,738 mothers who came to the NRH or hospital OPD were counseled. In this FY 2077/78, a total of 1,812 children were admitted across 22 NRHs and among them 1,548 were discharged during that period and counselling was provided to 12,726 caregivers. In the NRH, mothers are educated and counselled on the dietary management for young children and how to maintain the enhanced nutrition status of recovered SAM children at home. The following table shows the performance of Nutrition Rehabilitation Homes in Nepal during the FY 2077/78.

Table 4.3.7.4.1 Province wise status of nutrition rehabilitation homes (FY 2077/78)

Province	Total admission	Male	Female	Less than five years	More than or equal to five years	Total Discharge	Counselling to mother (in house and OPD)
Province 1	180	93	84	170	10	168	571
Madesh Province	398	227	171	394	4	368	2149
Bagmati Province	369	194	175	285	84	210	5940
Gandaki Province	186	97	89	171	15	170	485

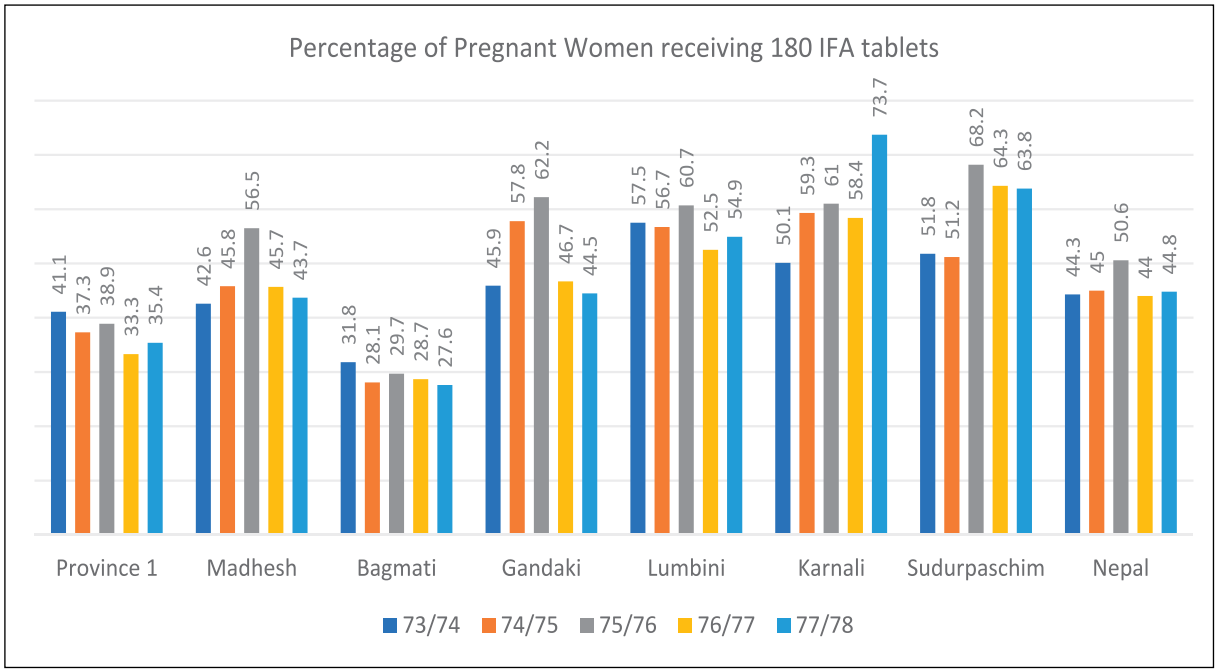
Province	Total admission	Male	Female	Less than five years	More than or equal to five years	Total Discharge	Counselling to mother (in house and OPD)
Lumbini province	187	86	110	153	5	173	817
Karnali Province	236	125	111	230	6	214	1403
Sudurpaschim Province	256	127	129	131	12	245	1361
Total	1812	949	869	1534	136	1548	12726

Source: NRH data 2078

4.3.7.5 Prevention and control of iron deficiency anaemia (IDA)

The MoHP has been providing iron folic acid (IFA) supplements to pregnant and post-partum women since 1998 to reduce maternal anaemia. The protocol is to provide 60 mg elemental iron and 400 microgram folic acid to pregnant women for 225 days from their second trimester. To improve access and utilization of IFA supplements, the Intensification of Maternal and Neonatal Micronutrient Program (IMNMP) started IFA supplementation through Female Community Health Volunteers (FCHVs) in 2003. This program covered all 75 districts in 2014 and at present covers all 77 districts. The intensification program improved coverage, although compliance with taking 180 tablets during pregnancy and 45 tablets post-partum remains an issue.

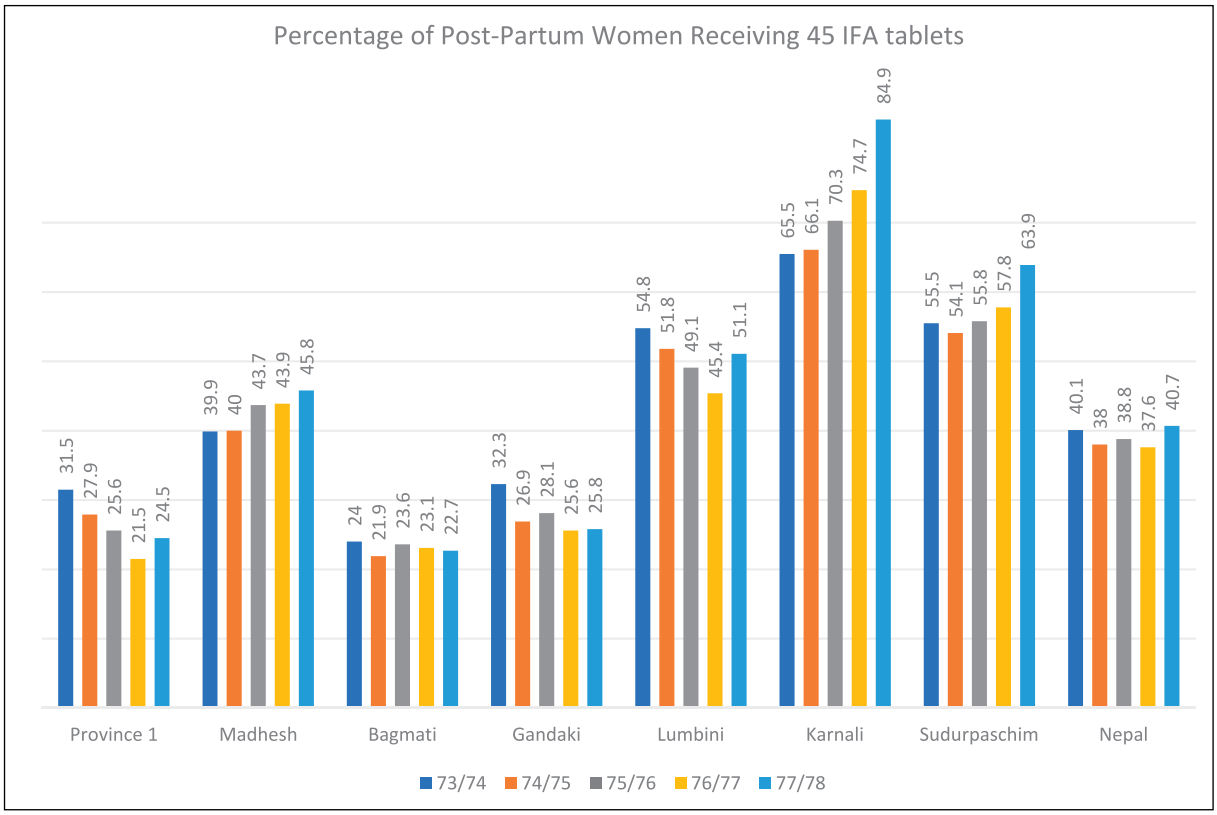
Figure 4.3.7.5.1 Percentage of pregnant women receiving 180 IFA tablets



Source: HMIS/DoHS

In this FY 2077/78, 44.8% of pregnant women received 180 IFA tablets which is similar to 44% in last FY 2076/77 (Figure 4.3.7.5.1). The 5-year data trend also shows the percentage to be around 45%. When disaggregated by province, the highest coverage is in Karnali Province at 73.7% and the lowest in Bagmati Province at 27.6%. Over the last 5 years, the percentage of post-partum women receiving 45 IFA tablets has varied between 37-40%, nationally (Figure 4.3.7.5.2). We can see a small improvement this FY 2077/78, 40.7% post-partum women received 45 IFA tablets as compared to the last FY 2076/77 where 37.6% post-partum women received 45 IFA tablets. Province wise data shows the highest percentage in Karnali Province at 84.9% and the lowest in Bagmati Province at 22.7%.

Figure 4.3.7.5.2 Percentage of post-partum women receiving 45 IFA tablets



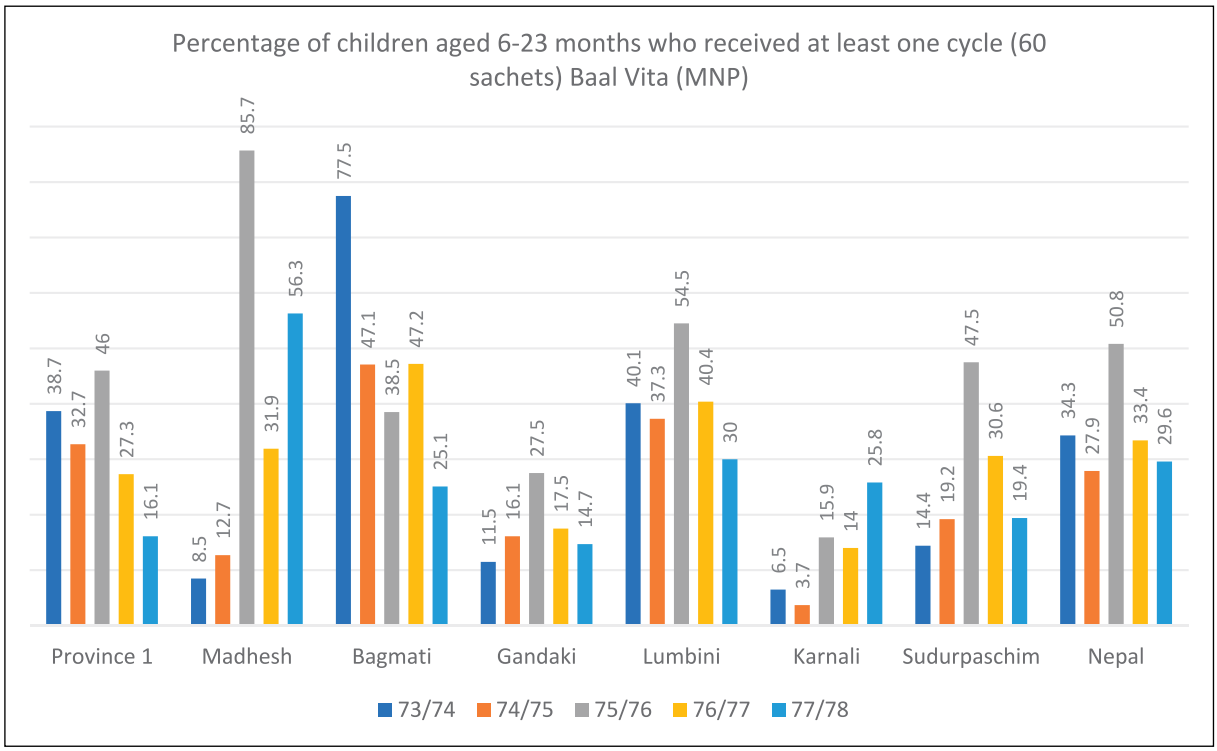
Source: HMIS/DoHS

4.3.7.6 Integrated Infant and Young Child Feeding and Micro-Nutrient Powder (Balvita) Community Promotion Programme

The NDHS 2006 found that 48% of 6-59 months children were anaemic; it was assumed that this is mostly due to poor IYCF practices. Meanwhile, Government endorsed a Plan of Action involving supplementation with micro-nutrient sprinkles as the key intervention to address anaemia in young children and integrating it with IYCF practices. In 2007, the National Nutrition Priority Workshop endorsed a strategy to pilot multiple micro-nutrient sprinkles supplementation as a preventive measure against different micro-nutrient deficiency disorders among children aged 6-23 months old. In June 2009, MoHP piloted the home fortification of complementary food with MNPs for children aged 6-23 months in six districts, namely Gorkha, Rasuwa, Makwanpur, Parsa, Sunsari and Morang and integrated it with the Community IYCF Program. The successful pilot program led to the MoHP expanding MNP program, integrated with IYCF, in 47 districts and through Comprehensive Nutrition Specific Intervention (CNSI) scaling up the program.

MNP supplementation is linked with improving complementary feeding practices. Mothers and caregivers are counselled to introduce complementary foods at six months of age focusing on age-appropriate feeding frequency, improving dietary quality of complementary foods by making them nutrient and calorie dense, as well as hand washing with soap before handling food and feeding the child. Mothers and caregivers are trained to prepare “poshilo jaulo” (pulses, rice and green vegetables cooked in oil) and ‘lito’ (mixture of blended and roasted cereal and legume flours). A feasibility study of the program in 2009 found strong community acceptance with very high coverage and compliance on the use of MNP in the pilot districts. Integrating MNP supplementation has contributed to a significant improvement in IYCF practices. The prevalence of anemia among children age 6-23 months has decreased to 68% (NDHS 2016) from 78% (NDHS 2011). However, there is still a need for continuous effort as the coverage of the program is not very promising.

Figure 4.3.7.6.1 Percentage of children who received at least 1 cycle (60 sachets) of MNP



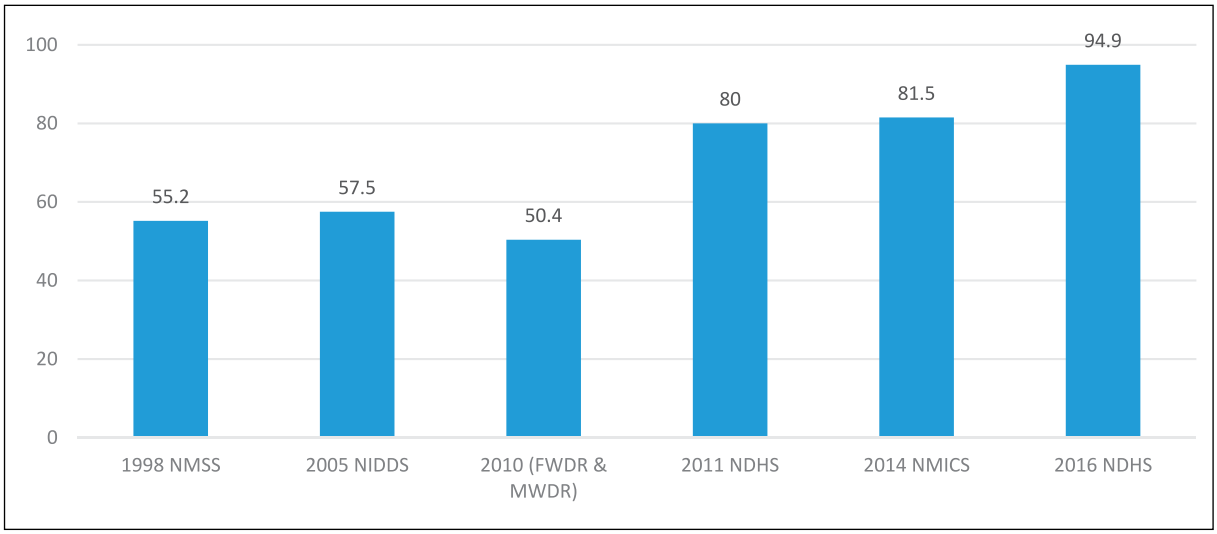
Source: HMIS/DoHS

The 5-year data trend shows that the percentage of children who received at least one cycle of MNP is at its lowest this FY 2077/78 at 29.6%. It was at 34.3% in FY 2073/74 and at its highest during FY 2075/76 it was at 50.8%. Province wise data for this FY 2077/78 shows the highest coverage in Madhesh Province at 56.3% and the lowest in Gandaki Province at 14.7%. District wise data provided in the table below also reflect the poor coverage and compliance of MNP among the target population. Nationally, the percentage of children who received 3 cycles of MNP is 4.7%. These figures reflect the poor coverage and even more problematic compliance of the Micro-Nutrient Powder Community Promotion Programme. It is important to mention that the coverage of first cycle intake is calculated based on the target population of 6-23 months, while that of third cycle is calculated among the children aged 6-23 months who have ever taken MNP. Overall, effective nutrition education, counselling, follow up and supply to the mothers/caretakers is essential to improve coverage as well as compliance for the intake of the recommended doses of MNP.

4.3.7.7 Prevention and control of iodine deficiency disorder (IDD)

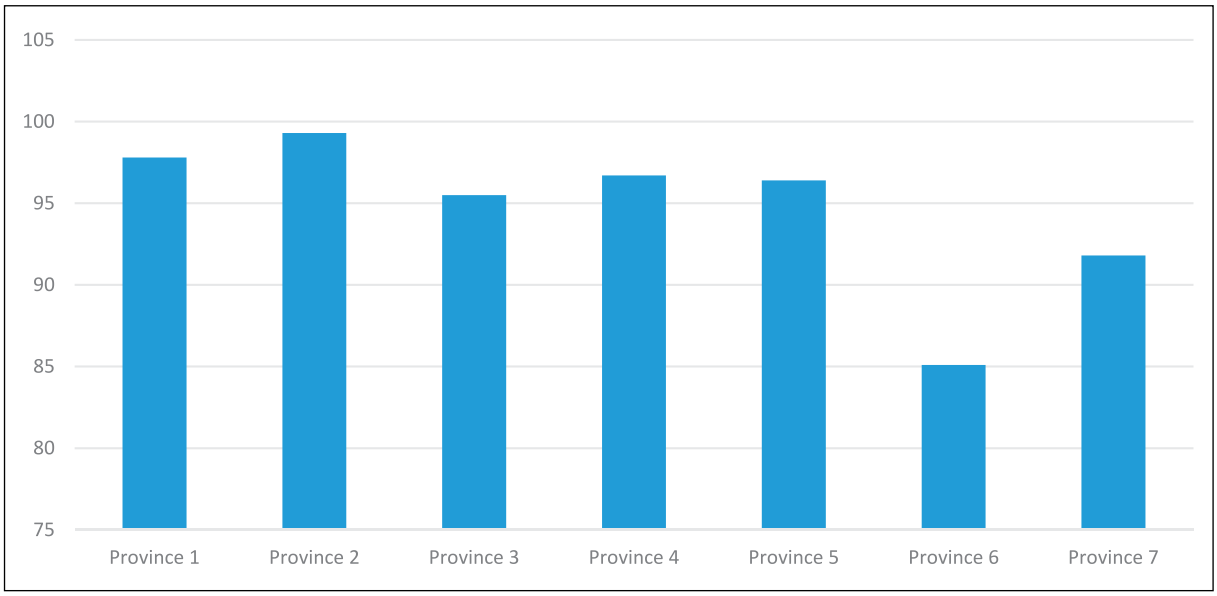
MoHP adopted a policy to fortify all edible salt in 1973 to address iodine deficiency disorders (IDD) through universal salt iodization. The Salt Trading Corporation is responsible for the iodine fortification of all edible salt and its distribution, while the Ministry of Health and Population (MoHP) is responsible for policy drive and promotion of iodized salt. As per the policy, Government of Nepal uses the Two-Child-Logo to certify adequately iodized salt and the DoHS has been mobilizing the system for social marketing to improve awareness and increase its use at the household level. Various National survey reports show an increase in the number of households using adequately iodized salt from 55% in 1998 to 95% in 2016.

Figure 4.3.7.7.1 Percentage of households using iodized salt



There are disparities in the use of iodized salt. The NDHS 2016 found that the Madhesh Province has the highest coverage (99.3%), while Lumbini province had the lowest (85.1%). It seems there is a need to focus on the low coverage provinces to increase household utilization of adequately iodized salt to greater than 90%. To promote utilization of adequately iodized salt at the household level, MoHP celebrated Iodine month in February in all 77 districts. The celebration of the Iodine months helped raise awareness on the use of two-child-logo salt for optimum iodine intake to combat iodine deficiency disorders.

Figure 4.3.7.7.2 Percentage of households using adequately iodized salt



4.3.7.8 Control of vitamin A deficiency disorders (VAD)

The government initiated the National Vitamin A Program in 1993 for the prevention and control of Vitamin A deficiency among children aged 6-59 months and to reduce child mortality associated with Vitamin A deficiency disorders. Vitamin A supplementation in Nepal has been ongoing as a bi-annual supplementation campaign targeting all children aged 6-59 months and the coverage has remained above 80 percent over the last 5 years. Therefore, this program is recognized as a global public health success story. The program initially covered 8 districts and was scaled up nationwide by 2002. FCHVs distribute Vitamin A capsules to

the targeted children twice a year during a campaign usually conducted in Kartik (October) and Baisakh (April). Total coverage of Vitamin A capsule distribution in FY 2077/78 was 90.6%.

4.3.7.9 Biannual Deworming Tablet Distribution to the Children aged 12-59 months

The Family Welfare Division implements a biannual distribution of deworming tablets to children aged 12-59 months aiming to reduce childhood anaemia through the control of parasitic infestation. This activity is integrated with the biannual Vitamin A supplementation to the children aged 6-59 months, which takes place nationally in every ward during the first week of Baisakh and Kartik each year. Deworming for the target children was initiated in few districts during the year 2000 integrated with the biannual Vitamin A supplementation campaign and with gradual scaling-up, the program was successfully implemented nationwide by the year 2010. The national coverage of deworming tablet distribution during this FY 2077/78 was 85% which is on an increasing trend over the last two fiscal years.

4.3.7.10 School Health and Nutrition Program

The Ministry of Health and Population (MoHP) and the Ministry of Education (MoE) jointly developed "The School Health and Nutrition Strategy (SHNS)" in 2006 by to address the high burden of diseases in school age children. In 2008, a five-year Joint Action Plan (JAP) was endorsed to implement the School Health and Nutrition (SHN) Program. The improved use of school-based health and nutrition services, improved access to safe drinking water and sanitation, skill-based health education, community support and an improved policy environment are the core elements of the School Health and Nutrition Programme.

During 2008-2012, the government had implemented a pilot SHN program in primary schools, based on the Joint Action Plan, in Sindhupalchowk and Syangja districts. This pilot program showed some promising results and scaled up gradually. With gradual scaling-up, the program now covers all 77 districts since the FY 2073/74. The current Joint Action Plan (2071/72 to 2075/76) calls for:

- Annual health screening
- Biannual deworming of Grade 1–10 school children
- A first aid kit box with refilling mechanism in all primary schools
- Hand washing facilities with soap in all schools
- Toilets in all schools
- The use of the new attendance registers in all schools
- Orient school management committees on facilitating health and nutrition activities
- Child club mobilization on health and nutrition issues

One of the major activities under SHN Program is the biannual school deworming for all School-aged-children (SAC) which is conducted during the first week of Jestha and Mangsir every year. Until FY 2072/73, progress in this regard had not been reported in the annual report due to the very poor reporting system. The indicators and reporting mechanism are not included in HMIS system for all components of the SHN Program.

4.3.7.11 Adolescent Girls Iron Folic Acid Supplementation

The SHN Program, since FY 2072/73, initiated weekly Iron Folic Acid (IFA) supplementation for adolescent girls aged 10-19 years. This was aimed to prevent and control the high burden of Iron Deficiency Anaemia among this particular subgroup of the population. This activity was piloted in Kathmandu, Dolakha, Khotang, Panchthar, Bhojpur, Saptari, Pyuthan and Kapilvastu in the FY 2072/73.

In the FY 2073/74, the program was scaled up to 17 districts. The Family Welfare Division of the DoHS/MoHP has completed training for the concerned officials from all these districts. However, the program was not implemented in few districts due to various reasons.

In the FY 2074/75, the program was further scaled up in an additional 24 districts namely; Jajarkot, Rukum East, Rukum West, Dailekh, Bardiya, Nawalparasi East, Nawalparasi West, Baitadi, Achham, Dadeldhura, Rolpa, Dang, Kanchanpur, Dhanusha, Sarlahi, Rautahat, Parsa, Udaypur, Kalikot, Dolpa, Jumla, Mugu and Humla. By FY 2076/77, Family Welfare Division has been scaled up the School Health and Nutrition Program to all the 77 districts.

This program ensures all adolescent girls aged 10-19 years are provided with weekly Iron Folic Acid tablets on a biannual basis in Shrawan (Shrawan-Asoj) and Magh (Magh-Chaitra). In each round, they are provided with one IFA tablet every week for 13 weeks. So, each adolescent girl gets a total of 26 IFA tablets in a year. The indicators and reporting mechanism for adolescent IFA is not yet included in the HMIS system but will be done in the near future.

4.3.7.12 Mother and Child Health and Nutrition (MCHN) Program

The Mother and Child Health and Nutrition Program has been implemented as a preventive approach in 6 food insecure districts, namely Humla, Jumla, Dolpa, Mugu, Kalikot and Solukhumbu. For Karnali Province, the Government purchases, supplies and delivers nutritious flour namely “Super Cereal” to the Logistics Hubs and the UNWFP ensures delivery, transportation and distribution of food up to Final Delivery Points (FDPs) and food distribution at the Government health facilities. Super Cereal is intended for Pregnant and Lactating Women (PLW) and children aged 6 to 23 months within each of the programme wards. In addition to contributing to 1,000 days as the window of opportunity and Multi-sectoral Nutrition Plan (MSNP II), the MCHN programme has been integrated within the ongoing health and nutrition programmes at operational level.

During the FY 2077/78, the fortified super cereal was distributed to 58,733 pregnant and lactating mothers. Likewise, a total of 93,688 children aged 6-23 months received fortified super cereal and directly benefited from the program. Altogether 575 Metric Tons of super cereal was distributed in Karnali Province. This program was integrated with SBCC and regular health and nutrition programs.

4.3.7.13 Nutrition in emergencies (NiE)

In addition to the regular programs, Family Welfare Division also provides essential and high-quality nutrition services during emergencies. The Nutrition cluster in Nepal is led by the Nutrition Section, Family Welfare Division of the Ministry of Health and Population and co-led by UNICEF. With the guidance of the national nutrition cluster, provincial nutrition clusters have been formed, capacitated and activated in all 7 provinces led by the concerned Provincial Health Service Directorates (PHSD). There is an ongoing active mobilization for the management of Nutrition in emergency preparedness and response in the COVID-19 context. NiE interventions focuses on pregnant and lactating women (PLWs) and children under-five years of age as they are nutritionally the most vulnerable during any type of emergency. Under NiE, the following five pillars of interventions are implemented in the affected areas of the country:

- Promotion, protection and support to breast feeding of infants and young children aged 0-23 months.
- Promotion of proper complementary feeding for infants and young children aged 6-23 months.
- Management of moderate acute malnutrition (MAM) among the children aged 6-59 months and among PLWs through targeted supplementary feeding program (TSFP).
- Management of severe acute malnutrition among the children aged 6-59 months through therapeutic feeding.

- Intensification of Micro-nutrient supplementation for children and women including MNP and Vitamin A for children aged 6-59 months, IFA for pregnant and postnatal women.

In FY 2077/78, the following preparedness and response actions were implemented:

- Comprehensive nutrition specific interventions (CNSI) training has been ongoing throughout the country and CNSI has a detailed section regarding NiE which is a strong part of capacity building actions.
- Formed, capacitated and activated nutrition clusters in all 7 provinces.
- Prepared/revised three nutrition in emergencies preparedness and response plans to address nutrition issues in the COVID-19 context, monsoon, earthquake and cold wave situation.
- Ongoing implementation of nutrition emergency preparedness and response plan in all 7 provinces to address nutrition issues in COVID-19 context and monsoon flood/landslides.
- Prepositioned essential nutrition commodities in 8 strategic locations: Central Medical Store Pathalaiya, Bara and Provincial Health Logistic Management Centers of all 7 provinces.

In the COVID-19 context, nutrition cluster mobilized all cluster partners, health workers and FCHVs throughout the country. In this context, the following are the outcomes of the activities implemented by the Nutrition cluster in FY 2077/78:

- Provided super cereal to children aged 6-23 months and pregnant and lactating women for the prevention of malnutrition (through BSFP).
- Provided relief package of nutritious foods to vulnerable households.
- Reached almost all households nationwide with radio messages on nutrition and COVID-19 through 210 FM radio services.
- Reached more than 1.5 million households with IYCF messages through SMS services.
- Reached more than 1 million pregnant & lactating women with IYCF and maternal nutrition messages through SMS services.

4.3.8 Issues, challenges, lessons learned and way forward

The slow rate of progress in the nutrition situation of the country is a matter of concern. Reductions in the annual rates of stunting seem insufficient to achieve the World Health Assembly (WHA) and SDG targets and these trends apply equally to children across all ecological regions, ethnicity and socio-economic status. Levels of wasting remained stagnant over decades among children under five years of age (MICS 2019 and NDHS 2016) and an increasing prevalence of anaemia has been observed among children under-five years of age, adolescents and women of reproductive age (NDHS 2016) along with a high prevalence of low birth weight. Disparities have been observed in the nutrition status and behaviors among children and WRA belonging to the lower socioeconomic strata including marginalized and disadvantaged group (NDHS 2016 and MICS 2019).

4.3.8.1 Issues and challenges

The major challenges for nutrition specific programs are as follows:

- Limited allocation of financial resources and inefficient utilization.
- Inadequate human resources and institutional capacity for the coordination and management of nutrition programs at all levels including the various sections and divisions of the MoHP and DoHS.
- Deep-rooted misconceptions, taboos and harmful socio-cultural practices related to food and nutrition.
- Decreasing trends of exclusive breastfeeding and increasing trends of bottle feeding.
- Inadequate improvement in frequency and diversity of diets.

- Emerging issues of the triple burden of malnutrition (undernutrition, overweight/obesity, and micronutrient deficiencies)
- Inadequate laboratory capacity for advanced nutritional status analysis (e.g. serum micronutrient levels, ferritin, RBC folate, CRP, retinol, retinol binding protein, B12, lipid profile, immunological parameters) to assess general nutritional status and to identify specific nutritional deficiency disorders.
- Nutrition and Food Security Steering Committees (NFSCC) at different levels, MoHP platforms/ committees and Health Facility Operations and Management Committees (HFOMC) have been established to discuss the nutrition agenda and its relation to other components of health systems but are not functioning effectively.
- Poor coverage, compliance and quality of nutrition specific interventions (GMP, IMAM, MNP, Adolescent IFA) and CB-IMNCI which has a strong nutrition component.
- Recording and reporting of nutrition program indicators within HMIS is inconsistent, incomplete, untimely, and unreliable for data centric planning.
- Procurement and supply of nutrition commodities (RUTF, MNP, and IFA) is not timely. The transportation and storage of nutrition commodities at local levels is not satisfactory.
- Poor coordination among different sectors for nutrition programming like the Adolescent Nutrition Program.
- Some indicators profile in HMIS is very heavy in terms of data collection and analysis. Those indicators that are qualitative require a separate mechanism for data collection and analysis.

4.3.8.2 Lesson learned

- Implementation of MBFHI program in hospitals helps to promote, protect and support breastfeeding.
- Establishment of breastfeeding rooms/corners to promote, support and protect breastfeeding has helped to develop awareness on the importance of breastfeeding among the general public, office workers and program managers.
- Initiation of nutrition friendly local government mechanisms that aim to develop commitments from local governments to eliminate adolescent, maternal and child malnutrition in Nepal within the timeframe set by the SDGs.
- Formulation of different national nutrition program guidelines and protocols helps in the efficient implementation of programs at the local level.
- Considering the multisectoral nature of determinants of malnutrition, integrated nutrition programming and coordination with other non-health sectors is a key to reduce the prevalence of malnutrition.
- Family focused SBCC and interpersonal counseling are vital to change the social behavior and to promote proper nutrition behaviors.
- Multiple nutrition service delivery platforms and entry points are a key to delivering at-scale programs with necessary reach.

4.3.8.3 Way Forward: Key Priorities for Next Fiscal Year 2078/79

Effective implementation of the National Nutrition Strategy 2077 and the Five-Year Plan of Action on Nutrition (2077/78-2081/82) should be a top priority for this decade. The priority nutrition specific interventions to be implemented by the health sector are as follows:

- Scaling up of comprehensive nutrition services at all levels ensuring equitable access and provision of nutrition services for all children, adolescents and women of reproductive age.

- Strengthen the approaches for the prevention and management of acute malnutrition.
- Advocacy to include RUTF, ReSoMal and Therapeutic Milk (F75, F100) into the national essential drug list.
- Promote, protect and support breast feeding practices through harmonization of legislative provisions and its effective implementation, including the approval and implementation of the BMS act, establishment of breastfeeding corners in workplaces and public spaces and advocacy for paid maternity leave during the exclusive breastfeeding period.
- Improve multisectoral coordination and collaboration and incorporation of the private sector in the provision of nutrition services.
- In depth analysis into the program modalities and effectiveness of micro-nutrient interventions, including operational research on transitioning from IFA supplementation to Multiple Micronutrient supplementation in pregnancy, and the adoption of efficient and sustainable approaches to improve dietary quality such as large-scale food fortification.
- Strengthen the capacity of institutions and human resources to deliver quality services and strengthen nutrition information management systems to ensure quality data generation through timely and correct recording and reporting along with the implementation of Routine Data Quality Assessment (RDQA) at all levels.
- Strengthen logistics management of nutrition commodities to ensure a well-functioning supply chain.
- Intensify Social Behavior Change Communication to promote recommended nutrition behaviors.
- Scaling up of nutrition friendly health facility concept to all health facilities.
- Strengthen and scale up of the Mother and Baby Friendly Hospital Initiatives (MBFHI) to all applicable hospitals and health facilities.
- Strengthen the School Health and Nutrition Program.
- Improve maternal nutrition through effective counselling during ANC visits, micronutrient supplementation and follow up visits by FCHV through health mothers groups and home visits.
- Strengthen the nutrition in emergency preparedness, response and recovery mechanism.
- Integrate nutrition in universal health coverage.
- Promote the consumption of locally available nutrient dense foods.
- Implement Quality Improvement Guideline for Nutrition Services to improve the quality of the nutrition program.
- Promote sustainable food system integration with infant and young child feeding, adolescent and maternal nutrition to make nutritious diets more accessible and affordable.
- Advocate for adequate budget allocation for the nutrition program at all levels along with budget analysis and tracking.
- Engage the private sector to ensure that food systems in Nepal provide a diversified diet to all children under-5 years of age and ensure that it complies with the Dietary Guidelines.

4.4 SAFE MOTHERHOOD AND NEW-BORN HEALTH

4.4.1 Background

Nepal has enshrined the right to safe motherhood and reproductive health services in the constitution of Nepal, 2015. The Right to safe motherhood and reproductive health act 2018 and its regulation, 2020 has also considered maternal, reproductive health and newborn health services as fundamental rights of the people. Moreover, Public Health Service Act 2018 and its regulation 2020 has considered safe motherhood and new-born health service as basic health services. Nepal is a signatory to Sustainable Development Goal and has committed to one of the important targets to reduce the Maternal Mortality Ratio to less than 70 per 100,000 live births and reduce New-born Mortality Rate to less than 12 per 1000 live births by 2030. In this regard, Nepal has adopted different policies, strategies, program and has developed many guidelines to ensure that quality services are accessible, affordable and available to all people especially targeting the unreached population.

In 1998, the Government's Safe Motherhood Policy adopted two key strategies to improve maternal health: ensuring that a selected health facilities have emergency obstetric care services that are available 24 hours a day and the presence of health personnel with midwifery skills who can competently provide safe and effective delivery care.

In 2001, only 9 percent of Nepali women gave birth in a health institution and two in three women considered getting money for treatment to be a deterrent in accessing health care.[1] There were huge differences in access to health facilities across Nepal's geographic terrain with only 41 percent of rural households living within 30 minutes travel time from a health institution, compared to 89 percent of urban households and differences in wealth, with only 29 percent of the poorest quintile living within 30 minutes of a health institution compared to 57 percent of the rich.[2] Given this situation, encouraging women to give birth at a health institution was considered by the Nepal Government an important part of the strategy to improve maternal health.

Family Welfare division (FWD) developed Safe Motherhood and New-born Health Roadmap, 2030 which aims to ensure a healthy life for and the well-being of, all mothers and newborns. The roadmap has visualized the outcomes mentioned below to achieve the goals of the roadmap:

1. Increased the availability of high-quality maternal and new-born health services leaving no one behind.
2. Increased the demand for and utilization of equitable maternal and new-born health services.
3. Improved governance and ensured accountability of maternal and new-born health services.
4. Improved monitoring and evaluation of maternal and new-born health services.
5. Strengthened emergency preparedness of maternal and new-born health services.

Safe Motherhood and Newborn Health program aims to address three evidence-based delays that are responsible for maternal and new-born morbidity and mortality in Nepal which are:

I. Delays in seeking care,
II. Delay in reaching care
III. Delay in receiving care

1 Ministry of Health, New ERA, and ORC Macro. (2002) Nepal Demographic and Health Survey.

2 Central Bureau of Statistics and World Bank (1996) Nepal Living Standards Survey Report.

4.4.2 Major activities in fiscal year 2077/78

4.4.2.1 SMNH Roadmap 2030 provincial planning

In line with the spirit of federalism and to promote the development of context specific plans with need-based prioritisation, Family Welfare Division had planned for provincial orientation on the SMNH roadmap in all 7 provinces and development of province specific action plans for implementation. In FY 2077/78, FWD has completed the orientation in Province 1, Bagmati province, Gandaki, and Karnali province. All oriented provinces have developed their own action plan for their implementation in the process.

4.4.2.2 Community level maternal and newborn health interventions

Family Welfare Division (FWD) has continued to expand and maintain MNH activities at community level. A pictorial card (revised BPP card) is now attached to MNH card of HMIS for ensuring the availability and use of BPP messages by all pregnant women during their antenatal visit. FWD has provided approved MNH Card to provinces for printing in FY 2077/78 who were interested to print (province 1 and 5).

In 2066/67, the government approved PPH education and the distribution of the *Matri Suraksha Chakki (MSC) tablets* through FCHVs to prevent PPH during home deliveries. For home deliveries, three Misoprostol tablets (600 mcg) are handed over to pregnant women by FCHV at 8th month of pregnancy and are advised to be taken orally immediately after the delivery of baby and before the expulsion of placenta. Fifty districts were implementing the programme till the FY 2075/76. Further eight districts, Gorkha, Dolakha, Solukhumbu, Parsa, Panchthar, Gulmi, Lamjung and Mustang, started implementing the program in the fiscal year 2076/77.

By the end of FY 2077/78, total 58 districts continue implementation of the programme. NDHS (2016) shows that only 13 percent of women who gave childbirth without skilled assistance took MSC tablets, these calls for strengthening the existing programme, as women who delivered at home are likely to be at higher risk. As the programme is not yet implemented nationwide, monitoring is not yet integrated in HMIS.

Other health promotion activities being conducted through the FCHV programme at national scale includes:

- birth preparedness and complication readiness (preparedness for money, place for delivery, transport and blood donors);
- self-care (food, rest, no smoking and no alcohol) in pregnancy and postpartum periods;
- promotion of antenatal care (ANC), institutional delivery and postnatal care (PNC) (iron, tetanus toxoid and Diphtheria, Albendazole, Vitamin A);
- essential newborn care; and
- Identification of and timely care seeking for danger signs in the pregnancy, delivery, postpartum and newborn periods.

4.4.2.3 SMNH Programme during COVID 19 Pandemic situation

i. Management of PPH Prevention Orientation programme

During COVID 19 Pandemic situation, FWD focused on maternal death follow-up monitoring and found the major causes of maternal deaths was Postpartum Haemorrhage (PPH). FWD planned and provided immediate response for implementation with support of partners. As a result of Partners' meeting, FWD provided PPH orientation to service providers in 22 hospitals in Lumbini Province and Karnali Province Total 312 participants doctors and nurses received virtual orientation on PPH (estimation of blood loss,

prevention of PPH (AMTSL) and management and treatment of PPH (Uterotonic drugs, management of trauma, retained placenta/tissue, Condom Balloon Tamponade, Bimanual uterine compression, and Peripartum Hysterectomy).

ii. RMNCAH Interim Guideline Orientation Programme

As a response of COVID 19 Pandemic situation, FWD led the development of RMNCAH interim guideline development and orientation to health workers to ensure continuation of SMNH and RH services during the national crisis situation. More than 14,500 Health workers working at the community level including hospitals received virtual and face to face orientation about interim guideline with support of various partners (NHSSP, OHW, UNFPA, SSBH, UNICEF, Care, Ipas, Su-aahara).

iii. Virtual SBA clinical mentors' refresher

Due to the inability to deliver in-person capacity building, FWD adopted a virtual methodology to continue delivering the capacity building initiatives and a total of 182 SBA clinical Mentors from all 7 provinces were involved and received Virtual SBA clinical mentors' refresher.

4.4.2.4 Rural Ultrasound Programme

The Rural Ultrasound Programme aims for the timely identification of pregnant women with risks of obstetric complication to refer to comprehensive emergency obstetric and neonatal care (CEONC) centres. Trained nurses (SBA) scan clients at rural PHCCs and health posts using portable ultrasound. Women with detected abnormalities such as abnormal lies and presentation of the foetus and placenta previa are referred to a CEONC site for the needed services. This programme is being implemented in the remote districts. In FY 2077/78, FWD allocated programme implementation budget in 248 local levels of 30 remote districts. The total programme implementation districts are 11 except the Terai districts (Jhapa, Morang and Sunsari) in Province 1, 2 districts (Myagdi and Baglung) in Gandaki, East Rukum in Lumbini, 9 districts except Surkhet in Karnali and 7 districts except Kailali and Kanchanpur in Sudurpaschim Province.

4.4.2.5 Human resources

Continuous budget allocation as previous year, in FY 2077/78, a significant share of FWD's budget goes for recruiting human resource (Staff nurses for hospitals and ANMs for PHCC and health posts for birthing centres) on short term contracts to ensure 24-hour MNH services. Out of 753 Palikas 714 received budget (473,270,000 NPR) for recruiting ANM staffs, total 38 hospitals received budget (17,967,000 NPR) for recruiting Staff Nurses. In addition of this, FWD also provided CEONC funds (75,500,000 NPR) to 40 hospital/CEONC sites to recruit the human resource mix needed to provide surgical management for obstetric complications at district hospitals (CEONC sites) and FWD also provided budget (9,900,000 NPR) to 7 overcrowding hospitals for recruiting Gynaecologist, Paediatrician, Anaesthesiologist and Anesthesia Assistant.

FWD has been coordinating with the National Health Training Centre (NHTC) and the National Academy for Medical Sciences (NAMS) for the pre-service and in-service training of health workers. NHTC provides training on SBA, ASBA, Anaesthesia assistant, operating theatre management, family planning (including implants and IUCD), CAC and antenatal ultrasonography. In FY 2077/78, total 1208 SBA and 44 ASBA were trained by NHTC and PHTC in the Provinces (Province 2, Gandaki, Lumbini, Karnali and Sudurpaschim). Till the end of FY 2077/78 total 11,596 SBA and 278 ASBA have been trained. The proper placement of trained staff such as ASBAs and anaesthesia assistants (AAs) has been a continuous challenge. FWD continues to monitor the deployment of doctors (MDGP, OBGYN, ASBA) and AAs, and inform DOHS and MOHP as necessary for appropriate transfer. This has resulted in improved functionality of CEONC services.

4.4.2.6 Expansion and quality improvement of service delivery sites

FWD continued to expand 24/7 service delivery sites like birthing centres, BEONC and CEONC sites at PHCCs, health posts and hospitals. The expansion of service sites is possible mostly due to the provision of funds to contract short-term staff locally. By the end of 2077/78 CEONC services were established in 72 districts among which 71 districts were functional throughout the year except 1 district (Ramechhap). During the fiscal year, 7 (Taplejung, Solukhumbu, Gorkha, Tanahu, Dailekh, Jajarkot, and Rukum) districts provided interrupted C-section services. Expansion of delivery services continues through the initiation of local government. Total 2236 health posts and 188 PHCC were reported to have provided (at least one) delivery service in 2077/78.

4.4.2.7 Onsite clinical coaching and mentoring

Nepal has taken the lead for improving quality services at the point of service delivery as focus theme mentioned in the NHSS and its implementation plan 2016-2021. WHO has also given the emphasis and mentioned that the on-site coaching and clinical skill enhancement of service providers is considered the one of the most effective means to improve knowledge, skills and practices of health service providers. Onsite clinical coaching and mentoring process is evidence based effective program as per outcome (improvement in knowledge, skills, and practices of MNH service providers) found in Dolakha and Ramechhap during transition and recovery plan implemented after 2072 earthquake in 2072/2073 supported by NHSSP and 7 districts' onsite coaching and mentoring process supported by GIZ. FWD had started to implement on-site clinical coaching /mentoring programme since 2073/2074 from 16 districts and in FY 2074/2075 total 320 Municipalities from 31 districts to enhance knowledge and skill of SBA and non-SBA nursing staffs providing delivery services at BC/BEONC and CEONC service sites. This programme has been scaled up gradually. In FY 2075/2076, total 359 Municipalities of 38 districts and in FY 2076/2077 528 Municipalities of 51 districts and in FY 2077/78, 626 Municipalities of 63 districts implemented onsite clinical coaching and mentoring programme based on coaching/mentoring guideline and tool.

Till the end of FY 2077/2078 total 260 district SBA clinical mentors were trained from 72 districts (20 in FY 2073/074, 80 in 2074/075, 18 in 2075/076, 92 in 2076/077 and 50 in 2077/078). They are the key skill persons who visit each BC/BEONC sites and conduct onsite coaching/mentoring along with MNH readiness quality improvement self-assessment process to enhance capacity of delivery service providers, HF staffs and HFOMC members to make MNH service readiness. A set of models are used for model-based practice during clinical coaching. FWD and supporting partners provided these models (Skill Lab Material) to SBA clinical mentors to all districts. By end of FY 2077/78, total 4906 MNH service providers received on-site clinical mentoring from SBA mentors (194 in FY 2073/074, 553 in 2074/075, 1008 in 2075/076, 1366 in 2076/077 and 1785 in 2077/078) from total 1169 health facilities (52 in FY 2073/074, 166 in 2074/075, 350 in 2075/076, 236 in 2076/077 and 365 in 2077/078).

4.4.2.8 MNH readiness Hospital and BC/BEONC Quality Improvement

Improvement in quality-of-service delivery through self-assessment, infection prevention demonstration and action plan implementation is evidence based effective program as per outcome found in piloting districts, Taplejung and Hetauda hospital in FY 2070/2071. FWD expanded MNH readiness hospital quality improvement process (HQIP) gradually from FY 2072/73. Till the end of FY 2077/78 the HQIP/QIP programme expanded in 67 hospitals and PHCC with CEONC services in 63 districts. The cumulative number of CEONC sites with HQIP service expansion is 7 in 2072/73, 12 in 2073/74, 35 in 2074/075, 52in 2075/076 and 57 in 2076/077 and 67 hospitals in 2077/78. Since FY 2076/77, HQIP process was integrated with the onsite coaching and mentoring process at hospitals. The process of quality improvement is also being implemented in birthing centres in integration with SBA onsite clinical coaching/mentoring process. Till FY 2077/078, the total QI reported BC/BEONC sites were 824 (44 in FY 2073/74, 122 in FY 2074/75 and 267 in FY 2075/76, 139 in 2076/77, 252 in 2077/78.

4.4.2.9 Emergency referral funds

It is estimated that 15 percent of pregnant women will develop serious complications during their pregnancies and deliveries, and 5 to 10 percent of them will need caesarean section deliveries (WHO, 2015) to avoid deaths or long-term morbidity. In cases of difficult geographical terrain and unavailable CEONC services, it is crucial that these women are referred to appropriate centres. To address this issue FWD allocated emergency referral funds to 53 hospitals of 52 districts in FY 2077/78 from across the 7 provinces. A total of 6,700,000 Rupees was allocated to 53 hospitals to support women when referral needed. Additional about 60,000 Rupees in each palika was allocated for the BC and BEONC service sites s to support transport fares women who could not afford referral to high facility (nearby CEONC facilities). The main objective of this programme is to support emergency referral transport to women from poor, Dalit, Janajati, geographically disadvantaged, and socially and economically disadvantaged communities who need emergency caesarean sections or complication management during pregnancy or child birth.

The air lifting support for immediate transfer to higher centre is no longer implemented by the FWD as the emergency Airlifting programme is now implemented by Presidential Women Uplifting Programme in Ministry of Women, Children and Senior Citizens.

4.4.2.10 Vitamin K1 to newborn babies

In FY 2077/78, after the decision of Ministry of Health and Population to introduce Vit K1 injection to newborn babies for preventing from Vitamin K Deficiency Bleeding (VKDB), for the first time Family Welfare Division allocated budget to purchase injection Vitamin K1 for distributing in all BC/BEONC and CEONC sites. Injection Vitamin K1 need to be given to newborn IM after breast feeding within 1 hour of delivery.

4.4.2.11 Aama Surakshya Program and Free Newborn Programme

The government has introduced demand-side interventions to encourage women for institutional delivery. The Maternity Incentive Scheme, 2005 provided transport incentives to women to deliver in health facilities. In 2006, user fees were removed from all types of delivery care in 25 low HDI districts and expanded to nationwide under the Aama Programme in 2009. In 2012, the separate 4 ANC incentives programme was merged with the Aama Programme.

4.4.3 Achievements

i. Endorsed for Skilled Health Personnel and Skilled Birth Attendants strategy 2020-2025 to ensure that SHP/SBAs have the appropriate clinical skills, comply with the national standards and protocols, and provide.
ii. Revised the safe abortion service management guideline 2021 aligning with the right to safe motherhood and reproductive health act 2018 and regulation 2020.
iii. Revised Maternal and perinatal death surveillance and response guideline 2021 and guidance document 2021 to align with the federal structure of the country.
iv. Developed Robson classification Guideline 2021 to assess the caesarean section.
v. Formulated the Guideline on PNC Home Visit Micro-planning at the local level 2021.
vi. Maternity Waiting Home Guideline 2021 was endorsed to increase the quality institution delivery at Mountain and Hilly region.
vii. Revised Interim Guidance for RMNCAH service 2073.
viii. MPDSR program has been expanded to 21 districts in FY 2077/78.

ix. Listing of the safe abortion service sites and service providers has started at all seven province and the local level aligning with the safe abortion service management guideline 2021.

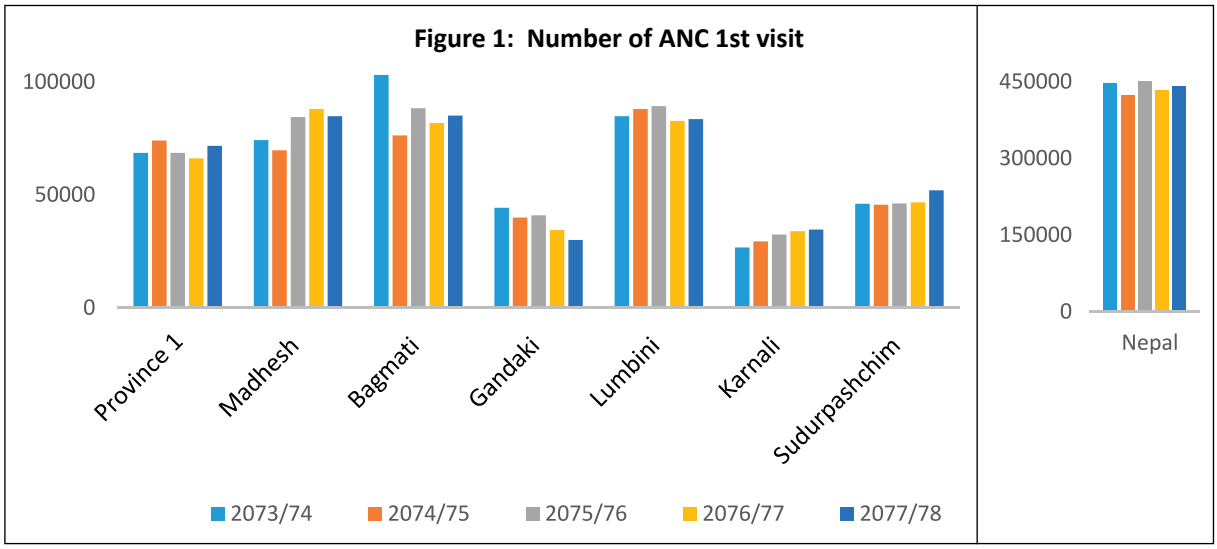
x. Expansion and strengthening of CEONC program at 77 districts.

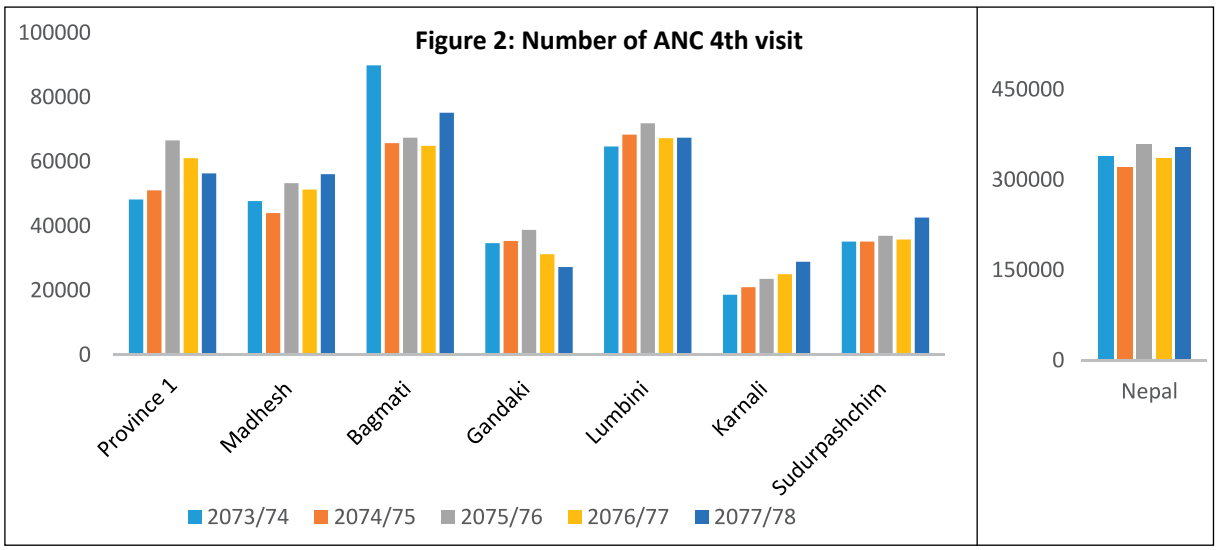
4.4.4 Antenatal care

The overall number of women going for 1 ANC visit has remained almost consistent in the past 5 years with the number of ANC 1 visit actually dropping from 447649 in 2073/74 to 441802 in 2077/78. The trend in the provincial disaggregation also shows similar stagnancy in the number of ANC 1 visit.

The Number of women going for 4 ANC visits also remains similar throughout the 5 years with a slight dip in 2074/75 compared to 2073/74 and 2076/77 compared to 2075/76. However, the total number of women receiving 4 ANC visits has increased from 338998 in 2073/74 to 353835 in 2077/78 with similar pattern noticed in the provincial disaggregation.

A significant gap in number of women attending 4 ANC visits compared to 1 ANC visits exists at both national and provincial level which highlights the importance of proper counselling and addressing the barriers during antenatal period.





Source: HMIS/DoHS

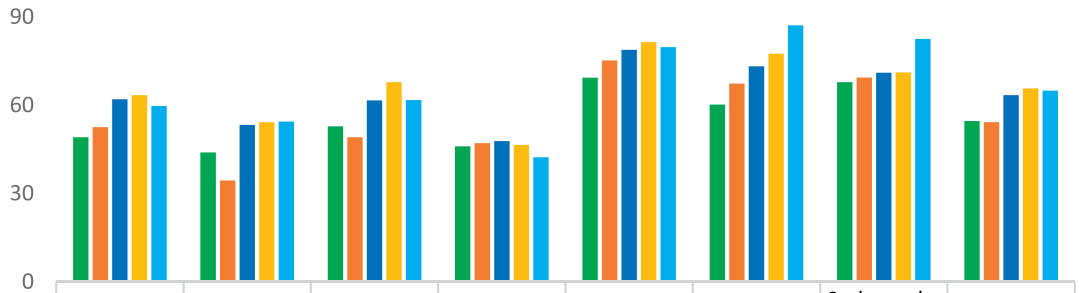
4.4.5 Delivery care

Delivery care services include:

- Skilled birth attendance at home and facility-based deliveries;
- Early detection of complicated cases and management or referral (after providing obstetric first aid) to an appropriate health facility where 24 hours' emergency obstetric services are available; and
- Registration of births and maternal and neonatal deaths.

Although women are encouraged to deliver at a facility, home delivery using clean delivery kits with provision of misoprostol to prevent post-partum haemorrhage and early identification danger signs and complications, are important components of delivery care in settings where institutional delivery services are not available or not used by the women.

Figure 3: Institutional delivery as percent of expected pregnancy 2077/78

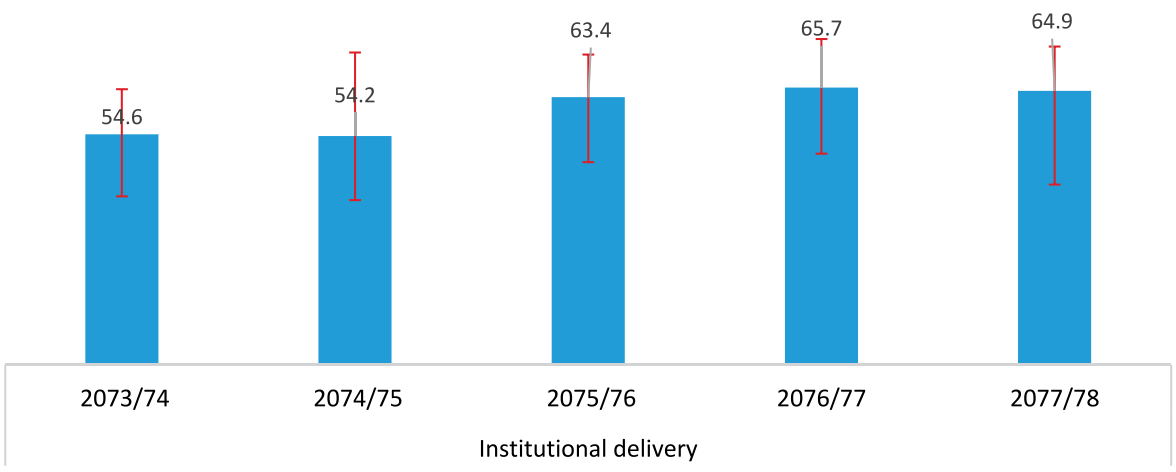


	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpashchim	Nepal
2073/74	49.1	43.9	52.8	46	69.3	60.2	67.8	54.6
2074/75	52.5	34.4	49.1	47.1	75.2	67.3	69.4	54.2
2075/76	62	53.3	61.6	47.8	78.8	73.2	71	63.4
2076/77	63.4	54.2	67.8	46.5	81.4	77.5	71.1	65.7
2077/78	59.7	54.4	61.7	42.3	79.7	87.1	82.5	64.9

Source: HMIS/DoHS

The percentage of women delivering at the health facilities has shown a steady increase over the past 5 years with 54.6% of pregnant women delivering at the health facilities in 2073/74, which increased to 64.9% in 2077/78. Lumbini province had the highest proportion of institutional delivery in the earlier four years and was overtaken by Karnali province and Sudurpaschim province in 2077/78. Provinces 1, Madhesh and Bagmati have consistently performed below the national average whilst the other provinces have performed above the national average.

Figure 4 : Equity gap in percent institutional delivery between the highest and lowest performing provinces



Source: HMIS/DoHS

Figure 4 highlights the equity gaps in institutional deliveries amongst the highest and lowest performing provinces in the past 5 years. There is a wide variation in percentage of women delivering at the health facilities with around 15-point percentage difference amongst the highest and lowest performing provinces from 2073/74 to 2076/77. However, this equity gap increased to a 33% in 2077/78 (54% in Madhesh province compared to 87% in Karnali Province. (Table 1)

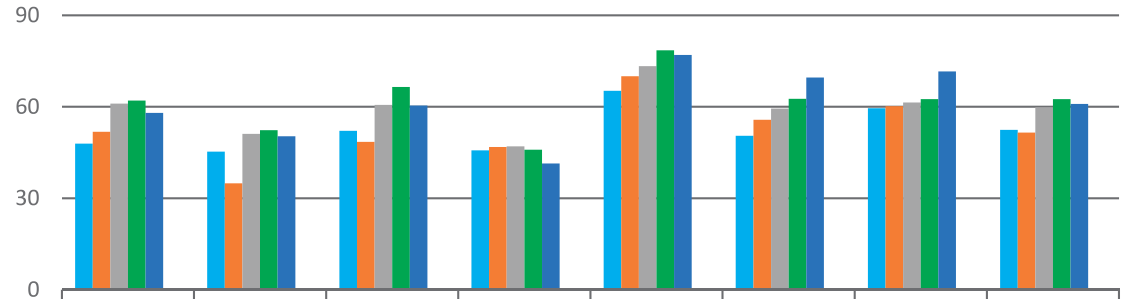
Table 1: Percentage of Institutional Delivery by Province

Province	Institutional delivery				
	2073/74	2074/75	2075/76	2076/77	2077/78
Province 1	49.1	52.5	62	63.4	59.7
Madhesh	43.9	34.4	53.3	54.2	54.4
Bagmati	52.8	49.1	61.6	67.8	61.7
Gandaki	46	47.1	47.8	46.5	42.3
Lumbini	69.3	75.2	78.8	81.4	79.7
Karnali	60.2	67.3	73.2	77.5	87.1
Sudurpashchim	67.8	69.4	71	71.1	82.5
Nepal	54.6	54.2	63.4	65.7	64.9

Delivery attended by Skilled Birth Attendants (SBA)

A steady increase accompanied by a drop in 2077/78 in the number of women delivered by skilled birth attendant is noticed in Province 1, Madhesh, Bagmati, Lumbini Provinces and at the national level. Karnali and Sudurpachim provinces witnessed a steady rise in the numbers throughout the past 5 year. However, it is worrying that the number of SBA attended deliveries are in a constant steady decline in Gandaki province. The number of SBA attendant deliveries at the national level was 336138 in 2073/74 and peaked at 399595 in 2076/77 before dropping to 388313 in 2077/78 (figure 5).

Figure 5 : percentage births attended by SBA among expected live births



	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpashchim	Nepal
2073/74	47.9	45.3	52.1	45.7	65.2	50.5	59.5	52.4
2074/75	51.8	34.9	48.5	46.8	70	55.7	60.2	51.5
2075/76	61	51.1	60.6	47	73.3	59.4	61.4	59.8
2076/77	62	52.3	66.5	45.9	78.5	62.6	62.5	62.5
2077/78	58	50.3	60.4	41.4	77	69.6	71.6	60.9

Source: HMIS/DoHS

Emergency obstetric care:

Basic emergency obstetric and newborn care (BEONC) covers the management of pregnancy complications by assisted vaginal delivery (vacuum or forceps), the manual removal of placentas, the removal of retained products of abortion (manual vacuum aspiration), and the administration of parental drugs (for postpartum haemorrhage, infection and pre-eclampsia and eclampsia) and the resuscitation of newborns and referrals. Comprehensive emergency obstetric and newborn care (CEONC) includes surgery (caesarean section), anaesthesia and blood transfusions along with BEONC functions.

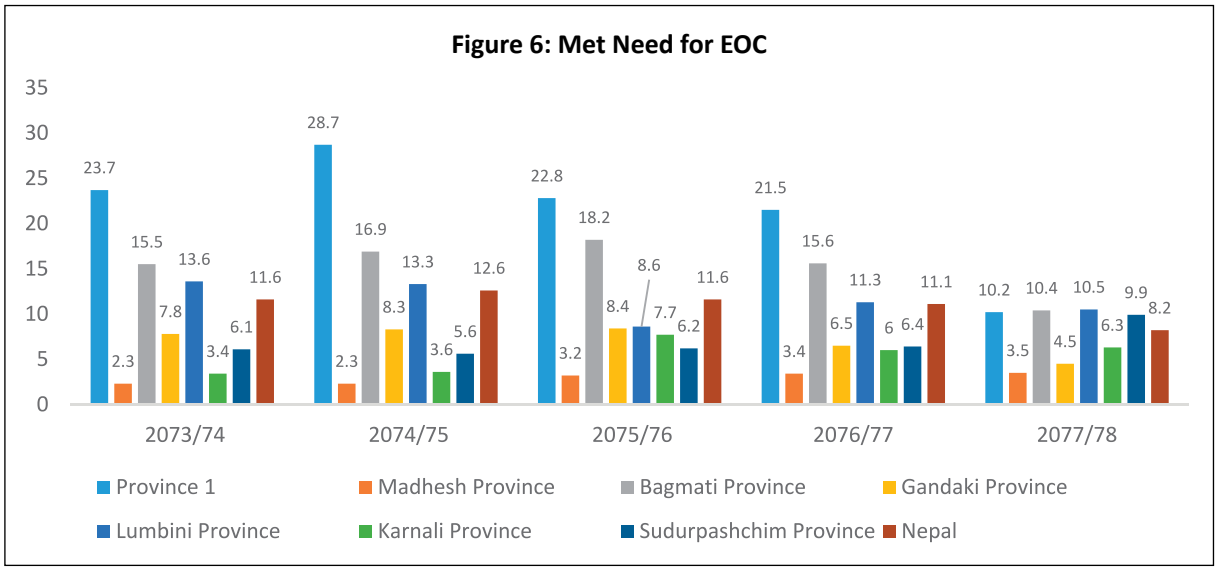
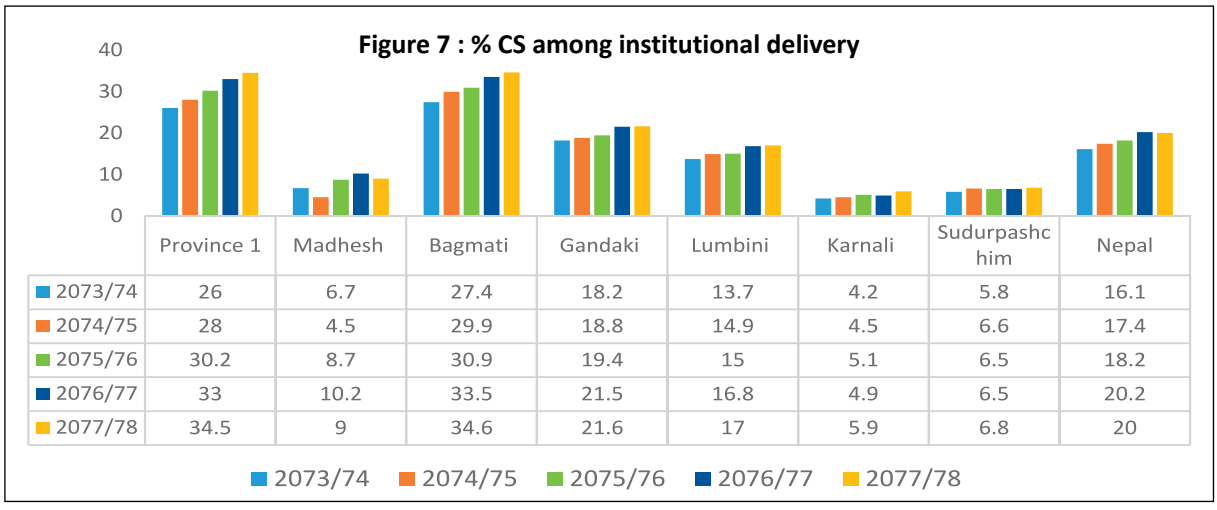


Table 2. Number of women treated for obstetric complications:

Pregnancy Related complications	Province							Nepal
	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpashchim	
Eclampsia	178	243	179	269	278	41	51	1239
Pre-eclampsia	115	205	542	58	306	46	65	1337
Puerperal Sepsis	108	41	94	30	89	36	56	454
Haemorrhage	956	942	1776	415	1399	416	622	6526
Prolonged / obstructed labor	1385	1778	1322	468	3257	884	761	9855
Retained Placenta	707	576	535	247	560	503	285	3413
Ruptured uterus	37	48	90	3	25	8	12	223

Source: HMIS/DoHS

Met need for Emergency Obstetric Care is a very important indicator for quality of care received by women. The national avaerage for eoc met need hovered at around 11-12% in the initial four years but droped to around 8% in 2077/78. This is a cause of major concern and this might indicate reduced utilisation/ delivery of complication management during pregnancy.



Source: HMIS/DoHS

A slow rise in the rate of CS is witnessed in the past 5 years. With the national average increasing from 17.60% in 2073/74 to 20.50% in 2077/78. Province 1 and Bagmati province are provinces with consistently high rate of CS. Despite an increasing rate of institutional delivery, the rate of CS in Karnali province hasn't shown an increasing trend highlighting a possible barrier to access to comprehensive emergency obstetric new born care (CEONC) services in Karnali province.

FWD had piloted the monitoring of CS rate at health facilities using Robson classification to gauze the appropriateness of CS in 4 hospitals and has plans to scale the classification system for monitoring facility-based CS rates.

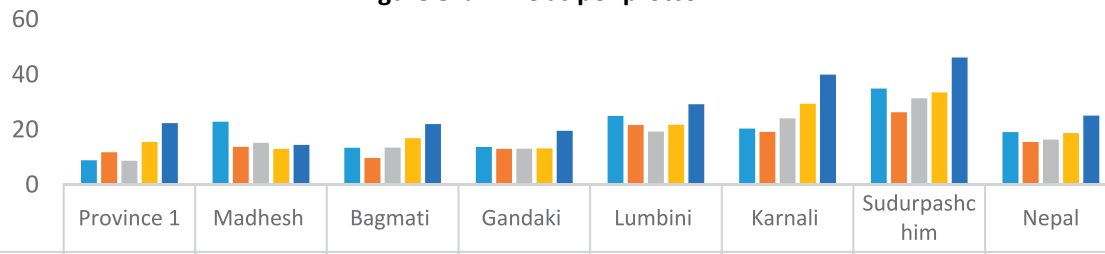
4.4.6 Postnatal care

Postnatal care services include the following:

- Three postnatal check-ups, the first in 24 hours of delivery, the second on the third day and the third on the seventh day after delivery.
- The identification and management of complications of mothers and newborns and referrals to appropriate health facilities.
- The promotion of exclusive breastfeeding.
- Personal hygiene and nutrition education, and postnatal vitamin A and iron supplementation for mothers.
- The immunization of newborns.
- Postnatal family planning counselling and services.

The number of mothers who received their first postnatal care at a health facility within 24 hours of delivery is similar to the number of institutional deliveries in almost all health facilities as most health workers reported to have provided post-natal care to both mothers and babies on discharge. The revised HMIS introduced the monitoring of three PNC visits according to a protocol since 2071/72.

Figure 8: % PNC as per protcol



	Province 1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpashchim	Nepal
2073/74	8.9	22.9	13.4	13.7	25	20.4	34.9	19.1
2074/75	11.8	13.8	9.7	13	21.7	19.2	26.3	15.5
2075/76	8.7	15.2	13.5	13.1	19.3	24.1	31.4	16.4
2076/77	15.5	13	16.9	13.2	21.8	29.4	33.5	18.8
2077/78	22.4	14.5	22	19.6	29.2	40	46.2	25.1

2073/74 2074/75 2075/76 2076/77 2077/78

Source: HMIS/DoHS

The proportion of mothers attending three PNC visits as per the protocol increased from 19 percent in FY 2073/74 to 25.1 percent in FY 2077/78 (Figure 8). The service utilization was found to be consistently highest in Sudurpashim province throughout the past 5 years with almost half of the women receiving 3 PNC as per protocol in 2077/78. It is important to note that proportion of women attending three PNC has always been low compared to other safe motherhood indicators and poses a significant challenge along the

continuum of care. Cultural and geographical factors affecting the movement of postnatal mothers could be reasons for the low coverage while the perceived low importance of care during the postpartum period could also be significant. There is a need for culturally sensitive interventions to promote accessibility and the use of postnatal services, especially in geographically challenging areas.

PNC home visit (micro-planning for PNC)

Access to and utilization of post-natal care services is a major challenge while the majority of maternal deaths occur during post-natal period. As reported above in PNC section, women who received PNC according to the protocol is 25 percent in 2077/78 (HMIS). This programme had been initiated from FY 2074/75 through allocating annual budget to 30 Municipals from 15 districts and it has been expanding gradually. Till FY 2077/78, It has been expanded in to 396 Municipals from 50 districts to strengthen PNC services by mobilizing MNH service providers from health facilities to provide PNC at women's home. Out of this local level 305 local level implemented the program. However, 64 out of the 305 local level were only able to provide orientation to the health workers around the end of the fiscal year. Amongst the 29 districts (where majority of the local levels were able to implement the program) the PNC as per protocol is 35% of expected live births in 2077/78 which is a 75-point percent increase from FY 2076/77 in the same districts (20%)

Figure 9 : Trend of utilisation of services along the continuum of care

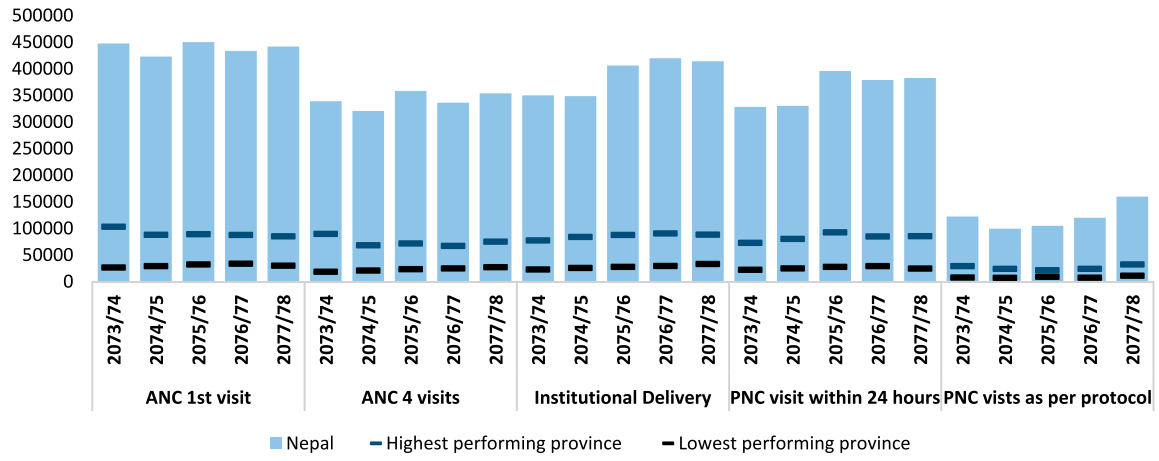


Table 3: Number of ANC 1st Visit and ANC 4 Visit

Province	ANC 1st visit					ANC 4 visits				
	2073/74	2074/75	2075/76	2076/77	2077/78	2073/74	2074/75	2075/76	2076/77	2077/78
Province 1	68586	73997	68566	66143	71702	48247	51042	66587	61046	56339
Madhesh	74203	69677	84428	87943	84809	47743	44012	53312	51318	56085
Bagmati	103106	76258	88341	81802	85098	89861	65729	67425	64890	75176
Gandaki	44262	39960	40937	34386	30033	34664	35345	38766	31222	27259
Lumbini	84799	88000	89272	82729	83527	64694	68355	71873	67243	67427
Karnali	26700	29339	32434	33897	34646	18651	21000	23590	24999	28917
Sudurpashchim	45993	45631	46137	46676	51987	35138	35160	36934	35787	42632
Nepal	447649	422862	450115	433576	441802	338998	320643	358487	336505	353835

Table 4: Institutional Delivery and PNC visit within 24 hours

Province	Institutional Delivery					PNC visit within 24 hours				
	2073/74	2074/75	2075/76	2076/77	2077/78	2073/74	2074/75	2075/76	2076/77	2077/78
Province 1	53736	57411	67268	68332	64059	45977	53275	64169	65130	61572
Madhesh	56212	44289	68423	69601	69883	55963	43608	57752	53295	55585
Bagmati	69871	65265	81658	89892	81804	62962	57535	92800	75158	71796
Gandaki	26998	27636	27692	26643	23953	25251	26963	26961	26453	24653
Lumbini	77418	84007	87719	90572	88499	72825	80464	81765	84839	85522
Karnali	22871	25739	27934	29520	33160	22528	24915	27730	29353	31589
Sudurpashchim	43125	44322	45293	45378	52634	42892	43688	44742	44769	52125
Nepal	350231	348669	405987	419938	413992	328398	330448	395919	378997	382842

Table 5: PNC visits as per protocol

Province	PNC visits as per protocol				
	2073/74	2074/75	2075/76	2076/77	2077/78
Province 1	9746	12935	9400	16740	24014
Madhesh	29273	17746	19505	16744	18633
Bagmati	17748	12910	17904	22449	29139
Gandaki	8014	7654	7568	7553	11126
Lumbini	27916	24212	21487	24218	32392
Karnali	7747	7353	9198	11182	15214
Sudurpashchim	22166	16775	20030	21343	29518
Nepal	122610	99585	105092	120229	160036

Source: HMIS/DoHS

Quality of care:

Figure 10 depicts the quality-of-care women received along the continuum of care along with the gap in the quality of care being provided at the highest and the lowest performing provinces. The table details the provincial performance against the national average with red highlighting the provinces with performances below the national average and green highlighting the provinces with performances above the national average.

Major gaps in quality of care exits along the continuum of care with only around half of the women receiving 4 ANCs as per protocol and only around a quarter of women receiving 3 PNC as per protocol in 2077/78. Huge interprovincial gaps are also noticed in the quality of care with around 46% difference in the proportion of women receiving 180 days' supply of IFA during pregnancy with 73.7% of women receiving it in Karnali province while only 27.6% of the women received 180 days supply of IFA during pregnancy in Bagmati province.

Figure 10: Quality of care along the continuum of care

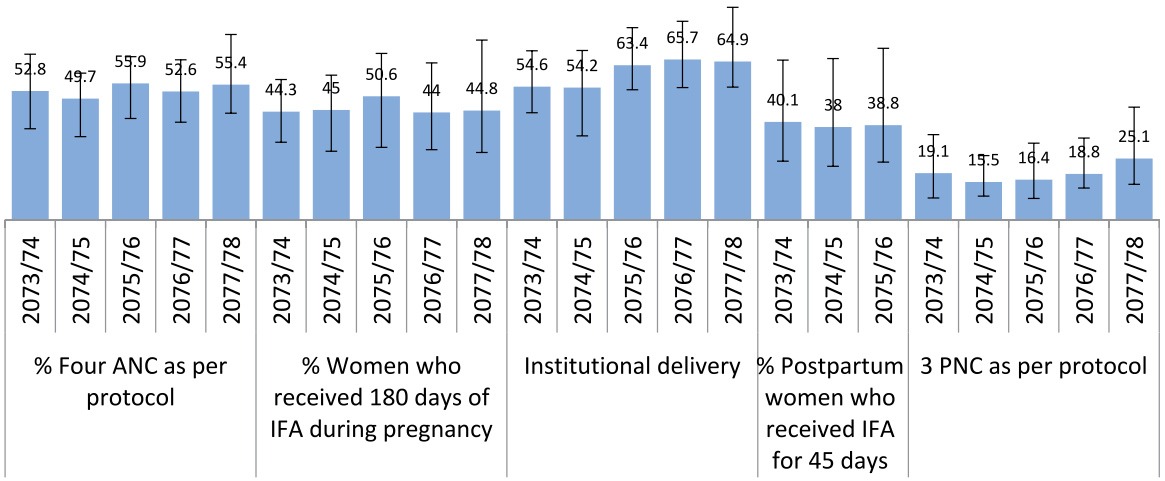


Table 6: Quality of care along the continuum of care

Province	Percentage of pregnant women who had four ANC checkups as per protocol					Percentage of women who received a 180 day supply of Iron Folic Acid during pregnancy				
	Shrawan 2073 to Asar 2074	Shrawan 2074 to Asar 2075	Shrawan 2075 to Asar 2076	Shrawan 2076 to Asar 2077	Shrawan 2077 to Asar 2078	Shrawan 2073 to Asar 2074	Shrawan 2074 to Asar 2075	Shrawan 2075 to Asar 2076	Shrawan 2076 to Asar 2077	Shrawan 2077 to Asar 2078
Province 1	44.1	46.6	61.4	56.6	52.5	41.1	37.3	38.9	33.3	35.4
Madhesh	37.3	34.1	41.5	40	43.7	42.6	45.8	56.5	45.7	43.7
Bagmati	67.9	49.3	50.8	48.9	56.7	31.8	28.1	29.7	28.7	27.6
Gandaki	59.1	60.1	66.9	54.5	48.1	45.9	57.8	62.2	46.7	44.5
Lumbini	57.9	61	64.5	60.5	60.7	57.5	56.7	60.7	52.5	54.9
Karnali	49.1	54.8	61.8	65.6	76	50.1	59.3	61	58.4	73.7
Sudurpashchim	55.2	54.9	57.9	56.1	66.8	51.8	51.2	68.2	64.3	63.8
Nepal	52.8	49.7	55.9	52.6	55.4	44.3	45	50.6	44	44.8

Province	Percentage of institutional deliveries					Percentage of postpartum women who received a 45 days supply of IFA				
	Shrawan 2073 to Asar 2074	Shrawan 2074 to Asar 2075	Shrawan 2075 to Asar 2076	Shrawan 2076 to Asar 2077	Shrawan 2077 to Asar 2078	Shrawan 2073 to Asar 2074	Shrawan 2074 to Asar 2075	Shrawan 2075 to Asar 2076	Shrawan 2076 to Asar 2077	Shrawan 2077 to Asar 2078
Province 1	49.1	52.5	62	63.4	59.7	31.5	27.9	25.6	21.5	24.5
Madhesh	43.9	34.4	53.3	54.2	54.4	39.9	40	43.7	43.9	45.8
Bagmati	52.8	49.1	61.6	67.8	61.7	24	21.9	23.6	23.1	22.7
Gandaki	46	47.1	47.8	46.5	42.3	32.3	26.9	28.1	25.6	25.8
Lumbini	69.3	75.2	78.8	81.4	79.7	54.8	51.8	49.1	45.4	51.1
Karnali	60.2	67.3	73.2	77.5	87.1	65.5	66.1	70.3	74.7	84.9
Sudurpashchim	67.8	69.4	71	71.1	82.5	55.5	54.1	55.8	57.8	63.9
Nepal	54.6	54.2	63.4	65.7	64.9	40.1	38	38.8	37.6	40.7

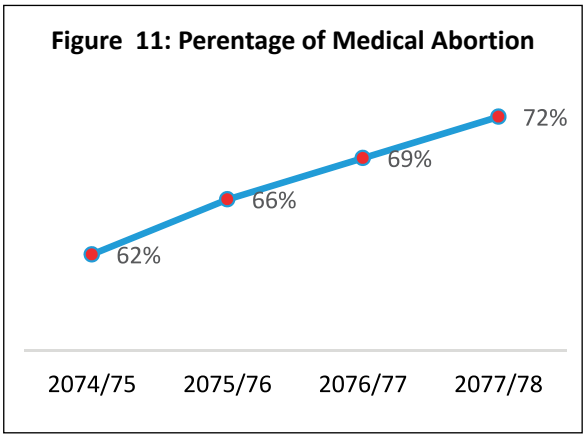
Province	Percentage of women who had 3 PNC check-ups as per protocol				
	Shrawan 2073 to Asar 2074	Shrawan 2074 to Asar 2075	Shrawan 2075 to Asar 2076	Shrawan 2076 to Asar 2077	Shrawan 2077 to Asar 2078
Province 1	8.9	11.8	8.7	15.5	22.4
Madhesh	22.9	13.8	15.2	13	14.5
Bagmati	13.4	9.7	13.5	16.9	22
Gandaki	13.7	13	13.1	13.2	19.6
Lumbini	25	21.7	19.3	21.8	29.2
Karnali	20.4	19.2	24.1	29.4	40
Sudurpashchim	34.9	26.3	31.4	33.5	46.2
Nepal	19.1	15.5	16.4	18.8	25.1

Source: HMIS/DoHS

4.4.7 Safe abortion service

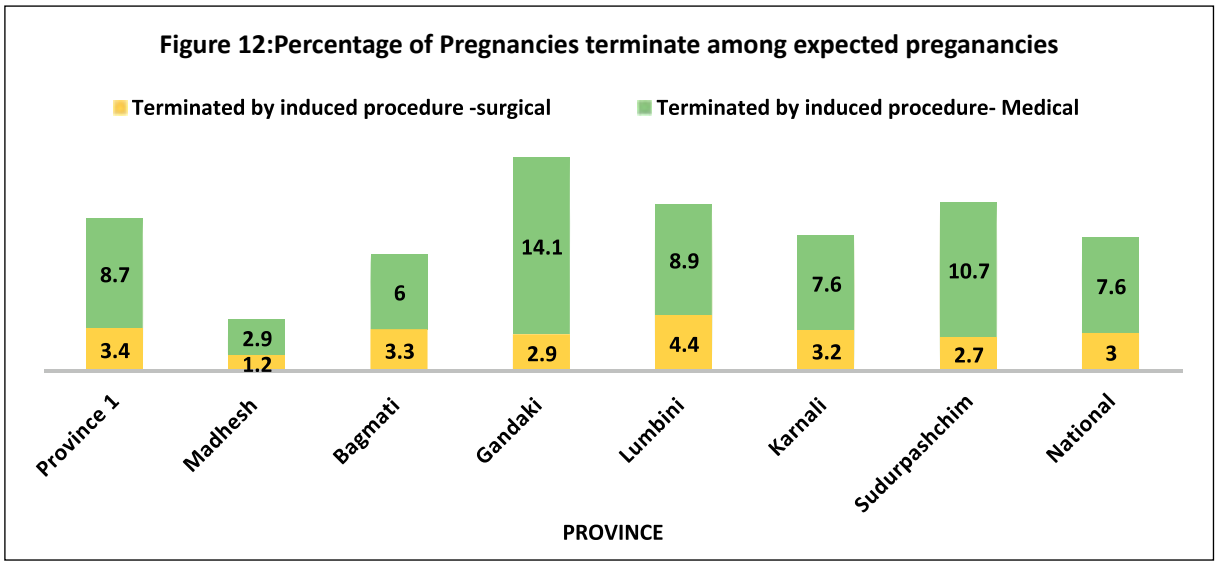
Global and national evidence shows that many women face unwanted pregnancy including due to limited access to family planning information and services. Such women who cannot access safe abortion services in a timely way are at a high risk of developing complications due to unsafe abortions, or in the worst case, suicide due to social pressure. According to the study conducted by CREHPA in 2016, more than half of the total pregnancies are unwanted. Likewise, abortion rate among women of reproductive age is 42 per 1000 women of reproductive age women (15-49) where highest rate of abortion is in central region (59) and lowest in Far Western region (21). Out of all these abortions, only 42 percent were provided legally at government approved service sites. Thus, there is a need to make safe abortion services available, accessible and affordable to all women with unwanted pregnancies.

i. Safe abortion service utilization:



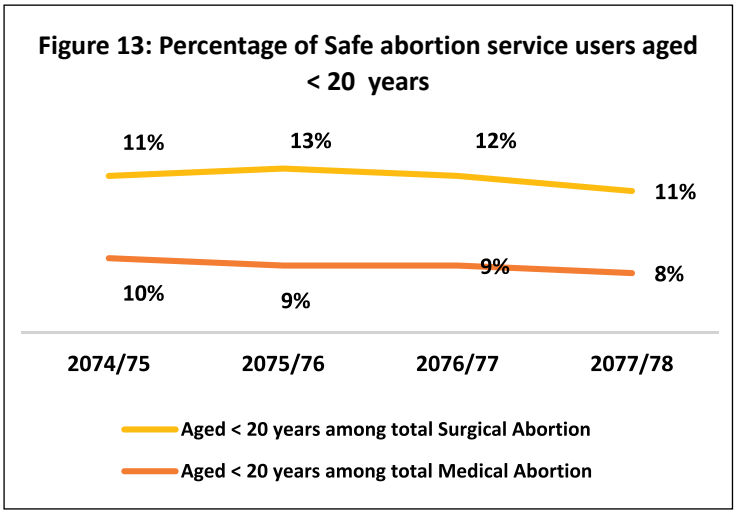
The total number safe abortion service has slightly decreased in FY 2077/78 in comparison to last FY. Total 79952 safe abortion service was received in FY 2077/78 where 87869 women in FY 2076/77, 95746 in 2075/76, 98,640 in 2074/75 safe abortion service were received. The highest number of safe abortion service was received at Lumbini province (17497) followed by province 1 (15404) and Bagmati province (14623). The least number of abortion service was received at Karnali province (4888) (see table6). Among the total safe abortion service, 57350 were medical abortion which is around 72% of the total safe abortion service were received whereas remaining 22602 were surgical abortion which is around 28% of the total safe abortion. The figure 10 shows the share of medical abortion among the total safe abortion services is in increasing trend.

Among the total expected pregnancies 10.6% were terminated by induced procedure at the health facilities where 7.6% were induced using medical method and remaining 3% were induced using surgical method. The abortion ratio (no. of abortion per 100 expected pregnancies) was higher in Gandaki Province (16.9) and least at Madhesh Province (4.1) (Figure 11).



ii. Age-wise safe abortion service utilization

Among the total safe abortion users, around 9% of the women were aged below 20 years. The highest number women aged less than 20 years who received safe abortion were from Bagmati province while lowest number of that aged group were from Karnali province. Similarly, the highest number women aged more or equal to 20 years who received abortion were from Lumbini Province and least was from Karnali province in FY 2077/78. Among the total medical abortion, 11% were of aged less than 20 years and among the total surgical abortion, 8% were aged less than 20 years.



iii. Post Abortion Contraception

The post abortion contraception service has increased from 72.7% in 2076/77 to 76.7% in FY 2077/78. The share of the post abortion contraceptive service after using medical method was 58.6% and was 18.1% after using the surgical method. The acceptance of Short Acting Reversible Contraceptive (SARC) is higher (61.98%) in comparison to long-acting reversible contraceptive and permanent method (LARCPM) (14.72%) (Figure 14).

iv. **Post abortion Care**

In the FY 2077/78, 79,952 safe abortion services were provided while 11,115 received PAC services (*Services provided to the client at the health facility who had an abortion at a different place*). Total 540 had complication after medical abortion and 855 had complication after surgical abortion.

Table 7: Number of safe abortion services, PAC and post abortion complication

National/ Provincial	Safe abortion Service	PAC services	No. of Post abortion Complication-Medical Abortion	No. of Post abortion Complication -Surgical Abortion
Nepal	79952	11115	540	855
Province 1	15404	1634	50	122
Madhesh	6156	695	32	13
Bagmati	14623	2254	94	71
Gandaki	11304	828	41	11
Lumbini	17497	2844	83	448
Karnali	4888	1160	146	65
Sudurpaschim	10080	1700	94	125

Source: HMIS/DoHS

v. Listing of Safe abortion service sites and service providers

As per the Right to safe motherhood and reproductive health act 2075 and its regulation 2077, the authority for the listing of the safe abortion service sites and service providers has been decentralized. The federal level sites and service providers along with the listing of safe abortion service of 13 to 28 weeks of gestational period as per the Safe abortion Service program management guideline 2078 will be listed at Family Welfare Division. The authority to list the provincial and local level sites and service providers has been delegated to their respective provincial government and the local level. The designated authorities for the listing of provincial level health facilities and providers for the safe abortion service are as below:

Table 8: Designated authorities given by the provincial government for the listing of health facilities and providers for SAS

S.N.	Province	Designated Authority
1	Province 1	Health office (for 25 bedded including polyclinic) Health Directorate (26 to 50 bedded hospitals) Ministry of Health (51 to 200 bedded hospitals) Health worker (Health office of the working district)
2	Madhesh	Health Directorate
3	Bagmati	16 to 25 bed hospital: Health office 26 to 100 bedded Hospital: Health Directorate 101 to 200 bedded hospitals: Ministry of Social Development
4	Gandaki	Ministry of Health and Population, Gandaki Province
5	Lumbini	Health Directorate
6	Karnali	Health Directorate
7	Sudurpaschim	Health office, District

4.4.8 Maternal and Perinatal Death Surveillance and Response (MPDSR)

Maternal and Perinatal Death Surveillance and Response (MPDSR) is a continuous process of identification, notification, quantification and determination of causes and factors to avoid all maternal and perinatal deaths, as well as the use of this information to respond with actions that will prevent future deaths. It was designed to measure and track all maternal deaths in real time with the objective to understand the underlying factors contributing to mortality and to provide guidance on how to respond and prevent future deaths. The GoN has been prioritizing and implementing MPDSR in health facilities and districts with plan for further strengthening and expansion.

FWD conducted policy dialogues and orientation on MPDSR to sensitize and orient policy maker from Health Directorates, Health Offices and Provinces and service providers from hospitals as well as districts.

As of FY 2077/78, MPDSR is being implemented in 15Districts and 95 Hospitals, whereas training is ongoing in 17 Districts. Some hospitals and districts have already initiated and are in the partial implementation stage with plan to complete in the fiscal year 2078/79.

To ease the recording and reporting process, MPDSR tools and guideline have been revised and endorsed. Most of the service providers have already been oriented on the revised tools and guideline and implementation has started.

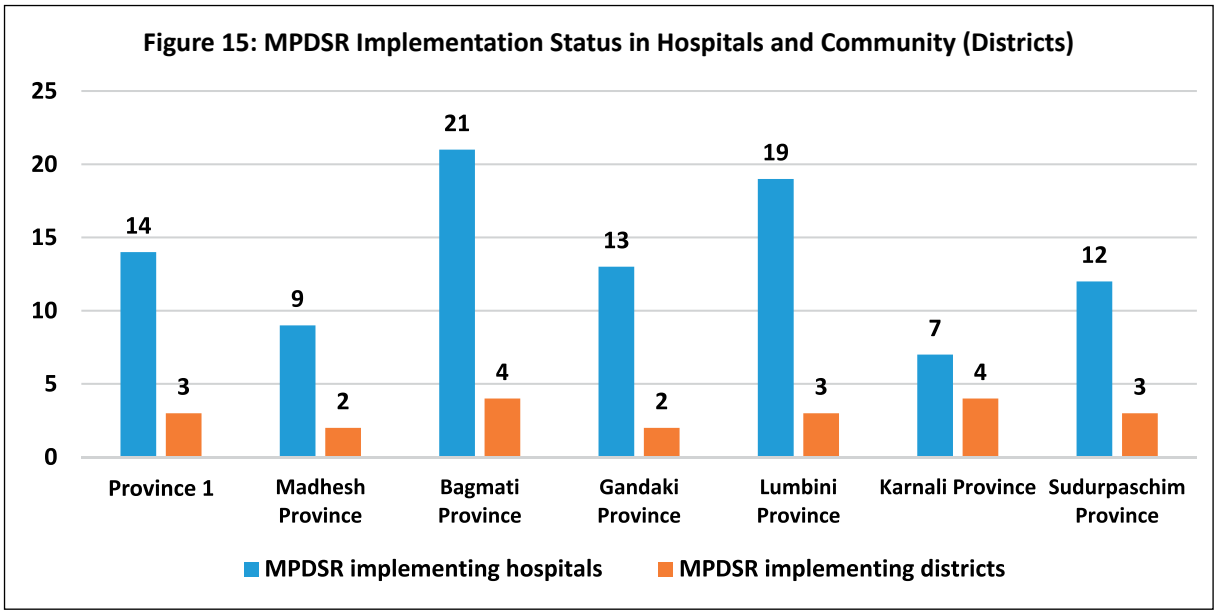
i. Community-based MPDSR: At present, community based MPDSR program is being implemented in 15 districts. In the community-based MPDSR program, only maternal deaths are reviewed and responses are planned.

ii. Hospital-based MPDSR: At present, 95 hospitals are implementing MPDSR program. In the hospitals, the maternal death review (MDR) form is filled for every maternal death, which is then reviewed. Whereas, in case of perinatal death, the perinatal death review (PDR) form is filled for every perinatal death, but only the summary perinatal death review form is reviewed once a month and responses are planned.

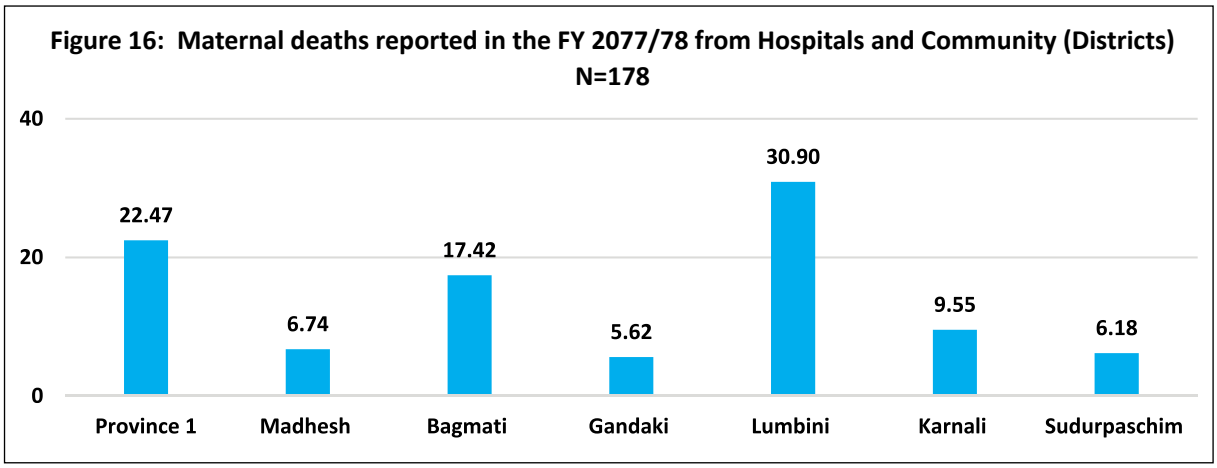
iii. Formation of MPDSR Committees at different levels: As per MPDSR guidelines, the National MPDSR Committee is chaired by the Director General, Department of Health Services and MPDSR Technical Working Group (TWG) is chaired by Director, Family Welfare Division. In addition, there are MPDSR committees at Health Directorate, Health Office, health facility level and Local level. The committee meeting has to commence within 72 hours of every maternal death.

iv. MPDSR Policy dialogue and orientation program: Family Welfare Division conducted policy dialogue at provinces to sensitize the policy makers and service providers on MPDSR. Further, orientation to service providers from hospitals and local level was conducted. During these programs, they were oriented on the situation in the country and various provinces, MPDSR process, their roles, and responsibilities, how to fill forms and online reporting. Additionally, discussion on formulation, implementation and follow up of action plan were conducted.

v. Review of MPDSR: Various local levels and hospitals conducted a review of MPDSR program with an objective to review the progress on MPDSR at the implementing hospitals.

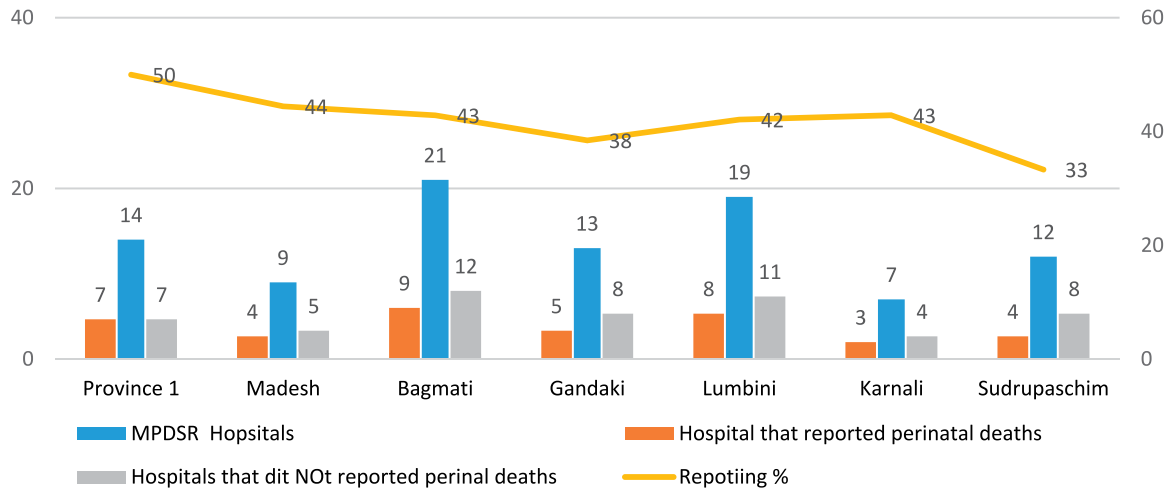


A total of 95 hospitals are implementing facility based MPDSR, with the maximum number of hospitals in Bagmati province. A total of 21 districts are implementing community MPDSR, of which 15 districts have full implementation while in seven districts implementation is partial.



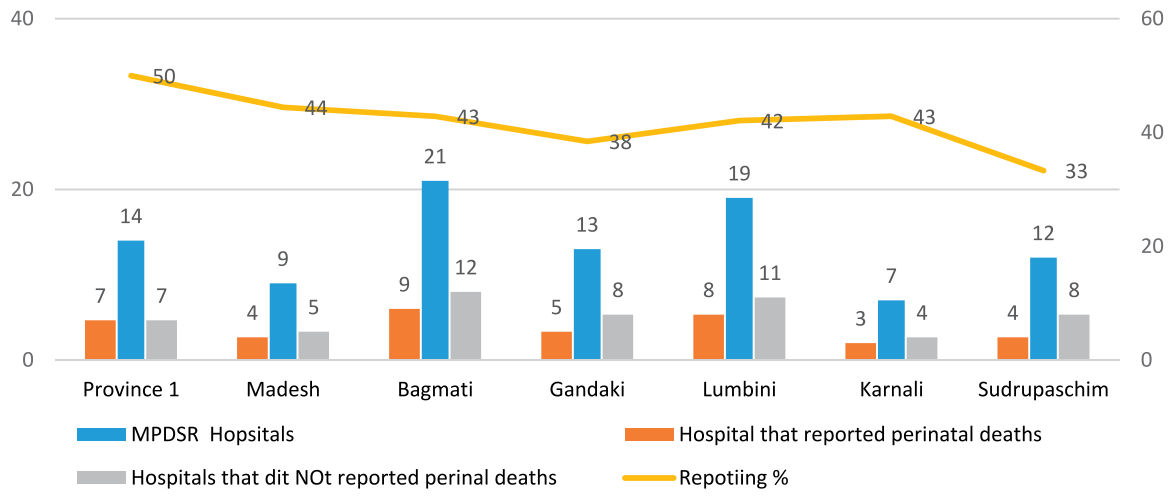
Majority of maternal deaths have been reported from Lumbini province, followed by Province 1. The low reporting of maternal deaths from Madhesh, Karnali and Sudurpaschim Provinces need to be further explored to ensure whether the number of deaths are less or less deaths were reported.

Figure 17: Perinatal death reporting status in the FY 2077/78 from Hospitals



The highest number of hospitals that reported perinatal deaths was from Province one, which was 50 percent. Whereas, in six of the provinces, less than 50 percent of hospitals implementing MPDSR reported perinatal deaths.

Figure 18: Perinatal deaths reported in the FY 2077/78 from Hospitals



Total perinatal deaths reported in the FY 2077/78 was Macerated SB N= 531; Fresh SB N=210; ENND N=217. Majority of deaths was reported from Gandaki province.

4.2.4 Issues, constraints and recommendations

Issues, constraints and recommendations— safe motherhood and newborn health

Issues and constraints	Recommendations	Responsibilities
High maternal mortality rate	• Review of programme implementation and effectiveness • Plan for implementation of the road map to reduce MMR and NMR based on global and Nepal evidences	FWD, DoHS, MoHP
Referral mechanism needs to be established	• Orientation on Revised Aama guideline to facilitate an appropriate referral mechanism and improve access to life-saving services. • Develop Referral Guideline.	FWD
Fluctuating functionality of CEONC and birthing centre services	• Focusing on functionality and quality of existing CEONC sites and expansion • Monitoring service provision status and availability of human resource • Promote the production of skilled health personnel (Midwife, SN, MO, AAs, MDGPs, MD obgyn) and ensure appropriate skill mix at CEONC sites by deployment and appropriate transfer of skilled human resources • Continue allocation of fund for contracting out short –term service providers • Introduce a special package to provide CEONC services in mountain districts i.e establishment of maternity waiting home • Support local government for training of human resources in necessary skills	MoHP ,DoHS, FWD, NHTC
Availability of quality maternity care services at hospitals and birthing centres: • 24/7 availability of services • skills and knowledge of staff • enabling environment and motivation • overcrowding at referral hospitals.	• Introduce quality improvement process for all maternity care services including QIP self-assessment and on-site clinical coaching • Introduce monitoring process indicator for quality maternity care in health facilities • Adequate budgets allocated for equipment in birthing centres and CEONC sites • Regular SBA coaching and mentoring program for skills update programmes for nurses focusing on continuum of care • Introduce construction standards for birthing centres • Support birthing centres at strategic location only • Provide additional budgetary support for overcrowded hospitals	MoHP, DoHS FWD (quality of care) FWD FWD, HOs FWD, DoHS

Issues and constraints	Recommendations	Responsibilities
Plateauing of 4ANC use and timely first ANC visits, and very low PNC coverage	• Raise the quality of ANC counselling services, focusing on continuum of care • Develop a special package to encourage timely first ANC visits. • Continuation of PNC home visit throughout the country	HOs, FWD
Low use of institutional delivery and C-section services in mountain districts, and province number 2 and 6	• Produce a strategy to reach unreached sub-populations • Rapidly assess and expand rural ultrasonography (USG) • Expand services in remote and difficult locations and ensure continuous availability of services (birthing centres and CEONC services)	FWD, HOs,
No CEONC services in some remote districts: Rasuwa, Manang, Mustang and Rukum East	• Discussion with local government on the advantages of have CEONC, and challenges in maintaining CEONC functionality in low population areas	FWD
Inadequate functional listed service sites and service provider of SAS	• Increase the number trained SAS provider • Strengthen the capacity of local government to list the service sites and service providers for SAS	NHTC, FWD
Lack of updated data on SAS sites and providers	• Develop data base to track the status of SAS sites and providers throughout the country	FWD
Limited number of MPDSR implementing district	• Expansion of the program throughout the country	FWD, MoHP

4.5 FAMILY PLANNING AND REPRODUCTIVE HEALTH

4.5.1 Background

Family Planning (FP) program is long withstanding program in Nepal. The aim of National FP Program is to ensure individuals and couples fulfil their reproductive needs and rights by using quality FP methods voluntarily based on informed choices. Government of Nepal (GoN) is committed to equitable and right based access to voluntary, quality FP services based for all individuals with special focus on hard to reach communities such as adolescents, migrants, slum dwellers, sexual minorities and other vulnerable groups ensuring no one is left behind. To achieve this, GoN is committed and striving to strengthen policies and strategies related FP within the new federal context, mobilize resources, improve enabling environment to engage effectively with supporting partners, promote public-private partnerships, and involve non-health sectors. FP has been enshrined as a fundamental right in the constitution, and included in the basic health service package under the Public Health Act 2018, thus paving a way towards universal health coverage. In addition, the Safe Motherhood and Reproductive Health Act 2018, Safe Motherhood and Reproductive Health Regulation 2020, 15th National Plan (2018/19-2022/23) as well as Safe Motherhood Roadmap (2020-2030) emphasize the availability and accessibility of right-based FP services.

Modern Family planning (FP) refers to female sterilization, male sterilization, intrauterine contraceptive device (IUCD), implants, injectables, pills, condoms (male condom), lactational amenorrhea method (LAM), emergency contraceptive (EC) and standard days' method (SDM). From program perspective, GoN through its subsidiary (FWD, PHD, Health Section MoSD, and municipalities) are trying to ensure access to and utilization of client-centred quality FP services through improved contraceptive use with special focus to underserved populations, broaden the access to range of modern contraceptives method mix including long acting reversible contraceptives (LARC) such as IUCD and implant from service delivery points, reduce contraceptive discontinuation, sustain and scale up successful innovations, evidence generation and linking with FP service delivery and demand generation interventions.

FP information, education and services are provided through the government, social marketing, NGOs and the private sectors (including commercial sectors). In public health system, short acting reversible contraceptive methods are provided through all basic health service centres. FCHVs provide information and education to women and couple at community and distribute male condoms and resupply oral contraceptive pills (OCPs). Access to LARC services in remote area is provided through satellite clinics, extended visiting service providers and mobile camps. Sterilization services are provided at static sites or through scheduled seasonal and mobile outreach services. FP services are also provided through private and commercial outlets such as NGO run clinic/centre, private clinics, pharmacies, hospitals, including academic hospitals. FP services and commodities are made available by some social marketing (and limited social franchising) agencies.

4.5.2 Objectives, policies and strategies

The overall objective of Nepal's FP programme is to improve the health status of all people through informed choice on accessing and utilizing client-centred quality voluntary FP.

The specific objectives are as follows:

- To increase access to and the use of quality FP services that is safe, effective and acceptable to individuals and couples. A special focus is on increasing access in rural and remote places and to poor, Dalit and other marginalized people with high unmet needs and to postpartum and post-abortion women, wives of labour migrants and adolescents.

- To increase and sustain contraceptive use, and reduce unmet need for FP, unintended pregnancies and contraception discontinuation.
- To create an enabling environment for increasing access to quality FP services to men and women including adolescents.
- To increase the demand for FP services by implementing strategic behaviour change communication activities.

The five policies and strategic areas to achieve the above objectives are presented in Box 4.5.1.

Box 4.5.1: Policies and strategic areas for FP
1. Enabling environment: Strengthen the enabling environment for FP *2. Demand generation*: Increase health care seeking behaviour among populations with high unmet need for modern contraception *3. Service delivery*: Enhance FP service delivery including commodities to respond to the needs of marginalized people, rural people, migrants, adolescents and other special groups *4. Capacity building*: Strengthen the capacity of service providers to expand FP service delivery 5. *Research and innovation*: Strengthen the evidence base for programme implementation through research and innovation

Target of Family Planning

Selected FP targets and indicators to ensure universal access to sexual and reproductive health-care services, including for FP/SRH program are as follows:

Table 4.5.1: SDG targets and indicators

Target and Indicators	2020 (Status)	Source	2022	2025	2030
1. Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods	61.9	NMICS, 2019	74	76	80
2. Contraceptive prevalence rate (CPR) (modern methods) (%)	44.2	NMICS, 2019	53	56	60
3. Total Fertility Rate (TFR) (births per women aged 15-49 years)	2.0	NMICS, 2019	2.1	2.1	2.1
4. Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group	63	NMICS, 2019	51	43	30

4.5.3 Major activities in 2077/78

FP program are implemented at various level (federal, province and local level). Key activities carried out in 2077/78 are as follows:

- Provision of long acting reversible services (LARCs-IUCD and Implant)
- Permanent FP Methods or Voluntary Surgical Contraception (VSC)
- Provision of regular comprehensive FP service including post-partum and post abortion FP services
- Micro planning for addressing unmet need of FP in hard to reach and underserved communities
- Provision of Roving ANM and Visiting Service Provider service to increase FP service use
- Integration of FP and immunization service
- Satellite clinic services for long acting reversible contraceptives
- Contraceptive update for Obstetrician/Gynecologist, nurses & concerned key players

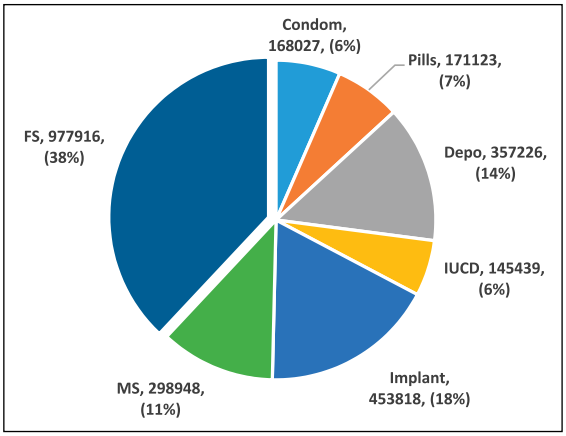
- Policy dialogue on introducing emergency contraceptive pills (ECP) in all public health facilities.
- Policy decision has been made to provide ECP through public health facilities and FCHVs.
- Interaction with organization working in people with disabilities to improve Sexual and Reproductive Health (SRH) access.
- Interaction program on FP and RH including ASRH with pharmacist and marginalized communities
- Conducted two studies entitled "Status and Determinants of the Utilization of Family Planning Services among Hard-to-Reach Population (HTRPs)" and "study on effectiveness of PHC ORC, satellite clinics and micro-planning"

4.5.4 Achievements

Family Planning Current users

Female sterilization (38%) occupies the greatest part of the contraceptive method mix among all current users, followed by Implant (18%), Depo (14%), male sterilization (11%), pills (7%), condom (6%), and lastly IUCD (6%) in Fiscal Year 2077/78 (Figure 4.5.1). Although findings of the method mix from National level survey such as Nepal Demographic Health Survey (NDHS) and Nepal Multiple Indicator Cluster Survey (NMICS) show the Depo as the second most preferred method after female sterilization. HMIS data shows the Implant as the second most utilized method.

Figure 4.5.1: Contraceptive method mix, FY 2077/78



Trend of Contraceptive method mix

The figure below shows the trend of contraceptive method mix in last five years (Figure 4.5.2). The figure depicts the share of implant in contraceptive method is in increasing trend while that of condom and male sterilization are in decreasing trend. The share of IUCD, Pills, female sterilization, depo in contraceptive method mix is almost remained stagnant in last 4-5 years.

Current users (absolute numbers) of all modern methods increased in FY 2077/78 compared to previous years in all provinces. Province 1, Karnali Province, Sudurpaschim Province shows an increasing trend compared to the previous years (Table 4.5.2). Total number of current users of permanent method exceeds that of spacing method at national level and in Madhesh Province which is almost four times (>4X) the current users of temporary methods (Table 4.5.2).

Figure 4.5.2 : Trend of contraceptive method mix , FY 2073/74- FY 2077/78

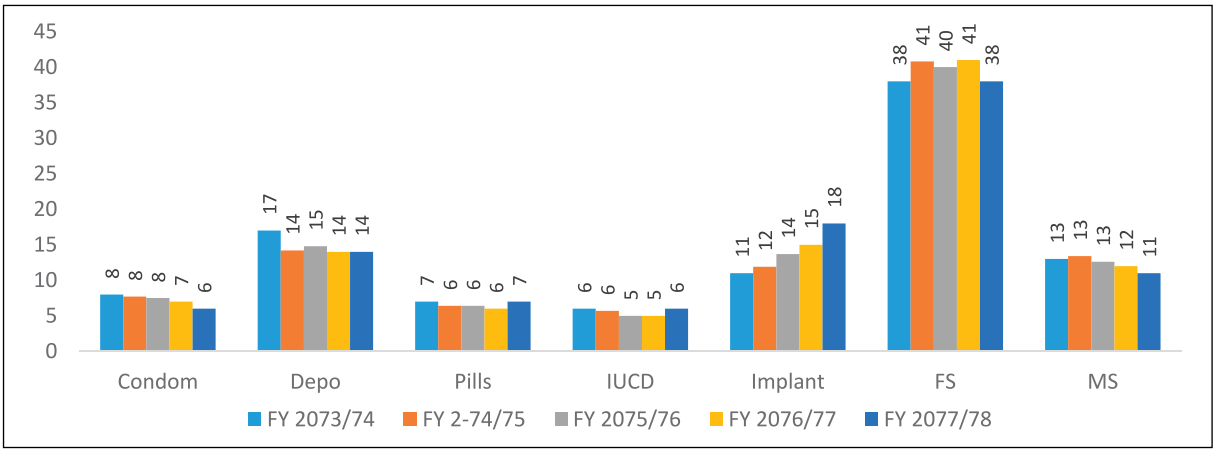


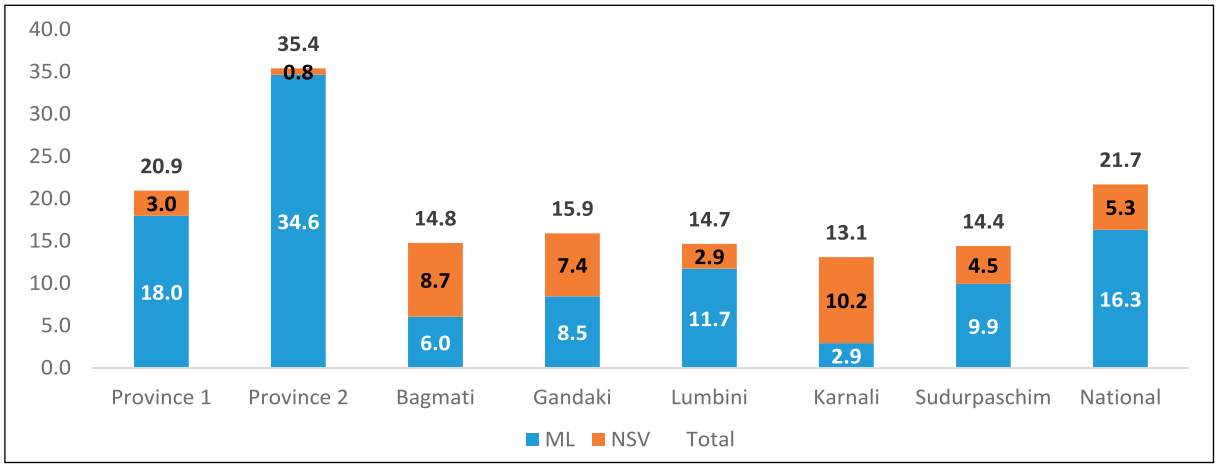
Table 4.5.2: FP current users (modern methods) by Province, 2073/74 to 2077/78 (in 000)

	Year	FY 73/74	FY 74/75	FY 75/76	FY 76/77	FY 77/78
Province 1	Spacing	266	217	207	211	230
	Permanent	239	237	230	227	224
	Total User	505	454	437	438	454
Madhesh	Spacing	126	109	120	106	125
	Permanent	486	483	470	465	457
	Total User	612	592	590	571	582
Bagamati	Spacing	304	255	220	229	275
	Permanent	223	218	206	200	195
	Total User	527	473	426	429	470
Gandaki	Spacing	99	86	100	97	105
	Permanent	103	101	97	95	92
	Total User	202	188	197	192	197
Lumbini	Spacing	295	272	310	257	292
	Permanent	176	176	169	166	164
	Total User	471	448	479	424	457
Karnali	Spacing	89	74	82	87	92
	Permanent	57	55	52	51	49
	Total User	137	129	134	138	142
Sudurpaschim	Spacing	149	145	149	155	174
	Permanent	100	99	95	94	92
	Total User	249	244	244	249	266
National	Spacing	1321	1161	1188	1144	1295
	Permanent	1385	1371	1318	1299	1276
	Total User	2707	2532	2506	2444	2572

Current users: Sterilization

Among total MWRA, Female sterilization (ML/LA) contributes about 35% in contraceptive method mix in Province 2 (Figure 4.5.3). It is evident that female sterilization (minilap under local anaesthesia--ML/LA) is popular in Terai which have contributed also in national average. Male sterilization (NSV) on the other hand is more popular in Mountain and Hill than Terai.

Figure 4.5.3: Sterilization current users as % of MWRA, 2077/78



Contraceptive Prevalence Rate

The modern contraceptive prevalence rate (mCPR) at national level stands at 39% in FY 2077/78 as compared to 37% in the previous FY. This confirms that the family planning services has resumed after COVID 19 pandemic in FY 2076/77. The 5 year trend of mCPR shows decreasing trend between FY 2073/74 to FY 2076/77, where as it increased to 39% in FY 2077/78. Madhesh Province has the highest mCPR with 43% while Gandaki has the lowest (33%). Three Provinces (Bagmati, Gandaki and Karnali) has mCPR less than national average (39%) (Figure 4.5.4).

Figure 4.5.4: Trend of modern conraceptive prevalence rate

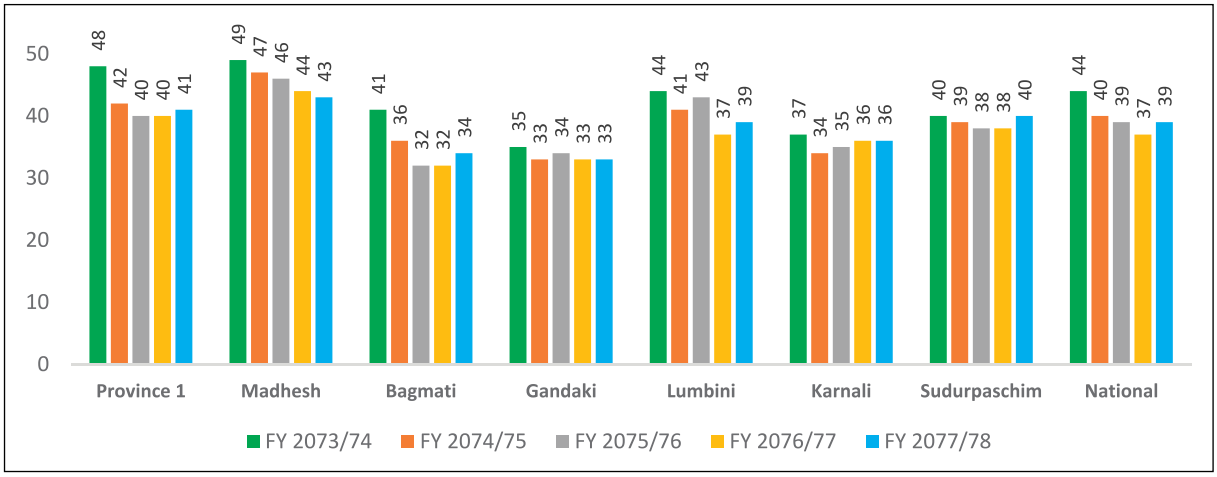
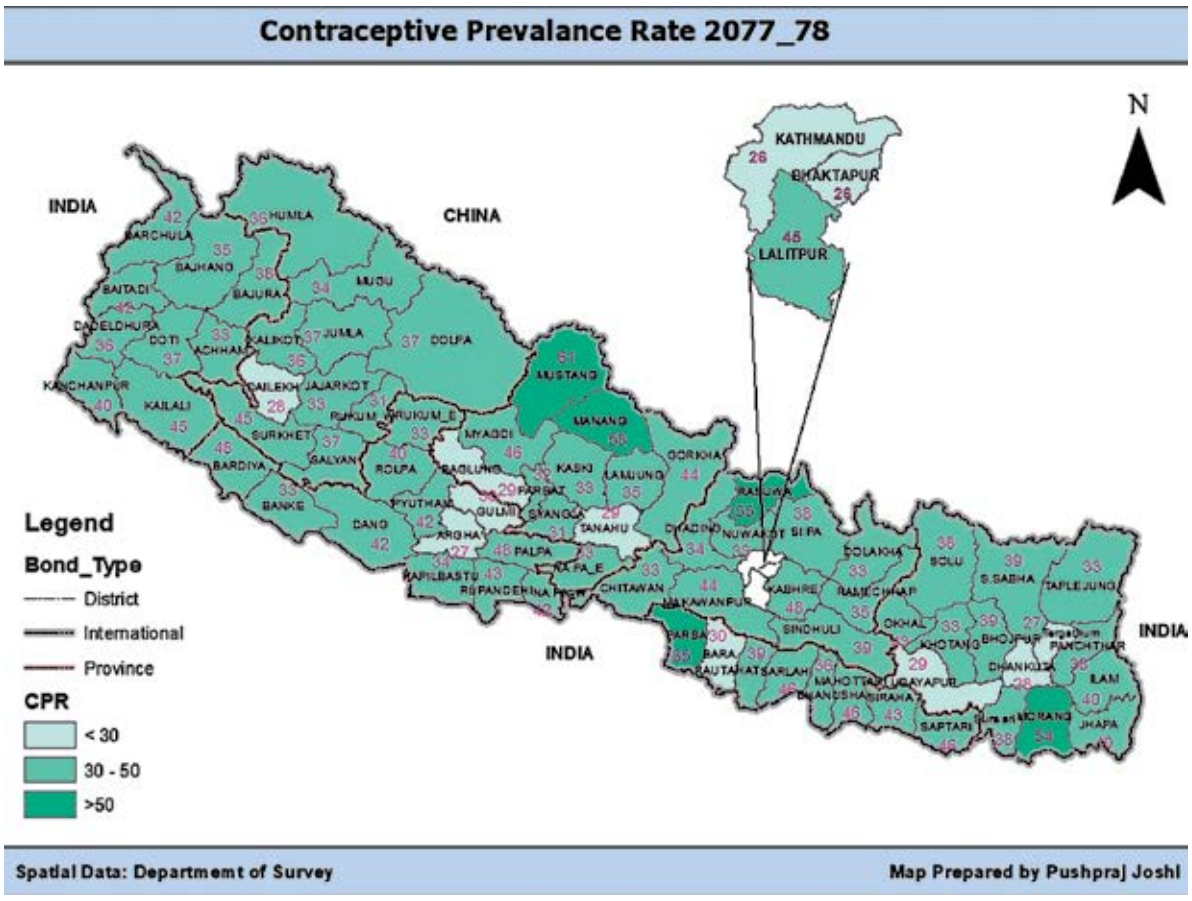


Fig 4.5.5: Contraceptive Prevalence Rate by district, FY 2077/78



District wise HMIS data indicates that in 2077/78, 5 districts had mCPR greater than or equal to 50%, 63 districts had mCPR between 30-50% and 9 districts had mCPR less than 30%. Figure shows Parsa has the highest CPR (65) whereas the Bhaktapur and Kathmandu has the lowest CPR (26).The number of districts with mCPR below 30 is in decreasing trend since FY 2074/75 (Fig 4.5.5, 4.5.6).

Figure 4.5.6: S-Curve pattern of CPR growth, 2077/78

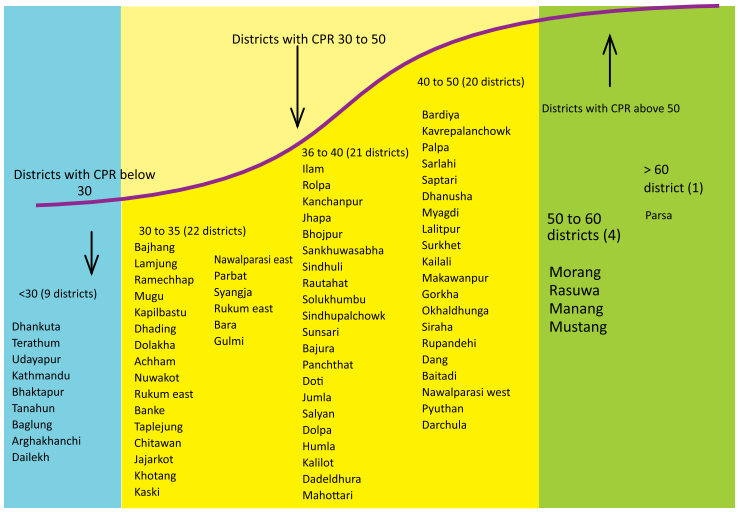
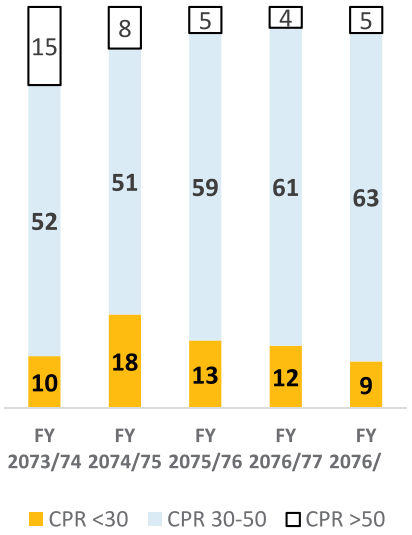


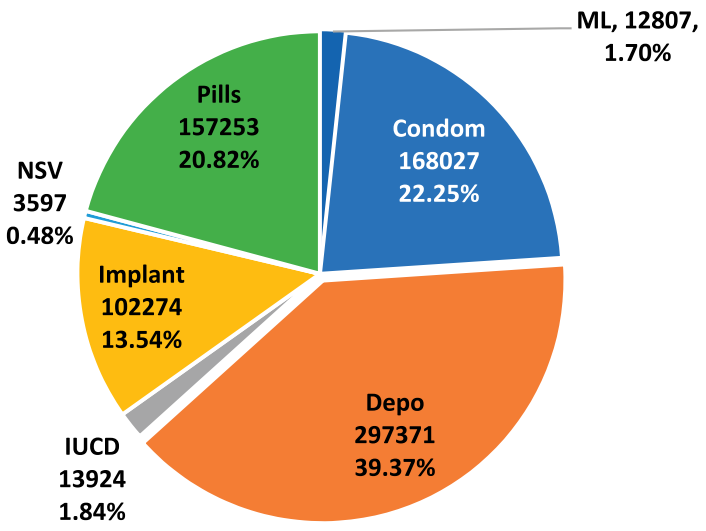
Fig 4.5.7: Trends in mCPR by number of districts, FY 2073/74-77/78



New acceptors method mix

Depo (39.37%) occupies the greatest proportion of the contraceptive method mix for all method among new acceptors, followed by condom (22.25%), pills (20.82%), implant (13.54%), IUCD (1.84%), Female sterilization (1.7%) and Male sterilization (0.48%) in 2077/78 (Figure 4.5.8). FP new acceptors (all method) as % of MWRA is same at national level and has increased in Lumbini, Karnali and Sudurpaschim, remains same in other provinces. (Figure 4.5.8)

Figure 4.5.8: Share of method mix among all new acceptors, FY 2077/78



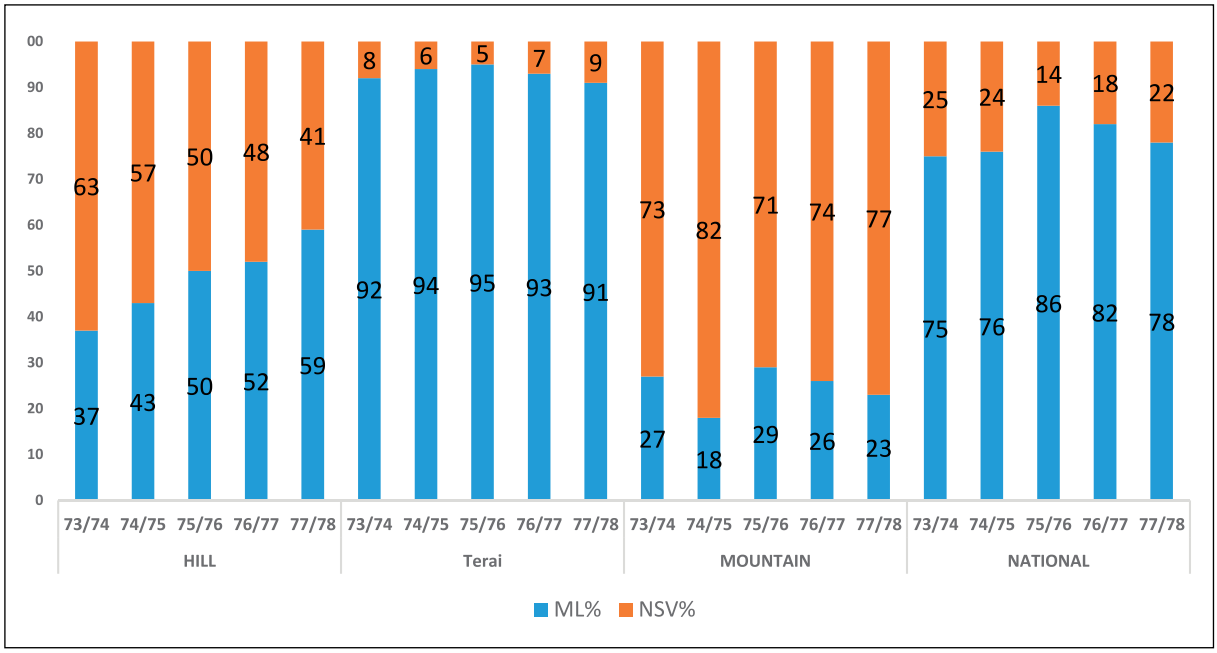
Madhesh Province recorded the highest number of VSCs/permanent methods (44,260) while Karnali Province the lowest (6,180) (Table 4.5.4). However, the number of new acceptors increased in 2077/78 compared to the previous year in all Provinces (Table 4.5.3).

Table 4.5.3: New acceptors (all modern methods) by Province, 2073/74 to 2077/78 (in 000)

	Year	73/74	74/75	75/76	76/77	77/78
Province 1	SARCs	96	86	96	87	91
	LARCs	22	25	23	19	19
	Permanent methods	6	4	6	4	4
	Total new acceptors	123	116	126	110	114
Madhesh	SARCs	86	79	84	83	88
	LARCs	13	14	15	12	11
	Permanent methods	10	9	13	8	5
	Total new acceptors	109	102	112	103	103
Bagamati	SARCs	109	101	88	90	86
	LARCs	36	32	25	22	27
	Permanent methods	4	3	2	2	2
	Total new acceptors	148	136	115	114	115
Gandaki	SARCs	55	48	46	46	46
	LARCs	11	12	10	8	11
	Permanent methods	2	2	1	2	1
	Total new acceptors	68	61	58	56	58
Lumbini	SARCs	158	146	175	124	146
	LARCs	26	27	29	21	25
	Permanent methods	4	4	3	3	3
	Total new acceptors	187	178	206	148	173
Karnali	SARCs	55	57	59	65	68
	LARCs	7	7	9	8	8
	Permanent methods	2	2	1	1	1
	Total new acceptors	64	66	69	74	77
Sudurpaschim	SARCs	86	81	80	84	99
	LARCs	15	14	13	12	15
	Permanent methods	3	2	2	2	2
	Total new acceptors	104	98	94	98	116
National	SARCs	645	598	628	579	624
	LARCs	130	131	124	102	116
	Permanent methods	31	26	28	22	18
	Total new acceptors	803	757	780	703	756

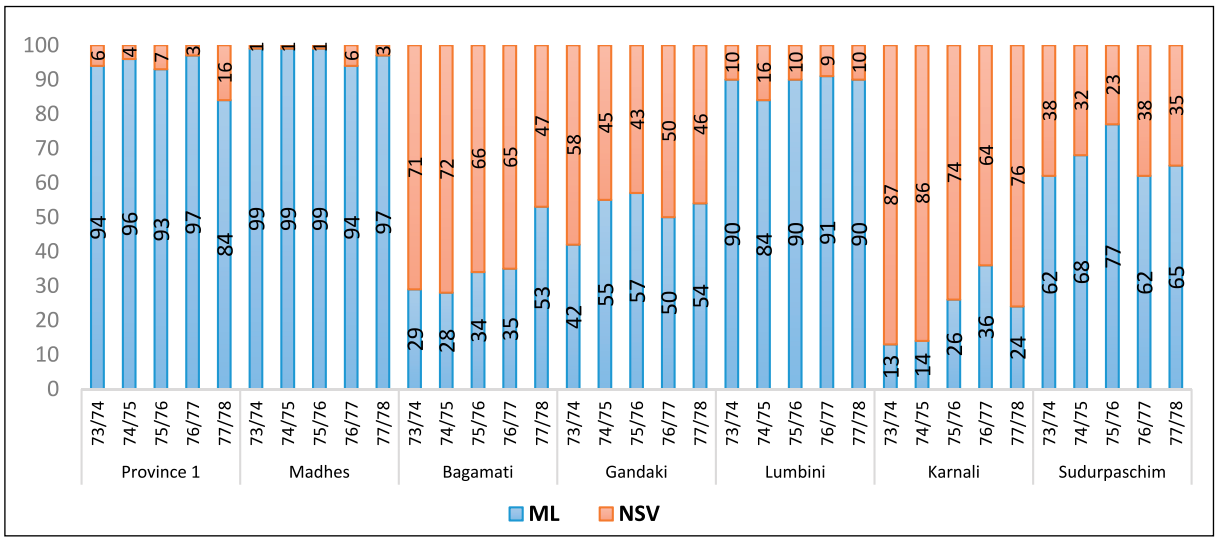
Ecological wise, Female VSC new acceptors (ML) were highest in Terai ecological region followed by Hill (Figure 4.5.9). However the share of female VSC acceptors (ML) is increasing in hill. This shows that ML is making its road in hill and indicates the increasing female participation in VSC services.

Figure 4.5.9: Share of ML and NSV new acceptors among total VSC new acceptors (%) 2073/74 - 2077/78



Among the total new sterilization services, majority of the services is utilized by female (78%) at national level. Share of miniliap (ML) is highest in Madhesh province (97%) and is lowest in the Karnali province (24%) (Figure 4.5.10). However, compared to the previous year, share of NSV increased at National level as well as in Province 1, Lumbini and Karnali Provinces which shows that male participation in sterilization services is increasing. Share of ML is increasing trend in Madhesh, Bagmati, Gandaki, and Sudurpaschim Provinces.

Figure 4.5.10 Share of ML and NSV new acceptors among total VSC new acceptors(%), FY 2073/74-2077/78



New acceptors of spacing methods

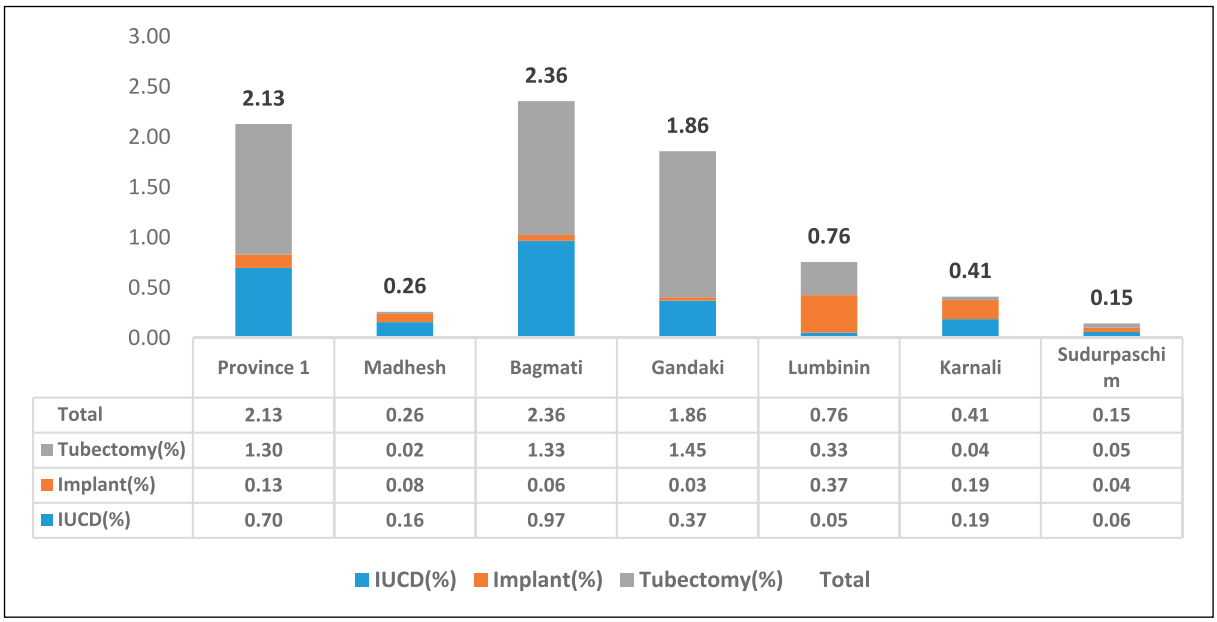
Nationally, new acceptors of all temporary methods have increased in 2077/78 compared to the previous year. Highest numbers of new acceptors for spacing (temporary) methods in 2077/78 are reported in Lumbini Province and lowest in Gandaki Province (Table 4.5.4).

Table 4.5.4: New acceptors (all temporary methods) by Province, 2073/74 to 2077/78 (in 000)

Variables	Prov 1					Madhesh					Bagmati					Gandaki					Lumbini					Karnali					Sudur pashchim				
	73/74	74/75	75/76	76/77	77/78	73/74	74/75	75/76	76/77	77/78	73/74	74/75	75/76	76/77	77/78	73/74	74/75	75/76	76/77	77/78	73/74	74/75	75/76	76/77	77/78	73/74	74/75	75/76	76/77	77/78	73/74	74/75	75/76	76/77	77/78
IUCD	4.0	3.7	2.5	2.9	1.9	5.2	5.4	3.4	2.1	1.4	10.8	9.2	5.4	3.1	4.0	3.6	2.7	2.6	1.6	1.3	6.4	6.7	5.9	2.8	3.2	0.8	0.6	0.9	0.6	0.5	3.2	3.2	1.9	1.3	1.6
Implant	17.7	21.7	21.0	16.2	17.4	7.7	8.9	11.8	9.6	9.2	25.1	23.0	20.0	19.3	23.1	7.2	9.1	7.3	6.8	9.7	19.2	20.7	23.2	18.1	21.6	6.6	6.5	8.3	7.1	8.0	12.1	11.1	11.3	10.6	13.3
Depo	45.8	41.7	51.3	43.2	47.6	38.4	37.5	41.1	39.3	43.0	55.2	52.3	44.7	49.7	45.8	20.7	17.6	17.1	18.1	18.5	62.0	55.5	74.3	50.4	61.9	26.0	29.1	29.9	34.8	38.3	31.2	33.3	33.5	36.1	42.3
Pills	23.1	21.8	21.8	23.6	23.7	21.9	18.9	22.3	24.4	26.0	23.1	23.5	19.9	20.4	20.0	13.6	10.9	11.3	11.9	11.8	33.9	33.8	44.3	33.9	40.8	11.1	12.7	14.6	16.5	16.1	16.1	14.9	14.3	15.6	18.9
Condom	26.8	22.7	23.2	20.2	19.9	25.4	22.8	20.9	19.3	18.8	30.2	24.8	23.5	20.4	19.8	20.8	19.2	18.0	16.1	15.7	61.7	57.1	56.1	39.7	43.0	18.1	15.4	14.4	14.0	13.1	38.4	33.0	31.8	32.7	37.7
Total new temp. methods acceptors	117.4	111.6	119.8	106.2	110.5	98.6	93.4	99.5	94.7	98.5	144.3	132.9	113.5	112.9	112.6	66.0	59.5	56.3	54.4	57.0	183.1	173.8	203.8	144.9	170.4	62.6	64.4	68.1	73.0	76.0	100.9	95.4	92.8	96.4	113.9

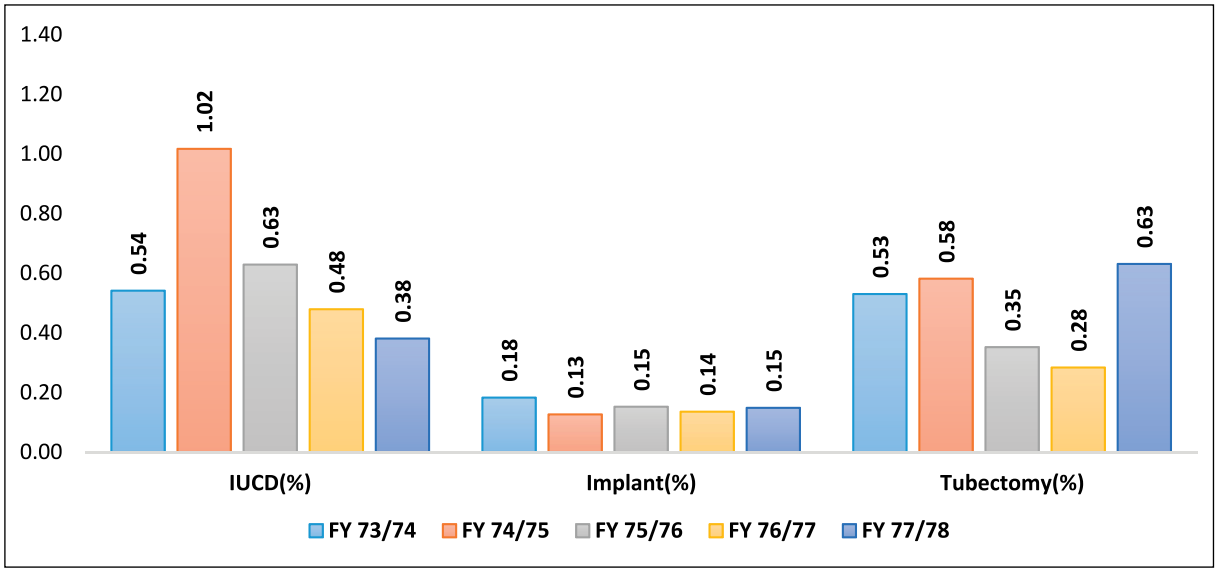
The postpartum uptake as proportion of the total facility delivery is highest in Bagamati province (2.36%), followed by Province 1 (2.13%). The lowest proportion of PPFP services is in Sudurpaschim province (0.15%) (Figure 4.5.11). Postpartum uptake of IUCD is in decreasing since FY 2074/75.

Figure 4.5.11: Post Partum Family Planning uptake as proportion of total facility delivery by province, FY 2077/78



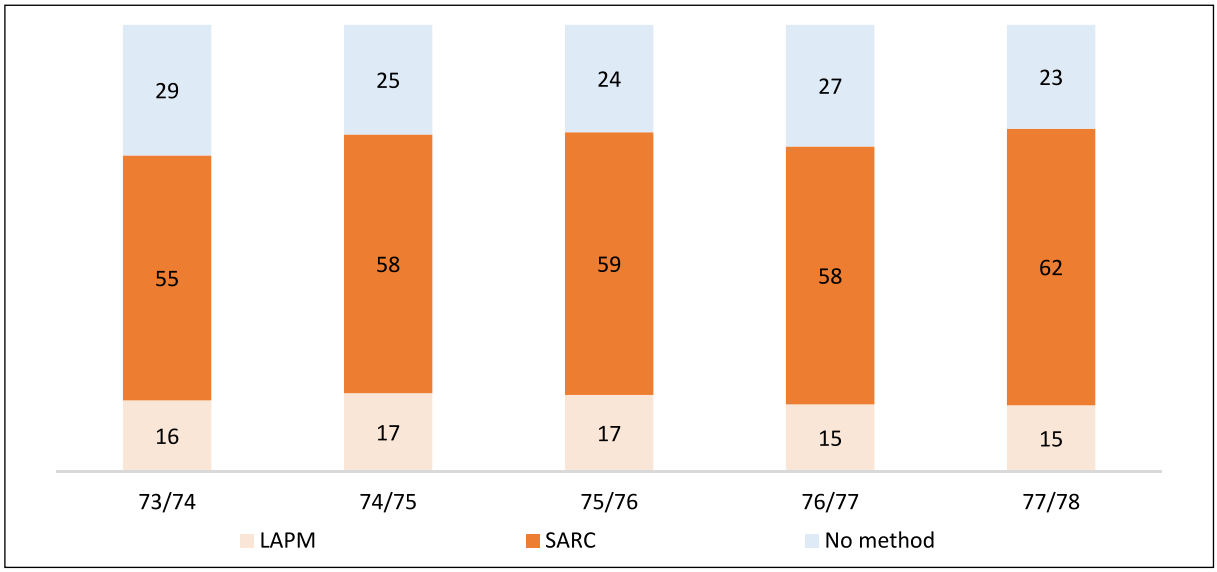
The figure below (Fig 4.5.12) shows the five year trend of postpartum uptake of family planning services. Since FY 2074/75, the proportion of IUCD is in decreasing trend. The proportion of implant is almost stagnant in last five year. Although interval IUCD uptake is in increasing trend, the postpartum implant is substantially low. The proportion of postpartum tubectomy has increased in FY 2077/78 compared to FY 2076/77.

Figure 4.5.12 : Trend of postpartum family planning as a proportion of total facillity delivery by province, FY 2077/78



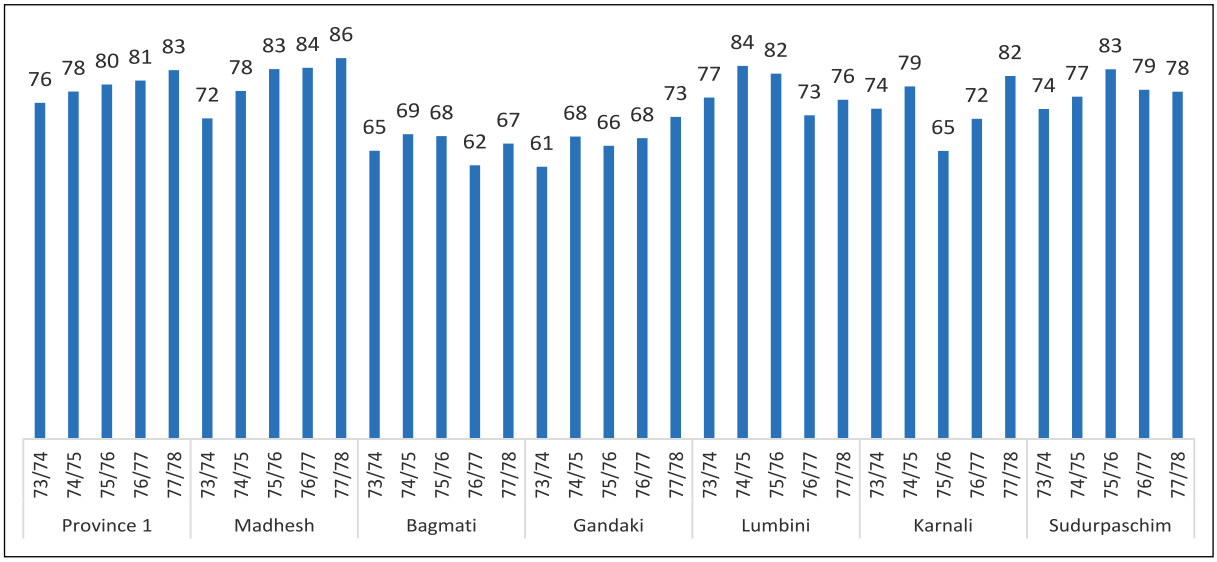
More than three-forth of women (77%) who have received abortion service accepted contraceptives (Figure 4.5.13). At the national level, post abortion contraceptive increased from 73% in 2076/77 to 77% in 2077/78. Acceptance of SARC has increased in FY 2077/78 compared to FY 2076/77 whereas the acceptance of LAPM methods is stagnant. Although different research have shown that majority of women seeking abortion service have desire to limit the fertility, but almost two-thirds (62%) have accepted less effective method (e.g. SARC) following abortion services indicating the mismatch between fertility intention and post abortion contraceptive uptake.

Figure 4.5.13: Proportion of post abortion FP method uptake by method type, FY 2073/74 to 2077/78



At the provincial level, post abortion contraceptive is in increasing in Province 1, Madhesh, Karnali and Gandaki Provinces in last five years. Post abortion contraceptive uptake is lowest in the Bagmati Province (Figure 4.5.14)

Figure 4.5.14:Trend of post abortion uptake, FY 2073/74 to 2077/78



Issues, constraints and recommendations

Table 4.5.6: Issues and constraints — family planning

Issues and constraints	Recommendations	Responsibility
Low uptake of family planning services by underserved and marginalized communities	• Mapping service availability and conduct microplanning to explore the gap and develop action plan to improve service access and utilization • Expand FP services in private and NGO run facilities.	Local, Province and Federal Government
Low uptake of immediate postpartum contraceptive uptake	• Integration of postpartum family services and counselling during antenatal care, delivery, postpartum, immunization, growth monitoring to increase FP service uptake during immediate and extended postpartum period.	FWD, PHD, Hospitals
Low and substandard reporting from high volume facilities	• Improve quality of recording and reporting of services. Conduct routine data quality assessment of family planning services	IHMIS, FWD, PHD, Hospitals, HO
Low uptake of effective family planning method following abortion services	• Improve post abortion family services method mix. Focus on the counselling and services of LARC method to address the fertility intention of women	FWD, PHD, Hospitals
Institutionalized Family Planning Service Centres are not functional	• Redefine the roles and responsibilities of IFPSC in the federal context to ensure FP service delivery. Revive the structure of IFPSC.	Federal, Provincial Government
All health facilities are not providing all temporary methods	• Strengthen and expand the capacity of FP training sites, increase service providers training • Explore LARC s coach-mentorship initiative	Federal, Provincial, Local Government

4.6 ADOLESCENT SEXUAL AND REPRODUCTIVE HEALTH

4.6.1. Background

Adolescents aged 10 to 19 constitute 24% (6.4 million) of the population in Nepal. Seventeen percent of girls aged 15-19 years are already mothers or pregnant with their first child. Only 15% of currently married adolescents use a modern method of contraceptives. The Adolescent Fertility Rate (AFR) is an increasing trend from 81 in 2011 to 88 in 2016 per 1,000 women of 15-19 years. The target of SDG is to reduce the adolescent fertility rate to 30 per 1000. National Adolescent Sexual and Reproductive Health (ASRH) is one of the priority programs of Family Welfare Division (FWD). Nepal is one of the country in South Asia to develop and endorse the first National Adolescent Health and Development (NAHD) Strategy in 2000.To address the needs of emerging issues of adolescents in the changing context, the NAHD strategy is revised in 2018 to address the problem face by the adolescent in Nepal.

Vision, Mission, Goal, objectives, target, strategic principles and direction

Vision: To enable all adolescents to be healthy, happy, competent and responsible.

Mission: Maximum use of the available methods and establishing strong bond between the concerned parties and developing strategy with the view of securing the health and development of adolescents.

Goal: To promote the sexual and reproductive health of adolescents.

General Objective: By the year 2025, all adolescents will have positive life styles to enable them to lead healthy and productive lives.

Strategic Principles and Direction

a) Participation and leaderships of adolescent
b) Equality and equity
c) Right with responsibility
d) Strategies partnerships
e) Role of central, province, and local government

Major activities conducted in FY 2077/78

- Adolescent friendly services orientation provided to the officers from district health offices of Khotang, Chitwan, Parsa, East Nawalparasi, and Tanahun
- Expansion of adolescent friendly health facilities
- Certification of adolescent friendly health facilities
- Prepared SRH package for school health nurses.
- Conducted study entitled “Functional Analysis of Ongoing Adolescent friendly Service Program in Nepal”

4.6.2. Achievements in FY 2077-78

1.1 Scale-up of Adolescent Friendly Service:

The National ASRH Program has been gradually scaled up in 1,355 health facilities across the country against the target of 2,000 health facilities set in Nepal Health Sector Strategy Implementation Plan. In FY 2077/78, orientation on adolescent friendly services were provided to the officials of district health offices of five districts namely Khotang, Chitwan, Tanahu, Parsa, and East Nawalparasi.

1.2. Certification of Adolescents friendly sites

Till the end of current fiscal year2077/78, a total of 108 health facilities have been certified as adolescent friendly site (Table 4.6.1). Quality improvement and certification tools for Adolescent Friendly Sexual and Reproductive Health (SRH) Services 2072 have been developed to guide the certification process.

Figure 4.6.1: Yearly trend of number of certified AFS sites, 2015 - 2021

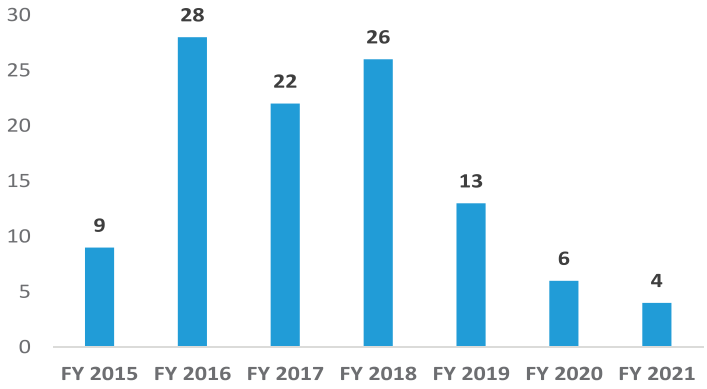


Table 4.6.1: Certified AFS sites according to provinces

Province	Number
Pradesh no. 1	12
Madhesh Pradesh	31
Bagmati	6
Gandaki	1
Lumbini	31
Karnali	2
Sudurpaschim	24
Total	108

1.3. Service Utilization

Family Planning services

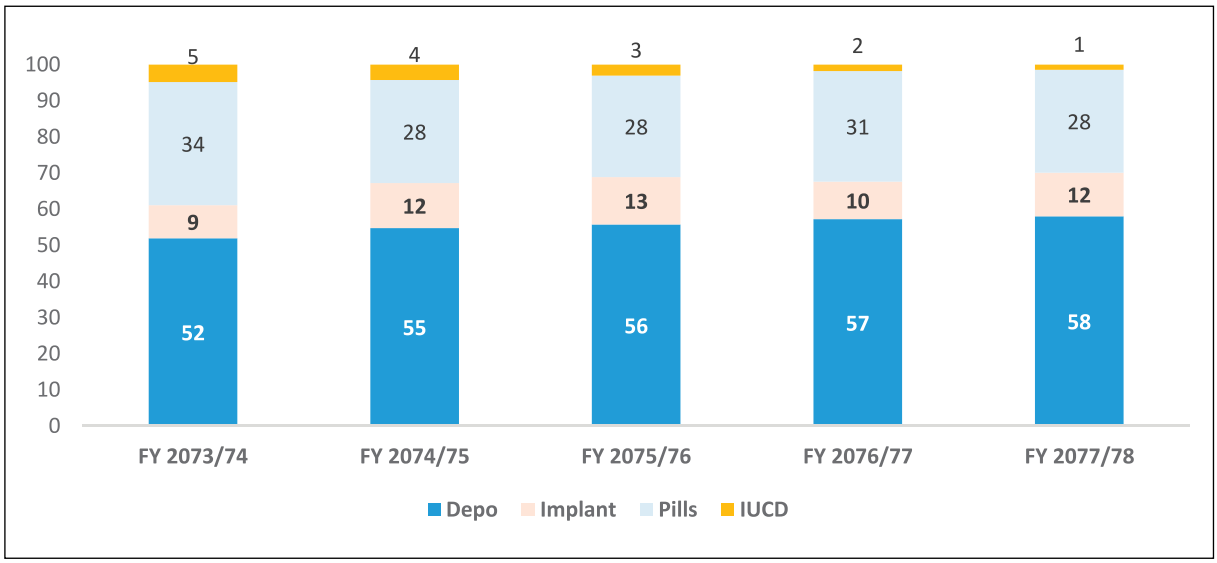
Adolescent faces the highest unmet need of family planning services in Nepal. Although government has adopted different strategies to improve their contraceptives access, the contraceptive uptake is still considerably low. The table 4.6.2 presents the decreasing trend of new users of temporary contraceptive methods (excluding condom) among the adolescents of National level in last five years. Compared to FY 2073/74, new acceptors of contraceptives decreased in all provinces except in Karnali Province in FY 2077/78.

Table 4.6.2: New acceptor of temporary contraceptive methods (excluding condom) among adolescents, 2073/74 to 2077/78

	FY 2073/74	FY 2074/75	FY 2075/76	FY 2076/77	FY 2077/78
Province 1	7733	7277	7748	6869	6133
Madhesh	7694	3818	4119	4789	3882
Bagmati	9566	9651	7673	6840	6166
Gandaki	3732	3003	3151	2782	2672
Lumbini	7038	7150	6347	6693	6179
Karnali	5826	6748	6624	7354	6675
Sudurpaschim	2634	2188	2406	1924	2036
National	**44223**	**39835**	**38068**	**37251**	**33743**

The fig. 4.6.2 shows the method mix of the new users of the contraceptives. Depo-Provera is the most preferred method contraceptive among the adolescents and account for more than 50% of temporary contraceptive method mix each year from FY 2073/74 to FY 2077/78. Pills is second preferred method. It is to be noted that the new acceptors of long acting reversible contraceptive (LARC) is decreasing among the adolescents.

Figure 4.6.2: Trend of temporary contraceptive method mix (excluding condom) among adolescents, FY 2073/74 to FY 2077/78



Safe abortion services

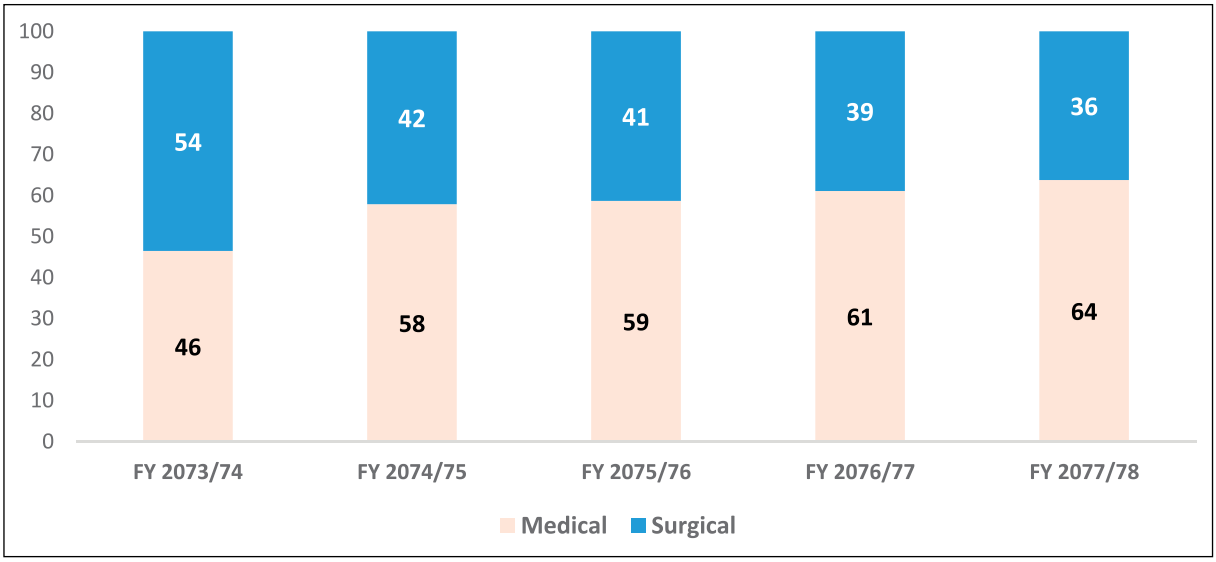
The table 4.6.3 below shows the total number of adolescents who received safe abortion services (SAS) is in decreasing trend over the last five years. The greatest decrease can be observed in Bagmati province in the FY 2075/76 and FY 2077/78. The decreased in the number of SAS user in the FY 2076/77 in all provinces can be attributed largely to the pandemic of COVID-19 and nationwide travel restriction imposed thereafter in different phases.

Table: 4.6.3: Safe abortion services received by adolescents, FY 2073/74 to FY 2077/78

Province	FY 2073/74	FY 2074/75	FY 2075/76	FY 2076/77	FY 2077/78
Province 1	1,740	1,361	1,733	1,165	1282
Madhesh	1,117	594	1299	1,052	712
Bagmati	4,511	4,433	2,469	2,462	1,444
Gandaki	1,074	1,001	1,592	905	1,056
Lumbini	3,592	1,142	1,445	1,718	1327
Karnali	442	622	996	630	496
Sudurpaschim	858	974	659	540	607
Total	**13,334**	**10,127**	**10,193**	**8,472**	**6,924**

The figure below shows the method mix for the abortion services among the adolescents. The graph shows that the share of medical abortion is in increasing trend over last five years. In the fiscal year 2077/78, almost two-third of abortions services were performed using medical abortion. This might be the result of expansion of medical abortion services from the public and private sector as well as special provision made for medical abortion services in Reproductive Maternal, Child, Neonate and Adolescent Health (RMNCAH) interim guideline.

Figure 4.6.3: Types of abortion services used by adolescents, FY 2073/74 to FY 2077/78



Safe motherhood services

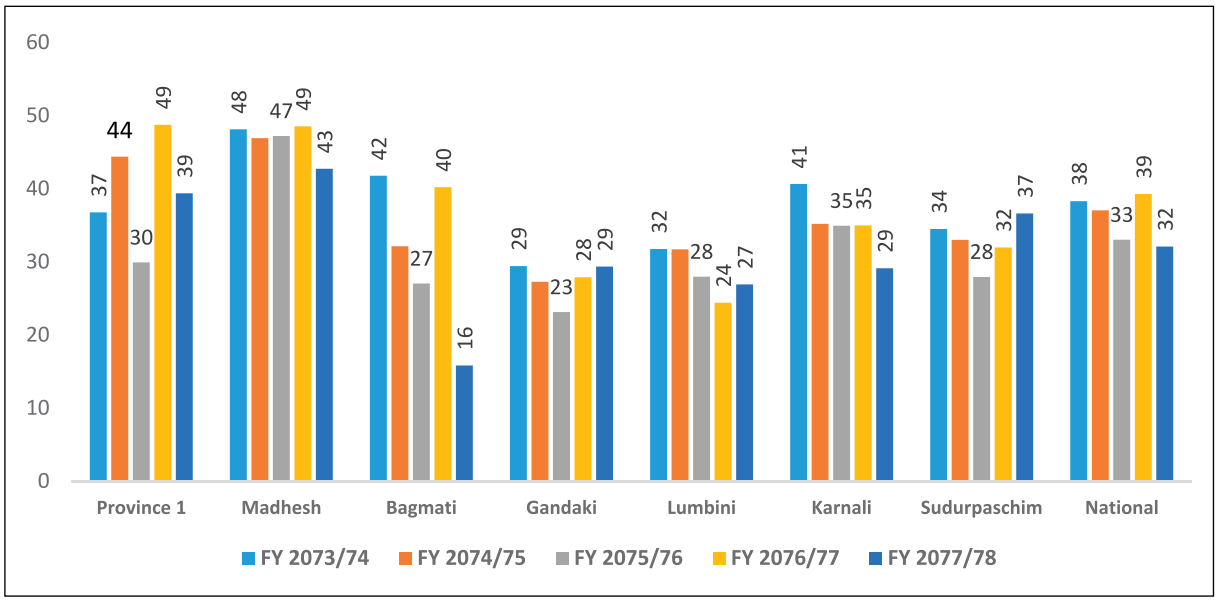
The table below (table 4.6.4) reports the number of pregnant adolescents who received antenatal care services. Madhesh Province has the highest number of adolescents who received first ANC services and first ANC visit as per protocol. Sudurpaschim Province has the lowest number of adolescents who received ANC services.

Table 4.6.4: Number of adolescents who received safe motherhood services, FY 2077/78

	1st ANC (any time)	1st ANC (as per protocol)	4th ANC (as per protocol)
Province 1	13,607	9,421	5,714
Madhesh	25,605	13,962	7,999
Bagmati	13,305	9,854	8,297
Gandaki	6,061	4,467	3,157
Lumbini	11,097	8,841	6,464
Karnali	11789	8,491	6,020
Sudurpaschim	7,345	6,048	3,834
National	88,809	61,084	41,485

At national level, the dropout rate between ANC 1st and ANC 4th visit is around 32% in FY 2077/78 which is lower than the previous year. Compared to FY 2076/77, dropout rate between ANC 1st visit and ANC 4th visit decreased in Province 1, Madhesh Province, Bagmati Province and Karnali Province. The lowest dropout in 1st ANC and 4th ANC visit in Bagmati (16%), followed by Lumbini (27%), and Karnali (29%).

Figure 4.6.4: Dropout rate (ANC 1st visit vs ANC 4th visit as per protocol) among adolescents, FY 2073/74 vs 2077/78



Issues and recommendations — Adolescent Sexual and Reproductive Health

Issues and problems raised at recent provincial and national review meetings and during monitoring of the adolescent health programs are summarized in the table below:

Issues	Recommendations	Responsibility
Low uptake of family planning services resulting in low CPR and high unmet needs	Reduce the barriers at health facilities, communities and intensify the demand generation activities adopting user centredapproaches	FWD, DoHS, MoHP, province, local level
Readiness and functionality of adolescent friendly services is not up to standard	Strengthening of the adolescent friendly health facilities using certification and monitoring checklist. Revised adolescent friendly	FWD, health directorate, local level
High prevalence of early marriage and teenage pregnancy	Intensify community awareness activities and effective implement the law	NHEICC, FWD, concerned ministries province, local level and partners
ASRH services not well integrated with other programmes (family planning, safe motherhood, HIV)	Advocate for the functional integration of ASRH issues and services in other thematic areas/ programmes	FWD province, local level and ASRH partners
IEC/BCC materials not reached to each health facilities	Ensure the supply of ASRH related IEC/BCC materials to health facilities	FWD, NHEICC, HOs province, local level and ASRH partners

4.7 PRIMARY HEALTH CARE OUTREACH

4.7.1 Background

Primary health care outreach clinics (PHC-ORC) initiated in 1994 (2051 BS) with an objective to bring health services closer to the communities. The aim of these clinics is to improve access to basic health services including family planning, child health and safe motherhood. These clinics are service extension sites of PHCs and HPs. The primary responsibility for conducting outreach clinics is of auxiliary nurse midwife (ANMs) and other paramedics. FCHVs and local NGOs and community based organisations (CBOs) support health workers to conduct clinics including recording and reporting.

Based on local needs, these clinics are conducted every month at fixed locations, dates and times. They are conducted within half an hour's walking distance for their catchment populations. ANMs/AHWs provide the basic primary health care services listed in Box 4.7.1.

Box 4.7.1: Services to be provided by PHC-ORCs according to PHC-ORC strategy

Safe motherhood and new-born care:
- Antenatal, postnatal, and new-born care
- Iron supplement distribution
- Referral if danger signs identified.

Family planning:
- DMPA (Depo-Provera) pills and condoms
- Monitoring of continuous use
- Education and counselling on family planning methods and emergency contraception
- Counselling and referral for IUCDs, implants and VSC services
- Tracing defaulters.

Child health:
- Growth monitoring of under 3 years children
- Treatment of pneumonia and diarrhoea.

Health education and counselling:
- Family planning
- Maternal and new-born care
- Child health
- STI, HIV/AIDS
- Adolescent sexual and reproductive health.

First aid:
- Minor treatment and referral of complicated cases.

4.7.2 Achievements

4.7.2.1 Conduction of PHCORC

Planned vs conducted outreach clinics by provinces for last five fiscal years is shown in table 4.7.1. Out of total planned number (147,835) of outreach clinics in 2077/78, only 80% were conducted. About 90% planned outreach clinics were conducted in Sudurpaschim province, while it was just 74% in Madhesh Province. The percentage of outreach conducted out of the planned clinics increased in FY 2077/78 compared to the previous year in all provinces. The greatest reduction in the conduction of outreach clinics was observed in FY 2076/77 which was reduced by 17% percentage points.

Table 4.7.1: Trend of PHC ORC Planned vs conducted (%), FY 2073/74 to 2077/78

	FY 2073/74		FY 2074/75		FY 2075/76		FY 2076/77		FY 2077/78	
	Planned	(%) conducted	Planned	(%) conducted	Planned	(%) conducted	Planned	(%) conducted	Planned	(%) conducted
Province no. 1	26555	93	26614	93	27086	95	25647	80	28827	86
Madhesh	29283	82	28109	83	29765	87	28638	70	28625	74
Bagmati	23228	88	22671	90	22524	93	21993	78	21525	82
Gandaki	16854	92	16232	96	16627	96	15799	80	16014	85

	FY 2073/74		FY 2074/75		FY 2075/76		FY 2076/77		FY 2077/78	
	Planned	(%) conducted	Planned	(%) conducted	Planned	(%) conducted	Planned	(%) conducted	Planned	(%) conducted
Lumbini	22721	94	22521	94	23292	94	22369	74	23858	80
Karnali	12968	85	12218	84	12422	89	12417	71	11796	77
Sudurpaschim	17307	93	17387	92	17306	96	16898	80	17190	89
National	148916	89	**14572**	**90**	**149022**	**93**	**143761**	**76**	**147835**	**80**

4.7.2.2 Service coverage

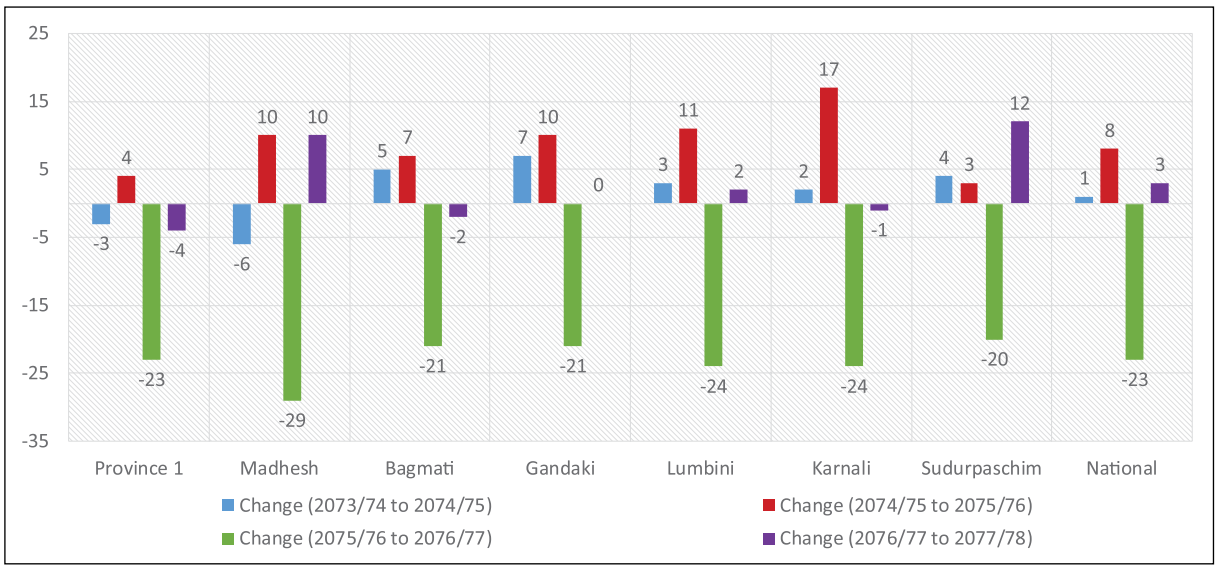
In FY 2077/78, 2.2 million clients were served from outreach (PHCORC) clinics (Table 4.7.2). The total number of clients served slightly increased by 59,622 numbers in FY 2077/78 compared to the previous year. The greatest number of decrease in the client served was in FY 2076/77. This may be attributed to the effect of COVID-19 pandemic. The number of clients served slightly increased in Madhesh and Sudurpaschim in the FY 2077/78 compared to FY 2076/77.

Table 4.7.2: Trend of clients served by PHC ORC

Province	FY 2073/74	FY 2074/75	FY 2075/76	FY 2076/77	FY 2077/78
Province no. 1	451,341	439,984	459,038	352,729	344,053
Madhesh	483,682	455,360	499,384	355,421	390981
Bagmati	340,889	356,260	380,100	298,818	291441
Gandaki	257,018	274,550	301,013	236,936	236313
Lumbini	463,944	477,063	529,097	402,992	410156
Karnali	212,788	216,813	253,274	193,174	191085
Sudurpaschim	372,779	386,814	399,273	318,749	358412
Total	25,82,441	26,06,844	28,21,179	21,58,819	22,18,441

The figure below (fig 4.7.2) shows the national and province wise changes in the client flow compared to preceding year. Until FY 2075/76, the number of clients served was in increasing trend in all provinces.

Figure 4.7.2. Change in client flow PHC ORC (%)



However, in the FY 2076/77, the client flow decreased significantly in all provinces. However, in Madhesh, Lumbini and Sudurpaschim, the number of clients served slightly increased in FY 2077/78 compared to FY 2076/77.

4.7.3 Services provision

The table below present the trend of services provided by outreach clinics in last five fiscal years. The table below shows that number of clients who received family planning services such as Depo-Provera, pills and condom are in decreasing trend.

Table 4.7.3: Trend of services provided by PHC-ORCs

Service Types	**2073/74**	**2074/75**	**2075/76**	**2076/77**	**2077/78**
Primary treatment	817,748	894,377	1,263,467	838,388	896,271
ANC	249,525	236,238	246,402	152,538	142,012
PNC	43,572	37,707	39,330	22,510	23,928
Postpartum Vitamin A	62,464	41,350	39,317	24,398	34,480
Depo (number)	189,686	175,555	166,655	115,833	108,868
Condom (number)	2,741,812	2,415,152	2,287,831	1,522,958	1,534,142
Pills (number)	104,893	85,094	90,913	61,299	58,013

4.7.4 Issues, constraints and recommendations

Issues and problems raised at recent provincial and national review meetings and during monitoring are summarized in the table below:

Table 4.7.5: Issues, constraints and recommendations— primary health care outreach

Issues / constraints	**Recommendation**	**Responsibility**
Decreasing number of clients served through outreach clinics	Conduct the micro planning to assess need and functionality status of outreach clinics.	Local level
All of planned outreach clinics are not conducted	Reactivate and orient the local government officials for regular conduction of outreach clinics.	Local Level
Quality of services provided from PHC-ORC are not up to standard	Strengthen and orient service providers to provide quality service. Ensure the necessary supplies are available round the year	FWD, Province, HO and Local Level
Inadequate supportive supervision and monitoring at all level	Role of each level of government is not clear. Develop the PHC ORC guideline and redefine the role of each level including the supervision and monitoring local	FWD

EPIDEMIOLOGY AND DISEASE CONTROL

5.1 VECTOR BORNE AND NEGLECTED TROPICAL DISEASES

5.1.1 Malaria

5.1.1.1 Background

Nepal's malaria control programme began in 1954, mainly in the Tarai belt of central Nepal with support from the United States. In 1958, the National Malaria Eradication Programme was initiated and in 1978 the concept reverted to a control programme. In 1998, the Roll Back Malaria (RBM) initiative was launched for control in hard-core forests, foothills, inner Tarai and Hill River valleys, which accounted for more than 70 percent of malaria cases in Nepal. Malaria has a greater risk in areas with an abundance of vector mosquitoes, amongst mobile and vulnerable populations, in relatively inaccessible areas, and during times of certain temperatures.

Malaria risk stratification 2077/78 (2021) was conducted to develop program intervention to suit the changing epidemiology of malaria in the country. Appropriate weightage was allocated to key determinants of malaria transmission as recommended by external malaria program review. Malaria data from last five years reveals that even within Rural Municipalities or Municipalities, malaria is concentrated within some wards while other wards remain relatively free of malaria. In order, to refine the risk stratification at the community level and thereby define the total population at risk of malaria; malaria risk micro- stratification was conducted at the wards level of Rural Municipality or Municipalities.

The methodology used recent malaria burden data supplemented by information on the spatial distribution of key determinants of transmission risk including climate, ecology, and the presence or abundance of key vector species and vulnerability in terms of human population movement. The method was based on 2012 and 2016 micro-stratification study, and it was recommended by Epidemiology and Disease Control Division (EDCD) and Malaria Technical Working Group (TWG). EDCD provided the overall oversight of the study.

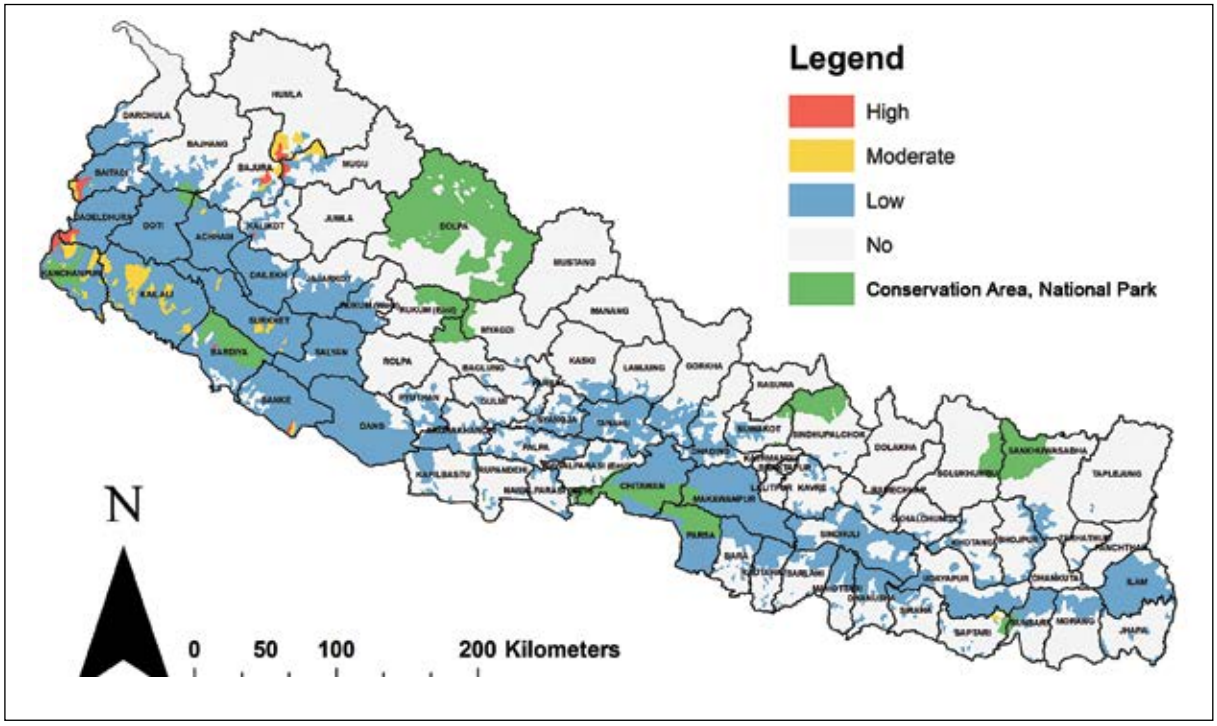
Based on this method, micro stratification 2021 was updated and the wards were designated as high, moderate and low risk wards as shown in the table below:

Province	High Risk ward	Moderate Risk Ward	Low Risk Ward
1	0	0	237
Madhesh	0	2	321
Bagmati	0	0	365
Gandaki	0	0	252
Lumbini	2	2	312
Karnali	6	15	409
Sudurpaschim	14	50	566
National	**22**	**69**	**2,462**

High risk wards identified (22) were scattered across 9 districts. Furthermore, moderate risk wards were identified in 69 wards in 12 districts (5 additional districts to the 9 districts that contained high risk wards) of these moderate risk wards.

Malaria transmission is concentrated in the Sudurpaschim and Karnali Province with these two provinces accounting for approximately 81% of high risk burden and around 94% of moderate risk burden. Malaria transmission has reached low level of endemicity in most of the Tarai regions (plain lands) but malaria infection is increasingly being detected even in upper hilly river valleys, which was traditionally classified as "No Malaria" risk area.

Figure 5.1.1.1: Ward Level Risk Classification Map (MS 2021)



Source: Malaria micro stratification report 2021

Nepal's National Malaria Strategic Plan (NMSP, 2014–2025) has shown in Box 5.1.1.1.

Box 5.1.1.1: Key Highlights of the National Malaria Strategic Plan (2014–2025 updated)

National Malaria Strategic Plan (NMSP 2014 – 2025**)** which was developed in 2013 with pre-elimination focus was updated in 2021 based on the WHO Global Technical Strategy for malaria elimination 2016 – 2030 and framework for malaria elimination, federalization of the health system, disease epidemiology and midterm malaria program review-2017.Nepal is also part of the global E-2025 countries with aim to attain **"Malaria Elimination in Nepal by 2025".**

Vision: Malaria Elimination in Nepal by 2025.

Mission: Ensure universal access to quality assured malaria services for prevention, diagnosis, treatment and prompt response in outbreak.

Goal: Reduce the indigenous malaria cases to zero by 2022 and sustain thereafter.

Sustain zero malaria mortality.

Objectives:

To ensure proportional and equitable access to quality assured diagnosis and treatment in health facilities as per federal structure and implement effective preventive measures to achieve malaria elimination.

The updated NMSP (2014-2025) will attain the elimination goals through the implementation of following five strategies:

- Strengthen surveillance and information system on malaria for effective decision making.
- Ensure effective coverage of vector control interventions in malaria risk areas to reduce transmission.
- Ensure universal access to quality assured diagnosis and effective treatment for malaria.
- Ensure government committed leadership and engage community for malaria elimination.
- Strengthen technical and managerial capacities towards malaria elimination.

5.1.1.2 Major activities in 2077/78

- 1,25,794 LLINs were distributed as mass distribution and 32,707 LLINs were distributed through regular distribution to people leaving in active foci, malaria risk groups, army, police, and pregnant women at their first ANC visits.
- Conducted the ward-level micro-stratification of malaria cases in 77 districts.
- Continued case-based surveillance system as key intervention, including web-based recording and reporting for districts. The malaria disease information system (MDIS) is now fully operational.
- Orientated district and peripheral level health workers on case-based surveillance and response.
- Started private sector engagement activities; health worker orientation on malaria diagnosis and treatment, recording and reporting to DHIS2 on correctly and timely manner.
- Carried out detailed foci investigation at 40 sites.
- Orientated district health workers and FCHVs on the government's malaria elimination initiative and their role in detecting cases and facilitating early treatment.
- Orientated mother groups and school children on malaria prevention and the need for early diagnosis and prompt treatment.
- Conducted quarterly and annual review meetings for district and central level staff. Participants reviewed data from peripheral facilities and revised it based on suggestions.
- Started Prevalence of Laboratory confirmed malaria among clinical malaria cases identified by physicians in referral hospitals of Nepal
- Conducted operational research on malaria vector behaviour and insecticide resistance.
- Conducted regular vector control activity (indoor residual spraying) biannually across high and moderate risk districts.
- Conducted detailed case-based investigation and fever surveys around positive index cases.
- Conducted integrated entomological surveillance around twelve different sites throughout the country.
- Conducted supportive supervision to SDPs.
- Celebrated World Malaria Day on 25 April.

Current Achievement

In 2077/78, National Malaria Program has achieved 90% (66) reduction in indigenous malaria cases compared to 2071/72 (683). Case and Foci investigation are getting momentum; around 93% cases gone through the case-based investigation which was around 97% in 2076/77. Due to the COVID-19 pandemic, this year annual blood examination rate (ABER) is decreased (1.32%) compared to 2076/77 and positivity rate and annual parasite incidence are in decreasing (0.24% and 0.03) trend respectively.

In 2077/78, altogether 40 suspected foci were investigated. Out of which only 30 foci were active where local transmission was ongoing. In this year, a total 117 foci were residual non-active, and 152 foci were cleared.

The trends of the malaria epidemiological situation from FY 2075/76 show decreasing trend which can be seen in the following table (5.1.1.1).

Confirmed malaria cases decreased from 1065, 619 and 377 in 2075/76, 2076/77 and 2077/78 respectively. The proportion of P. falciparum infections is increased and accounted for 13.5 percent of all cases in current year.

- During 2004–2007, the annual parasite incidence (API) remained stable (0.26-0.27 per 1000 population country wide), and thereafter gradually declined to 0.08 in 2074/75, however due to the decreased number of risk people, in 2075/76, the API is 0.05 in 2076/77. This year, the API is 0.03 the lowest level ever recorded (calculated based on denominator set after micro-stratification, 2021/HMIS).
- The trend of clinically suspected malaria cases is also decreasing, mainly due to the increased coverage of RDT, microscopic laboratory service at peripheral level and regular orientation and onsite coaching of service providers. A total of 152 probable/clinical suspected malaria cases treated by chloroquine through OPD were reported in 2077/78.

The overall trend of the national malaria metric indicators (Table 5.1.1.1) indicates that Nepal has entered in the elimination phase with API less than 1 in all the provinces.

Table 5.1.1.1:Malaria epidemiological information (FY 2075/76–2077/78)

Items /indicators	2075/76	2076/77	2077/78
Total population	12,224,703	12,175,815	11,902,650
Total slide examined	199,927	251,138	156,783
Total positive cases	1065	619	377
Total indigenous cases	440	102	66
Total imported cases	625	517	311
Total P. *falciparum* (Pf) cases *	58	56	51
% of Pf of total cases*	5.45	9.05	13.53
Total indigenous *Pf* cases *	7	5	8
% indigenous *Pf* cases *	12	9	16
Total imported *Pf* cases *	51	51	43
% imported *Pf* cases	88	91	84
Total P. *vivax*(Pv)cases	1007	563	326
Total indigenous *Pv* cases	433	97	58
% indigenous *Pv* cases	43.0	17	18
Total imported *Pv* cases	574	466	268
% imported *Pv* cases	57.0	82.8	82
Annual blood examination rate	1.63	2.06	1.32
Annual parasite incidence	0.09	0.05	0.03
Annual *Pf* incidence	0.005	0.005	0.004
Slide positivity rate	0.53	0.25	0.24

Items /indicators	2075/76	2076/77	2077/78
Slide *Pf* positivity rate *	0.03	0.02	0.02
Death from Malaria	0	0	0
Probable/clinical suspected malaria cases	695	373	129
Active Foci	107	38	30
Residual Non Active Foci	303	241	117
Cleared Foci	168	150	152

Source: EDCD/DoHS

The highest number of total confirmed cases were reported from Kailali district (103) followed by Kanchanpur district (47), Banke (42), Achham (24), Surkhet (16), Baitadi (15). When we disaggregated the case per their classification (imported and indigenous); Kanchanpur district diagnosed highest number of indigenous cases (15) followed by Baitadi (12), Humla (7), Dadeldhura (6), Kailali (6), Banke, Kalikot and Surkhet diagnosed the same 4 cases. The number includes private sector as well, which shows substantial progress towards elimination targets, however, it requires continuous attention for further improvement.

Table 5.1.1.2: Province wise Malaria epidemiological information of 2075/76 to 2077/78

Province	Annual Blood Examination rate (ABER) of malaria at risk population			Malaria annual parasite incidence per 1000 population			% of Pf cases among the total malaria cases			% of imported cases among positive cases of malaria			Slide positivity rate of malaria		
	2075/76	2076/77	2077/78	2075/76	2076/77	2077/78	2075/76	2076/77	2077/78	2075/76	2076/77	2077/78	2075/76	2076/77	2077/78
Province 1	2.64	2.23	1.64	0.01	0.01	0.00	21.05	26.7	0	78.95	93.3	100	0.06	0.06	0.02
Madesh	1.57	1.07	1.05	0.03	0.02	0.01	17.74	15.6	27.3	85.48	96.9	90.9	0.2	0.15	0.05
Bagmati	1.17	4.35	0.71	0.02	0.02	0.01	37.04	32.4	70	85.19	80	86.5	0.13	0.05	0.05
Gandaki	0.56	0.44	0.42	0.03	0.02	0.01	21.88	8.7	25	96.88	100	86.5	0.48	0.44	0.25
Lumbini	2.59	3.61	2.71	0.1	0.07	0.04	4.95	6.4	30.9	80.18	88.7	91.7	0.39	0.21	0.16
Karnali	0.78	0.86	0.52	0.18	0.04	0.02	0.42	5.9	5.9	17.23	72.5	72.5	2.35	0.46	0.48
Sudhurpachim	1.61	2.10	1.52	0.18	0.16	0.08	3.01	6.6	4.48	61.08	79.7	82.5	1.11	0.78	0.53

Source: EDCD/DoHS

Recommendations from Provincial and national reviews and actions taken in 2077/78

Problems and constraints	Action to be taken	Action taken
• Confirmation of suspected and probable malaria cases	• Malaria microscopy trainings of all untrained lab personnel • Availability of RDT at non microscopic sites • Orientation of service providers, clinicians, health workers and private practitioners • Validation of probable malaria case through cases investigation	• Increased number of malaria microscopy trainings run at VBDRTC and in other regions including lab personnel from across the country • Database created that lists of untrained and trained personnel since 2004. It aims to reduce repetition before two years of basic malaria microscopy training to provide equal opportunities • Regular periodic validation of HMIS data by EDCD in coordination with DPHOs • Decentralized training centres established in mid and far west to train more lab personnel on malaria microscopy
• Low blood slide examination rates for malaria elimination programme	• Train health workers on RDT and microscopy in malaria reported districts	• Supplied RDT at community level • Trained health workers from malaria reported districts
• Orientation on malaria programme to health workers	• Run training programmes with GFATM support	• Ongoing basic and refresher trainings on malaria microscopy for lab technicians and assistants at peripheral facilities • Oriented PHD and DHO finance and store persons on malaria programme • Oriented FCHVs on malaria
• Malaria case reporting and case investigation	• Orient district and peripheral staff on case investigation and reporting	• District and peripheral level staff oriented on case investigation, surveillance, foci investigation and reporting
• Malaria cases increasing in non-endemic district	• Programme should address non-endemic districts	• Programme will be added next year to also target non-endemic districts.

5.1.2 Kala-azar

5.1.2.1 Background

Kala-azar is a vector-borne disease caused by the parasite *Leishmania donovani,* which is transmitted by the bite of female sandfly *Phlebotomus argentipes.* The disease is characterized by fever of more than two weeks with splenomegaly, anaemia, and progressive weight loss and sometimes darkening of the skin. In endemic areas, children and young adults are the principal victims. The disease is fatal if not treated on time.

Kala-azar is slated for elimination as a public health problem in the South-East Asia Region. Elimination of Kala-azar is defined as achieving annual incidence of less than 1 case of kala-azar in 10,000 population at the implementation unit i.e. district level in Nepal, sub-district (block) in India and upa zilla in Bangladesh. The government of Nepal is committed to the WHO regional strategy to eliminate Kala-azar and signatory to the memorandum of understanding (MoU) on strengthening collaboration in the regional elimination efforts along with Bangladesh and India that was formalized during the side meeting on the occasion of World Health Assembly held in May 2005. This MoU was renewed in 2014 with inclusion of Bhutan and Thailand. In 2005, EDCD formulated a National Plan for Elimination of Kala-azar in Nepal. The National Plan was revised in 2010 as a National Strategic Guideline on Kala-azar Elimination in Nepal which recommended rK39 as a rapid diagnostic test kit and miltefosine as the first line treatment of Kala-azar. The 2010 guideline was updated in 2014 to introduce liposomal amphotericin B and combination therapy in the national treatment guideline. The 2014 National Guideline was again updated in 2019 which recommended single dose liposomal amphotericin B as the first line treatment for primary kala-azar.

5.1.2.2 Goal, objectives and strategies

Box: 5.1.2.2

Goal

- The goal of kala-azar elimination program is to contribute to mitigation of poverty in kala-azar endemic districts of Nepal by reducing the morbidity and mortality of the disease and assisting in the development of equitable health systems.

Target

- Reduce the incidence of kala-azar to less than 1 case per 10,000 populations at district level.

Objectives

- Reduce the incidence of kala-azar in endemic communities with special emphasis on poor, vulnerable and unreached populations.
- Reduce case fatality rates from kala-azar to ZERO.
- Detect and treat Post-Kala-azar Dermal Leishmaniasis (PKDL) to reduce the parasite reservoir.
- Prevent and manage Kala-azar HIV–TB co-infections.

Strategies

Based on the regional strategy proposed by the South East Asia Kala-azar Technical Advisory group (RTAG) and the adjustments proposed by the Nepal expert group, Government of Nepal, MoHP has adopted the following strategies for the elimination of Kala-azar.

- Early diagnosis and complete treatment
- Integrated vector management
- Effective disease and vector surveillance
- Social mobilization and partnerships
- Improve programme management
- Clinical and implementation research

Over the last decade, there have been significant advances in the diagnosis and treatment of kala-azar. Nepal's national programme made the rK39, dipstick test kit (a rapid and easily applicable serological test) available up to PHCC level in affected districts. Likewise, drugs for kala-azar such as liposomal amphotericin B, miltefosine and paromomycin are made available to all the kala-azar treatment centres. Kala-azar diagnostics and drugs are provided free of costs to the patients by EDCD.

5.1.2.3 Major activities in 2077/78

Case detection and treatment: Early case detection and complete and timely treatment is the mainstay of eliminating kala-azar. Kala-azar related diagnostic are provided up to PHCC level and diagnostics/treatment services are provided at district and above levels of health facilities while awareness, health education, identification and referral of suspected cases are also offered at health posts.

RDT scaling up: RDT is the simple test that can be used at all level of health care services. It does not need highly skilled laboratory staffs and test results expedite the initiation of treatment, provided standard case definitions are followed. They are currently the best available diagnostic tool for kala-azar diagnosis and can be used in any field setting. rK39 (RDT) was made available at kala-azar affected districts from level II and above health institutions. There is provision of supply on demand to any health facility in high degree of clinical suspicion.

Use of liposomal amphotericin-B as first line of treatment regimen: The WHO Expert Committee on Leishmaniasis in 2010 and the Regional Technical Advisory Group (RTAG) for the kala-azar elimination programme in 2011 recommended Liposomal Amphotericin B (L-AmB) as the first line regimen during the attack phase in the Indian subcontinent. Taking into consideration its high efficacy, safety, ease of use and assured compliance, the results of a phase 3 trial evaluating three regimens for combination therapy showed excellent efficacy and safety across all three regimens. The combination regimen has been recommended as second line regimens for the Indian sub-continent in the attack phase. In the long term, combination regimens are the best way to protect individual drugs from developing resistance. Monotherapy with Miltefosine or Paromomycin is a fourth choice (after

Amphotericin B) in the expert committee's recommendations.

L-AmB was introduced in Nepal in December 2015 after training about 60 doctors and nurses from endemic districts. The therapy should be directly observed, and patients should be hospitalized for the full duration of the therapy. L-AmB needs a cold chain (<25°Celsius) for storage; and therefore, should be made available only in hospitals where proper storage is ensured. The revised national kala-azar guideline, 2019 has recommended single dose liposomal amphotericin B as the first line therapy for primary kala-azar.

Indoor residual spraying (IRS) in priority affected areas: In 2077/78 two rounds of selective IRS were carried out in prioritized kala-azar affected areas of endemic districts based on the national IRS guideline. A total of 750 drums of insecticide were provided to District health office for spraying of insecticide. IRS is carried out only in villages where kala-azar cases were recorded in the previous year or in areas with an outbreak in the recent past. The kala-azar programme also benefits from IRS for the prevention of malaria.

Supervision and Monitoring: District health office conducted the supervision and monitoring of vector borne and neglected tropical disease. The necessary technical support was provided to palika as needed.

Annual review: The annual review of NTD/VBD was conducted at all provinces.

Disease surveillance: Improved disease surveillance is one of the very important areas to accelerate the elimination efforts of the national kala-azar elimination program. Various activities were conducted this fiscal year to strengthen the diseases surveillance which includes virtual training to early warning reporting

system (EWARS) sentinel sites as well as improved data monitoring and evaluation. During FY 2077/78, active case detection through index case-based approach was also carried out in endemic and endemic doubtful districts. Index case-based house to house searches were carried out by provincial, district, palika, local health facility staffs and FCHVs for suspected kala-azar and post kala-azar dermal lesion (PKDL) cases. Suspected cases were then screened clinically by physicians and rapid diagnostic kits (rK39) by laboratory persons and other health workers. rK39 positive cases were referred to district, provincial and federal hospitals for further confirmation and management.

5.1.2.4 Current status and trend of kala-azar cases

The number of kala-azar cases has been decreasing significantly in recent years, however geographical expansion of the cases has been observed in recent years.

FY 2074/75: A total of 239 Kala-azar cases were reported from various parts of the country which is a slight increase as compared to the previous year. Of the 239 native cases, 122 cases (51 %) were from kala-azar program districts and 117 cases from 33 non kala-azar program districts. No cases were reported from Parsa in FY 74/75 although being a program district.

FY 2075/76: There has been a decrease in the number of reported cases as compared to the previous year. A total of 216 Kala-azar cases were reported out of which 3 cases were foreign cases. Of the 213 native cases, 83 (38.9%) were from the kala-azar program district and 130 (61.1%) from 38 non program kala-azar districts. Out of all 83 cases reported from 15 kala-azar program districts, highest number of cases was reported from Surkhet (16), Jhapa (10), Morang (10) and Siraha (8) while the programme districts Bara, Parsa and Rautahat reported no cases this year.

FY 2076/77: In the FY 2076/77, as per the National Guidelines for Kala-azar Elimination in Nepal, 2019 the districts have been categorised as endemic (23 districts), endemic doubtful (46 districts) and non-endemic (8 districts) for kala-azar. There has been a decrease in the number of reported cases as compared to the previous year in this fiscal year. A total of 186 kala-azar cases were reported out of which 1 case was foreign case. Of the 185 native cases, 110 (59.5%) were from the kala-azar endemic district and remaining 75 (40.5%) were from the kala-azar endemic doubtful districts.

Out of 110 cases reported from kala-azar endemic districts, highest number of cases was reported from Kalikot (23), Palpa (12), Bajura (9) and Okhaldhunga (9). Kalikot district crossed the elimination threshold of less than one case per 10,000 population this fiscal year. Likewise, of the 75 cases reported from kala-azar endemic doubtful districts, highest number of cases was reported from Dadeldhura (10), Bardiya (7), Humla (5) and Kanchanpur (5).

Similarly, in FY 76/77, 3 cases of PKDL has been reported from- Sarlahi, Palpa and Morang districts. Likewise, 22 cases of Cutaneous Leishmaniasis (CL) have been reported from different districts in the year 2076/77.

FY2077/78: In this fiscal year, as per the national guidelines 2019, 23 districts are identified as endemic districts, 48 as endemic doubtful and 6 districts as non -endemic in Nepal. There has been a slight increase in the number of cases in this fiscal year compared to previous year (212 in 2077/78 vs. 186 in 2076/77). Out of 212 native cases, 125 cases (59%) are reported from endemic districts. Most cases in endemic districts are reported from Okhaldhunga (33), Kalikot (25), Surkhet (12) and Bajura (13). Both Okhaldhunga and Kalikot crossed the elimination threshold of less than one cases per 10,000 populations in this fiscal year. Like, of the 87 cases reported from non-endemic districts, the highest numbers of cases were reported from Achham (13), Kanchanpur (11), and Khotang (7).

The number of reported cases is higher in Sudhur Paschim Province (59) followed by Karnali (55) and Province 1 accounting for 78% of cases by these provinces..

Table: Current status of kala-azar cases (FY 77/78)

Districts	Number of kala-azar cases	Annual incidence rate per 10,00 population
Jhapa	2	0.02
Morang	1	0.01
Sunsari	0	0.00
Bhojpur	0	0.00
Okhaldhunga	33	**2.18**
Udayapur	2	0.06
Saptari	0	0.00
Siraha	1	0.01
Dhanusha	3	0.04
Mahottari	4	0.06
Sarlahi	0	0.00
Rautahat	0	0.00
Bara	0	0.00
Parsa	0	0.00
Makwanpur	4	0.09
Palpa	5	0.20
Pyuthan	5	0.21
Dang	3	0.05
Surkhet	12	0.28
Dailekh	5	0.17
Kalikot	25	**1.55**
Bajura	13	0.83
Kailali	7	0.07
Total (23) endemic districts	125	-
Total endemic doubtful districts	87	-
Grand Total	**212**	**-**

Source: EDCD, DoHS

Table 5.1.2.2 No of kalazar cases from FY 2075/76 to 2077/78

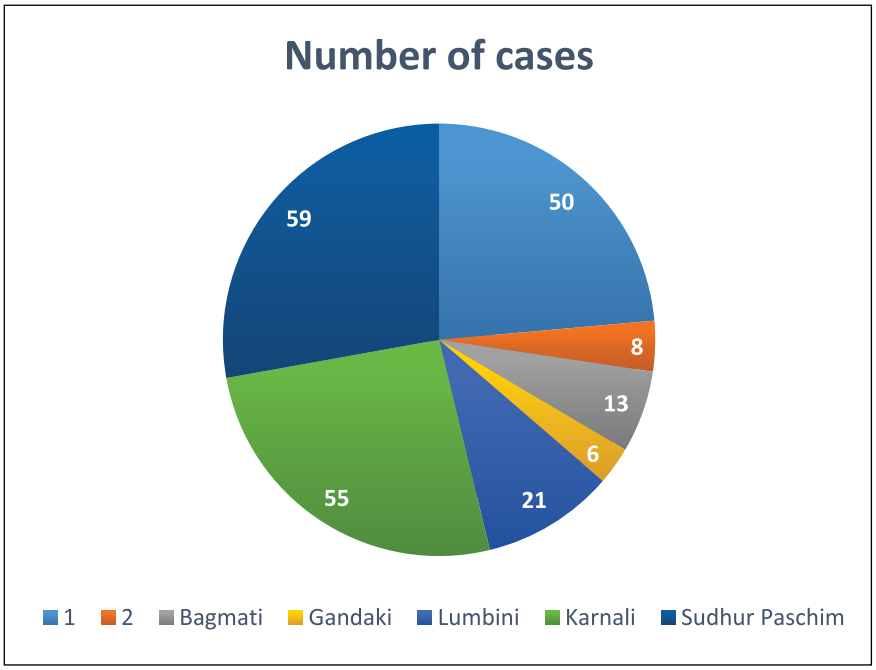
District Name	Endemicity status on 207778	2075/76	2076/77	2077/78	Total population	Incidence of kala-azar (KA) per 10,000 population 2077.78
Nepal		**213**	**203**	**212**	**30,201,100**	**0.07**
Province 1		**34**	**32**	**50**	**4,966,065**	**0.10**
TAPLEJUNG	Non-Endemic	0	0	0	130,890	0.00
PANCHTHAR	Endemic doubtful	0	0	1	197,272	0.05
ILAM	Endemic doubtful	0	0	1	313,208	0.03
JHAPA	Endemic	10	10	2	933,778	0.02
MORANG	Endemic	10	9	1	1,102,227	0.01
SUNSARI	Endemic	2	2	0	923,607	0.00
DHANKUTA	Endemic doubtful	2	2	0	171,526	0.00
TERHATHUM	Endemic doubtful	0	0	0	100,597	0.00
SANKHUWASABHA	Endemic doubtful	2	2	3	155,531	0.19
BHOJPUR	Endemic	1	1	0	153,653	0.00
SOLUKHUMBU	Endemic doubtful	0	0	0	101,969	0.00
OKHALDHUNGA	Endemic	3	2	33	151,657	2.18
KHOTANG	Endemic doubtful	1	0	7	171,360	0.41
UDAYAPUR	Endemic	3	4	2	358,790	0.06
Province 2		**19**	**18**	**8**	**6,307,016**	**0.01**
SAPTARI	Endemic	3	6	0	715,495	0.00
SIRAHA	Endemic	8	5	1	707,934	0.01
DHANUSHA	Endemic	3	5	3	847,800	0.04
MAHOTTARI	Endemic	4	1	4	715,083	0.06
SARLAHI	Endemic	1	1	0	903,458	0.00
RAUTAHAT	Endemic	0	0	0	854,640	0.00
BARA	Endemic	0	0	0	839,302	0.00
PARSA	Endemic	0	0	0	723,304	0.00
Province 3		**25**		**13**	**6,493,053**	**0.02**
SINDHULI	Endemic doubtful	2	2	3	311,828	0.10
RAMECHAP	Endemic doubtful	3	0	1	209,037	0.05
DOLAKHA	Endemic doubtful	2	1	0	186,951	0.00
SINDHUPALCHOK	Endemic doubtful	0	1	0	294,555	0.00
KAVRE	Endemic doubtful	4	3	0	403,666	0.00
LALITPUR	Endemic doubtful	2	2	1	580,399	0.02
BHAKTAPUR	Endemic doubtful	1	0	0	374,215	0.00
KATHMANDU	Endemic doubtful	2	1	3	2,274,026	0.01
NUWAKOT	Endemic doubtful	0	0	1	287,955	0.03

District Name	Endemicity status on 207778	2075/76	2076/77	2077/78	Total population	Incidence of kala-azar (KA) per 10,000 population 2077.78
RASUWA	Endemic doubtful	0	0	0	45,132	0.00
DHADING	Endemic doubtful	0	0	0	355,202	0.00
MAKAWANPUR	Endemic	6	4	4	464,613	0.09
CHITWAN	Endemic doubtful	3	0	0	705,474	0.00
Province 4		**4**	**2**	**6**	**2,522,434**	**0.02**
GORKHA	Endemic doubtful	0	0	2	244,668	0.08
LAMJUNG	Non-Endemic	0	0	0	172,033	0.00
TANAHU	Endemic doubtful	0	0	1	347,679	0.03
SYANGJA	Endemic doubtful	3	2	2	248,374	0.08
KASKI	Endemic doubtful	0	0	0	593,047	0.00
MANANG	Non-Endemic	0	0	0	6,298	0.00
MUSTANG	Non-Endemic	0	0	0	11,345	0.00
MYAGDI	Non-Endemic	0	0	0	110,624	0.00
PARBAT	Non-Endemic	0	0	0	148,434	0.00
BAGLUNG	Endemic doubtful	0	0	1	284,472	0.04
NAWALPUR	Endemic doubtful	1	0	0	355,460	0.00
Province 5		**42**	**56**	**21**	**5,134,733**	**0.04**
GULMI	Endemic doubtful	0	3	1	254,115	0.04
PALPA	Endemic	6	11	5	247,024	0.20
NAWALPARASI WEST	Endemic doubtful	0	2	0	378,282	0.00
RUPANDEHI	Endemic doubtful	1	4	3	1,081,131	0.03
KAPILVASTU	Endemic doubtful	4	2	0	675,964	0.00
ARGHAKHANCHI	Endemic doubtful	3	2	0	202,615	0.00
PYUTHAN	Endemic	6	4	5	243,187	0.21
ROLPA	Endemic doubtful	2	3	1	238,565	0.04
RUKUM EAST	Endemic doubtful	2	2	0	58,687	0.00
DANG	Endemic	3	4	3	655,761	0.05
BANKE	Endemic doubtful	8	11	0	615,728	0.00
BARDIYA	Endemic doubtful	7	8	3	483,674	0.06
Province 6		**50**	**45**	**55**	**1,824,131**	**0.30**
RUKUM WEST	Endemic doubtful	1	0	1	171,361	0.06
SALYAN	Endemic doubtful	3	4	2	274,565	0.07
SURKHET	Endemic	16	10	12	423,137	0.28
DAILEKH	Endemic	9	7	5	300,261	0.17
JAJARKOT	Endemic doubtful	1	1	3	200,510	0.15
DOLPA	Endemic doubtful	5	5	1	4,2767	0.23

District Name	Endemicity status on 207778	2075/76	2076/77	2077/78	Total population	Incidence of kala-azar (KA) per 10,000 population 2077.78
JUMLA	Endemic doubtful	0	0	3	126,380	0.24
KALIKOT	Endemic	10	12	25	161,109	1.55
MUGU	Endemic doubtful	2	2	1	64,651	0.15
HUMLA	Endemic doubtful	3	4	2	59,390	0.34
Province 7		**39**	**36**	**59**	**2,953,668**	**0.20**
BAJURA	Endemic	13	12	13	157,020	0.83
BAJHANG	Endemic doubtful	2	2	0	223,942	0.00
ACHHAM	Endemic doubtful	5	2	13	289,956	0.45
DOTI	Endemic doubtful	1	2	4	213,489	0.19
KAILALI	Endemic	7	7	7	962,091	0.07
KANCHANPUR	Endemic doubtful	2	2	11	535,075	0.21
DADELDHURA	Endemic doubtful	2	4	3	159,616	0.19
BAITADI	Endemic doubtful	3	3	6	267,249	0.22
DARCHULA	Endemic doubtful	4	2	2	145,230	0.14
Other		**3**	**0**	**0**		

Source: EDCD, DoHS

Figure: Province wise distribution of kala-azar cases FY 77/78



5.1.2.5 Strengths, issues/challenges and recommendations of National Kala-azar Elimination Program

Strengths

- Availability of free of costs drugs and diagnostics for early case detection and timely treatment of kala-azar cases.
- Availability of recently revised standard national guidelines for kala-azar elimination program in Nepal including regular trainings to health professionals on kala-azar prevention, diagnosis and management
- Use of multi-disciplinary approach to overcome the challenges for elimination of Kala-azar.
- Implementation of IHMIS and EWARS for surveillance of Kala-azar.
- Implementation of active case detection of kala-azar through index case-based approach.
- Effective partnerships and collaboration with academics, researchers and other stakeholders.

Issues/Challenges

- Lack of effective implementation of indoor residual spraying specially in endemic doubtful districts.
- Increasing number of other forms of leishmaniasis such as cutaneous leishmaniasis which needs further evaluation.
- Inadequate awareness about disease among the communities.

Recommendations

- Verification of endemicity status of kala-azar in endemic doubtful districts consistently reporting new cases of kala-azar.
- Improve the disease and vector surveillance.
- Dissemination of educational message to public, public health professionals and policy makers related to kala-azar.
- Improving active case detection and investigation and management of outbreaks.
- Increase clinical and operational research.

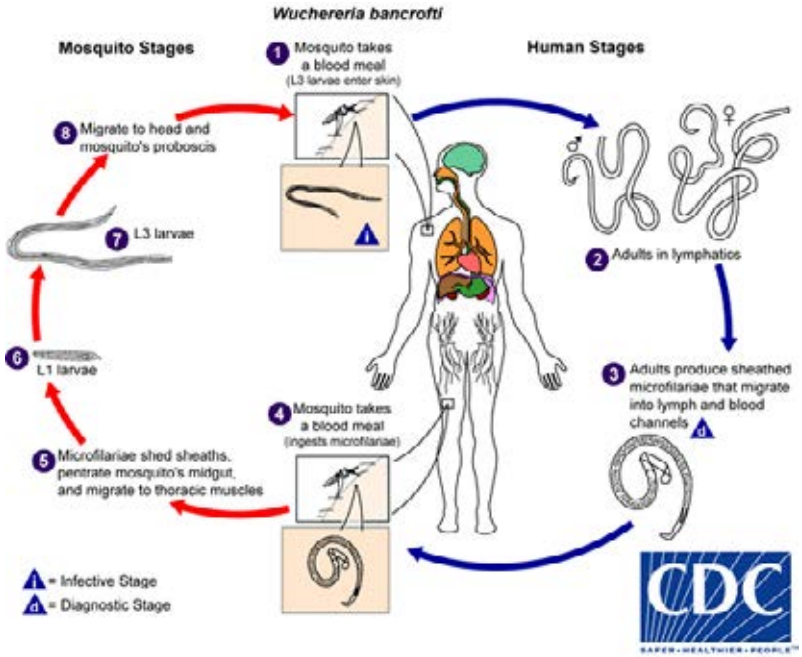
5.1.3 Lymphatic Filariasis (LF)

5.1.3.1 Background

Lymphatic Filariasis (LF), commonly known as elephantiasis is one of the mosquito borne parasitic disease. It's a painful and highly disfiguring neglected tropical disease often associated with areas that have poor sanitation and housing quality. The infection may be acquired during childhood whereas its visible manifestations may occur later in life, causing temporary or permanent disability, pain and social stigma. The infection transmitted by different species of mosquitoes (Culex, Anopheles & Aedes) is caused by a thread like filarial worms (nematodes). In majority of the cases (90%), the infection is caused by Wuchereria Bancrofti and remainder by Brugia Species (Brugia Malayi & Brugia Timori).

Adult worms reside in the lymphatic vessels interrupting the normal function of the lymphatic system. The worms have life span of about 6–8 years and produce millions of microfilariae (immature larvae) that circulate in the blood. Mosquitoes are infected with microfilariae by consuming blood when biting an infected people. Microfilariae mature into infective larvae stage within the mosquito. When infected mosquitoes bite people, mature parasite larvae are deposited on the skin from where they can enter the body. The larvae then migrate to the lymphatic vessels where they develop into adult worms, thus continuing a cycle of transmission.

Figure 1: Lifecycle of Wucheria Bancrofti



(Source: CDC, 2010)

The number of infected persons, the micro filarial density in the blood of infected persons, vector mosquito's density, and characteristics of the vector and frequencies of human-vector contact are the major factors affecting transmission of LF in a community. Filarial infection can cause a variety of clinical manifestations, including lymphoedema of the limbs, genital disease (hydrocele, chylocele) and recurrent acute attacks, which are extremely painful and are accompanied by fever. The vast majority of infected people are asymptomatic, but virtually all of them have subclinical lymphatic damage. It takes years to manifest chronic and disfiguring conditions. These conditions lead to mental, social and financial losses contributing to social stigma and poverty.

5.1.3.2 LF burden in Nepal

Nepal is one of the 73 countries listed by WHO as being endemic for LF. The disease has been detected in different topographical areas ranging from altitude of 300 feet (in the plain terrain) to 5,800 feet (high hill areas) above sea level. Comparatively, more LF cases are seen in the terai than in the hills, but valleys and river basin areas of hilly districts have also high disease burden. In Nepal, W. Bancrofti is the only recorded parasite causing LF and believed to be transmitted through Culex Quinquefasciatus mosquito.

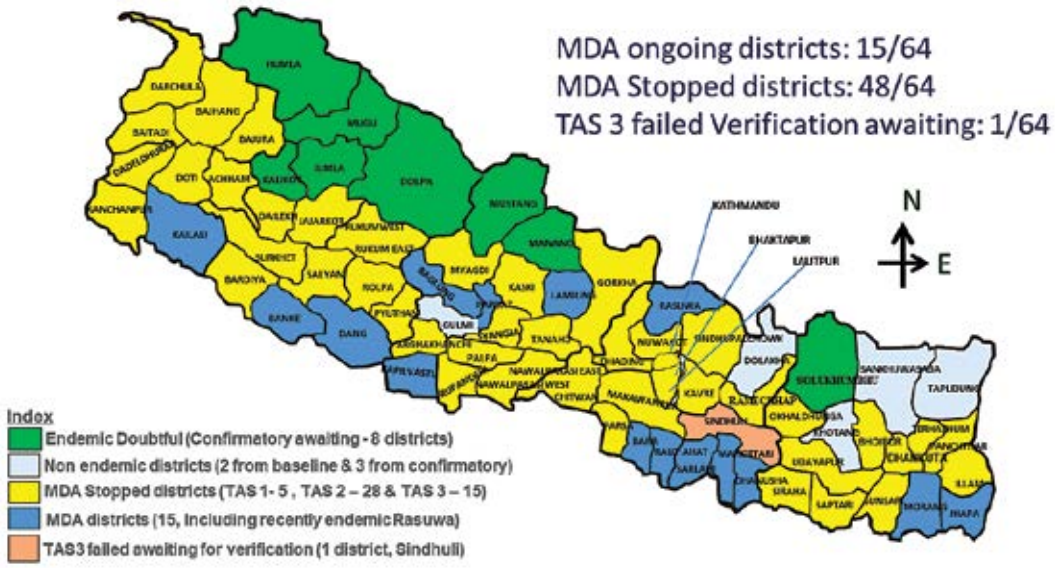
The series of LF mapping conducted between 2001- 2012 by using ICT (Immunochromatography Test card) revealed that the average baseline prevalence of LF in Nepal was 13 percent ranging from less than 1 percent to as high as 39 percent in the districts. Based on the ICT survey, morbidity reporting, vector density, sanitation status and geo-ecological comparability, 61 out of then 75 districts of Nepal were considered as endemic for LF posing risk to 25 million populations residing in those districts. In the new federal structure, two endemic districts namely; Rukum and Nawalparasi have been divided into each two districts. Nawalparasi has already completed TAS III in early 2018 whereas Rukum has completed TAS II in 2020. As of Falgun 2078 (March 2022), 5 districts are non-endemic, 8 mountainous districts are endemic doubtful, one district (Rasuwa) is found endemic after confirmatory mapping in 2021, 48 districts had stopped LF Mass Drug Administration (MDA) after successful Transmission Assessment Survey (TAS) and 15 districts are planned for LF Mass Drug Administration (MDA) in 2023(2079/80).

The morbidity record collected during MDA from 61 districts showed that 28,529 cases of LF among which majority (19,907) were hydrocele, 5,704 elephantiasis and 2,918 cases of hand & breast swelling and other LF manifestations. However, we can predict that the exact figure will be more than this as morbidity results by community mapping from 37 districts revealed that 26,153 cases of LF have been confirmed of which 17,880 cases of hydrocele, 8,076 cases of lymphoedema and 197 cases of both conditions.

5.1.3.3 Progress towards Elimination of LF in Nepal

Nepal is among the countries that have started LF MDA in all endemic districts and is on track to achieve elimination status. All 63 previously endemic districts (Rasuwa found to be endemic recently is yet to start MDA) have completed more than five rounds of MDA. 75 percent (48) of the endemic districts have started post MDA surveillance after stopping MDA. During MDA, health workers and Female community Health Workers (FCHVs) are oriented on identification of LF cases and self-care by people having lymphoedema. FCHVs and Health workers in the community can manage and provide self-care instructions and support to the cases in the community. These health workers are also able to manage the acute attacks and provide other symptomatic treatments if necessary. Along with this, they are oriented on referring hydrocele cases for surgical corrections which is available in all the federal/provincial/district/nearby hospitals with free of cost. In this aspect, morbidity management and disability prevention (MMDP) access is also available in all endemic districts. The LF endemicity status of different districts is shown in the map below:

Figure 3: LF Endemicity Status of Nepal, as of March 2022



5.1.3.4 Lymphatic Filariasis Elimination Programme of Nepal

The World Health Assembly (WHA) of 1997 passed a resolution (50.29) to eliminate LF as a public health problem and in response to this, WHO established a Global Programme to Eliminate LF (GPELF) in 2000 with a goal to eliminate LF as public health problem by 2020.

As per global commitment for GPELF, LF mapping were done in 2001, 2005/2006 and remapping in 2012 by using ICT which discovered that 61 out of than 75 districts of Nepal were endemic for LF. Almost 25 million people living in these districts are considered to be at risk of getting LF. This indicates that quite a significant number of people are estimated to be living with symptomatic and asymptomatic infections which cater as source of infection to others. Treating all potential reservoirs of infection kills the parasites (both adult and microfilaria) present in the population which in turn reduces the sources of infection and hence, the transmission can be lowered significantly and LF can be eliminated as a public health problem.

To address the challenges, Government of Nepal has also set a goal and national targets through effective implementation of WHO recommended strategies to eliminate LF by 2020. Due to failing the TAS and pre TAS in some districts the LF elimination year of Nepal is now shifted to 2030 to align with WHO NTD roadmap. Annual mass drug administration (MDA) of single doses of Albendazole plus Diethyalcarbamazine (DEC) is implemented in endemic districts, treating the entire at-risk population.

Goal

Elimination of Lymphatic Filariasis from Nepal by the year 2030 as a public health problem by reducing the level of the disease in population to a point where transmission no longer occurs

Objectives:

- To interrupt the transmission of lymphatic Filariasis
- To reduce and prevent morbidity
- To provide de-worming benefit using Albendazole to endemic communities
- To reduce mosquito vectors through application of suitable and available vector control measures (Integrated Vector Management)

Targets:

- To cover with MDA in all endemic districts by 2014
- To eliminate lymphatic filariasis as a public health problem by the year 2030 by reducing the microfilaria rate to below 1 percent (OR Antigenemia less than 2 %).

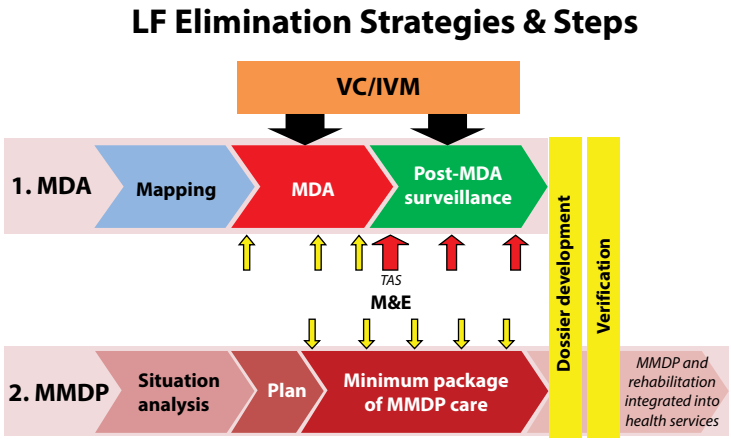
Indicators

- Prevalence of disease is the primary indicator to be used for identification and stratification of endemic areas.
- Prevalence of infection is the secondary indicator which can be used for identification of endemic areas.
- Coverage of distribution of drug and compliance of intake are important indicators for process evaluation.

Strategies

- **Interruption of transmission by Mass Drug Administration (MDA)** – Initially using two drug regimens, Diethyalcarbamazine (DEC) and Albendazole, yearly campaign for six years. Now, using three drug regimens, Ivermectin, DEC and Albendazole yearly for 2-3 years in newly endemic and Transmission Assessment Survey failure districts.
- **Morbidity management and Disability Prevention (MMDP)** – Morbidity management by self-care and with support using intensive but simple, effective, and local hygiene techniques.

Figure 3: LF Elimination Strategies and Steps



(Source: WHO; 2017)

5.1.3.5 Baseline and Mapping Survey

Baseline surveys are conducted before implementing MDA in the districts to explore the geographical distribution of the disease. These surveys determine the prevalence of the disease through examining blood for microfilariae or antigenemia in two sentinel sites each in a district. Nepal conducted LF mapping in 2001, 2005/2006 and remapping in 2012 by using ICT. These surveys revealed that the average baseline prevalence of LF infection in the country was 13 percent ranging from less than 1% to as high as 39% in the districts. The clinical cases of LF were being reported during outpatient attendance in health institutions (Central, Regional, Zonal and District hospitals; and Primary Health Care Centers (PHCs), Health Posts (HPs) at periphery) through the Health Management Information system (HMIS), but it is widely estimated that the reporting of LF related morbidity in HMIS is under reported since the private sector does not report regularly to the government authorities. Based on the ICT surveys, morbidity reporting (number of clinical

cases), and vector density, sanitation status of the districts and geo-ecological comparability (Endemicity of surrounding districts), 63 out of 77 districts of Nepal were considered as endemic for LF. Besides, these remaining 14 districts, which were mountainous and considered to be non-endemic at the time of baseline surveys, are now categorized as endemic doubtful districts following the recommendation of WHO Regional Program Review Group. Among 14 districts, four districts completed Confirmatory survey in 2021. From this, one district (Rasuwa) has been considered endemic and other 3 districts (Taplejung, Sankhuwasabha and Dolakha) are non-endemic.

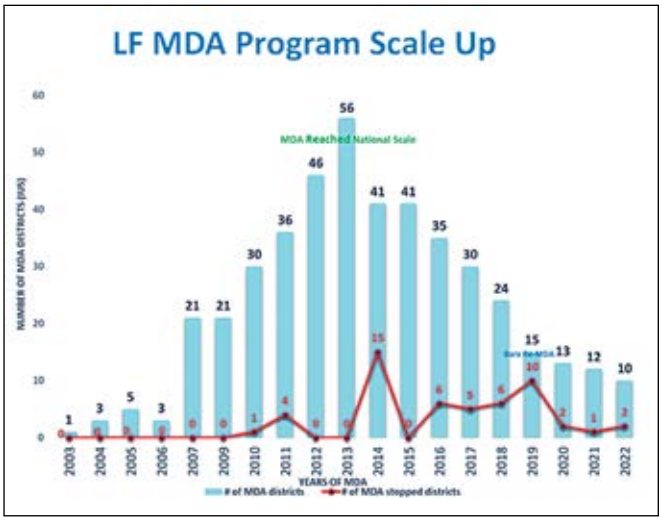
5.1.3.6 Mass Drug Administration (MDA)

Annual mass drug administration (MDA) of single doses of Albendazole plus Diethyalcarbamazine (DEC) is being implemented, treating the entire at-risk population. MDA is being continued for 6 years or more to reduce the density of microfilariae circulating in the blood of infected individuals to levels that will prevent mosquito vectors from transmitting infection. The other objective of MDA is to reduce the prevalence of the infection in the entire community. The MDA should have greater than 65 percent epidemiological coverage (proportion of individuals treated in a district) at each round. The MDA can be stopped in an implementation unit (district) after passing TAS I (Stop MDA TAS). From this year, triple drug regimen widely known as IDA (Including Ivermectin in ongoing DA doses) has been introduced in Nepal in 5 of the 10 MDA districts. This regimen is more effective in clearing microfilaria faster (lesser rounds or only two rounds) than DA MDA. The coverage of IDA MDA should have equal to or greater than 80 percent epidemiological coverage at each round.

5.1.3.7 LF MDA Program Scale up

LF Elimination program has made significant progress since MDA was first launched with Diethyalcarbamazine and Albendazole from one endemic district in 2003, achieving cent percent (all 61 endemic districts) geographical coverage in 2013. In the initial stage, the program scale up was quite slow with little ups and downs till 2006. The massive LF MDA program scale up started in 2007 which progressively reached to all then 61 endemic districts in 2013. The districts are gradually stopping MDA after successful completion of Stop MDA TAS (TAS I). As of March 2022, MDA has been stopped in 48 districts. But unfortunately, Bara district failed TAS II in 2017 where re MDA was started in 2019 and Sindhuli, Dhanusha, Mahottari, Sarlahi and Rautahat failed TAS 3 in 2020 in which MDA is planned to start in 2023 besides Sindhuli which will go for Re TAS 3 for further verifications. Thus, at this point only 48 districts are considered to have stopped MDA. Re pre TAS is planned in 5 districts, TAS 2 is planned in 2 districts, TAS 3 is planned in 13 districts and Re TAS 3 is planned in 1 district in 2022/23.

Figure 4: LF MDA Program Scale Up

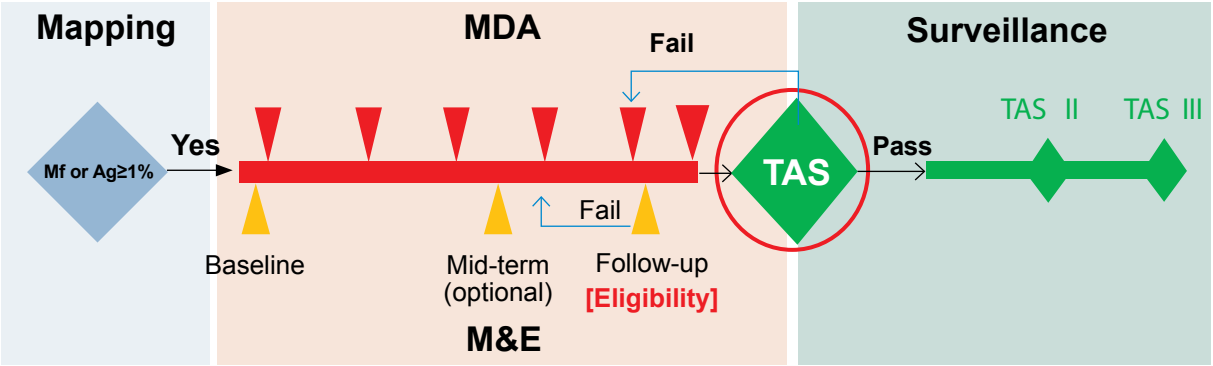


(Source: EDCD/DoHS)

Monitoring and Evaluation during and after LF MDA

Mass drug administration (MDA) is needed to reduce infection in the community to levels below a threshold at which mosquitoes are unable to continue spreading the parasites from person to person and new infections are prevented. Coverage is monitored at each MDA round to determine whether the goal of at least 65 % coverage of the total population in DA MDA district and 80 percent coverage of total population in IDA MDA was met. Epidemiology and Disease Control Division conducts post MDA Coverage Survey, Pre-Transmission Assessment Survey and Transmission Assessment Survey (I, II & III) to monitor Lymphatic Filariasis Elimination (LFE) activities using WHO guidelines for monitoring of the program. All these surveillance activities are being supported by USAID funded ACT|EAST project implemented by RTI International. After at least five rounds of effective MDA or two effective rounds after failing impact survey (Pre TAS/Re Pre TAS/follow up/Eligibility), the impact is evaluated at sentinel and spot-check sites. WHO recommends the transmission assessment survey (TAS) to determine whether the infections have been reduced below the targeted thresholds and MDA can be stopped. TAS I is conducted if all the eligibility criteria are met. Once MDA has stopped, Post-MDA Surveillance (TAS) in the same modality is used as a surveillance tool to determine that infection levels are sustained below the thresholds. TAS is repeated twice at the interval of 2-3 years during post-MDA surveillance phase. The pictorial illustration of Monitoring and Evaluation activities conducted in LF MDA program is given below:

Figure 5: Monitoring and Evaluation framework of LFE program



(Source: WHO; 2017)

As all the surveys are part of program monitoring and evaluation, LFE program has set the Ethical review and consent requirements for the monitoring of program activities, which are as follows:

1. Ethical Review: Nepal follows WHO guidelines and recommendation in implementation of LFE program activities and monitoring of program results. Therefore, Ethical Review and approval from NHRC is not required.
2. Consent: In case of school based TAS, parents, or guardians are informed through students, teachers, representatives of parents and school management committee about the survey prior to the survey. Survey will be conducted in presence of parents, guardians, teachers, and members of school management committee present on that day. Samples should not be taken from child who is not willing to participate in the survey.

Post MDA coverage survey

Post MDA coverage surveys are population-based surveys conducted by LF elimination programs to validate reported coverage rates of MDA, identify reasons for non-compliance, detecting problems with the drug supply chain and distribution systems, measuring coverage in specific population effectiveness of education,

information, and communication strategies, to improve program implementation performance for future MDAs. Altogether, 7 episodes (2007, 2009, 2011,2012,2013,2014 and 2017) of coverage surveys were done following established survey guidelines. All these surveys have validated the reported coverage rates. The major reason identified for non-compliance of MDA was fear of side effects in all the surveys. The other reasons for non- compliance were absent from home, unknown about the benefit of drug, not felt the need of drug, no participation due to exclusion criteria (less than 2 years, severely ill and pregnancy). LFE program has planned to conduct the Post MDA Coverage Survey of LF MDA 2022 representing IDA MDA districts with support from WHO Nepal.

Pre-Transmission Assessment Survey (Pre-TAS)

Pre-TAS is a follow up survey, which is undertaken after completing five rounds of MDA or two rounds after failing previous Pre TAS. This is implemented a year before conducting TAS. The main objective of this survey is to measure the effectiveness of the MDAs and to identify if the districts will qualify for transmission assessment survey (TAS) which is done after six effective MDA rounds. At least one sentinel site and one spot-check site having a population of at least 500 is identified for each district. Three hundred individuals over 5 years of age are examined from each sentinel site and spot-check site. The sentinel sites are pre-designated by program and the spot-check site are selected based on proximity, demographic similarities with sentinel site and recommendation by Health Office. To pass the survey, each site should have prevalence of antigenemia below 2 percent.

The districts (Parsa, Makwanpur, Chitwan, Nawalparasi and Rupandehi) which have completed 5 rounds of MDA for the first time conducted TAS I without conducting Pre TAS following then WHO guidelines. LF Elimination Program of Nepal conducted its first ever Pre-TAS survey in 16 districts by performing microscopy for microfilaria whereas all other Pre-TAS surveys are being conducted by using immunochromatography card test (ICT) or Filariasis Test Strip (FTS) for detection of antigenemia.

A. Stop MDA TAS (TAS I)

Transmission assessment surveys are conducted to detect whether the transmission of LF has been effectively stopped or not. This survey also points out the effectiveness of MDAs after recommended six rounds. The findings of this survey will help to decide whether to stop MDA or not in the given IUs/EUs. This survey was done by using ICT cards previously but now Filariasis Test Strips (FTS) are being used. In this survey, children of 6 -7 years old or children studying in grades 1 & 2 are tested using rapid test kit and the survey evaluates the new transmission of LF in new population. EDCD has been conducting these surveys following WHO TAS guideline. This guideline suggests conducting school based TAS surveys if the school enrolment rate is greater than 75 percent, on this basis all these surveys in Nepal are being conducted in school.

B. Post MDA surveillance (TAS II & TAS III)

The success and sustainability of LFE program depends on careful monitoring after MDA has stopped to ensure that transmission is not re-emerging. Thus, Surveillance in post MDA phase is a key programmatic step in LF elimination. It is an essential monitoring and surveillance tool to detect recrudescence of LF in MDA stopped districts as well as in districts classified or mapped earlier as non-endemic. Surveillance functions as a basis for the verification of absence or low transmission of LF. This will monitor the effectiveness of the MDAs and the re-introduction of LF infection in eliminated areas or the areas identified earlier as non-endemic. This follows the particular methodology as that of Stop MDA TAS (TAS I). Post MDA surveillance (TAS II & III) is repeated twice, first (TAS II), 2-3 years after stopping MDA and second (TAS III), 2-3 years after first (TAS II).

ACTIVITIES CONDUCTED IN LFE PROGRAM - 2020/2021 (2077/78)

MDA planning and Review meetings

Provincial Strategic Planning Meeting for IDA

The one event of Provincial Strategic planning meeting was held in central level with participation from provincial health directorate officials, district health officials in order to sensitize about the triple drug regimen for LF MDA in persistent failure districts. The meeting was focused more on learning about IDA importance, its implementation, learning from other countries and best approaches for successful MDA in coming rounds. The WHO Nepal and partners supported the meeting.

MDA Planning meetings

MDA planning meetings were held in all 10 districts of five provinces namely: province 1, Madhesh Province, Gandaki province, Lumbini province and Sudurpaschim province. Meetings were conducted by the Provincial Health Directorate with the support from EDCD. RTI ACT|EAST provided logistics and technical support in those meetings. All ten meetings went well with enormous discussions on experiences of the last MDA, challenges faced, and lesson learned. The participants included chief from health office, district LF focal persons, superintendents/representatives from Hospitals, health section chief from municipalities and officials from ministry of social development and health directorate. Five of 10 districts planned for IDA MDA so IDA's importance, extra health benefits, Severe adverse events (SAEs) associated, height based dosing approach and preparation for this, recording and reporting were also an integral part of training. As this approach was introduced for the first time, the elected Mayor or Chairman and /or Deputy Mayors or Deputy Chairman were also invited in the meeting of IDA districts.

The major presentations and discussions done in the meeting were:

- Lymphatic Filariasis: Clinical aspects in brief
- Effective communication including risk communication & coordination during MDA campaigns
- MDA Program implementation guidelines and budget review
- Micro planning focusing on unreached/resistant population
- Adverse Events following MDA and their management with special focus on SAEs identification
- Update on national progress towards LF elimination.
- Sharing: lesson learned during previous MDA campaign/Planning
- Morbidity management and disability prevention.
- Districts and local level presentation sharing experiences and challenges during MDA.
- Experience and challenges in conducting MMDP/Hydrocele surgery.

All the presentations were focused on making 2022 MDA effective. All the issues raised by the participants were resolved through discussion by health directorate and EDCD. The participants were asked to give special attention on reporting the adverse events cases as adverse events were also misreported as SAEs in the past. The suggestions were sought and provided to improve MDA coverage and program improvement in coming round. Micro planning and innovative approaches to reach the never treated population was the important agenda of these meetings.

All the local levels later organized one day municipality level planning meetings inviting health workers of the municipality to plan LF MDA in 2022.

LF MDA Campaign

The LF MDA campaign of 2022 was conducted in 114 Municipalities/Rural Municipalities of 10 districts from 12th March 2022 (28 Falgun 2078) onwards. This year, five districts conducted DA MDA whereas other five underwent IDA MDA for the first time in Nepal. The health office conducted coordination meetings, media orientations and advocacy likewise municipality conducted MDA planning meeting, health workers training, FCHV orientation and community level interaction. The medicines were administered to eligible populations through health workers with support of FCHVs. The first day was assigned for booth-based campaign and other days for mop up with house-to-house visit approach. However, Municipalities implementing MDA were free to decide on MDA approaches that are most feasible to them. MDA booths were positioned in an accessible place for every community. Eligible populations that do not come to booths for medication were covered during other days of the campaign by conducting a house-to-house visit. Before giving medicines, these eligible populations were screened by asking questions of contra-indications. The eligible populations were requested to swallow the medicines in front of the health worker. The local health facilities have continued to provide the medicines for those who missed for any reason or were ill during the campaign period. Altogether 4,700 health workers and 8,800 FCHVs were mobilized in the MDA campaign of 2022.

The FCHVs were well oriented before the campaign and the populations were made aware of the benefits of MDA and of some possible adverse events/side effects that may arise after taking the medicines. Every health facilities have managed the emergency drugs for possible serious adverse events. The rapid response teams were prepared with necessary logistics for responding any adverse events from national to the health facility level. The adverse events cases were managed locally if possible, through counseling and treatment. The serious adverse events were referred and taken to the nearest hospitals or higher centers by the rapid response team. So far, no serious adverse events have been reported this year.

Logistics Management

LF elimination program of Nepal uses combination of Diethyalcarbamazine (DEC) and Albendazole (ALB) in some districts and combination of Ivermectin + DEC +ALB in some districts for LF MDA campaign. This year all drugs are provided as donation through WHO Nepal. Before distribution to the districts, all lot of the medicines underwent quality assurance test. These medicines were directed to the districts by Logistics Management Division in coordination with EDCD which are further dispatched to the local levels through districts. The supply of logistics was timely and no stock out of the medicines was reported from the local level. However, issues of stock out of Ivermectin and DEC in particular local area were managed from other places due to issues of distribution from being a combo pack of 1000 DEC tablets in one bottle and 500 Ivermectin tablets in one bottle. The campaign was not halted due to stock out issues but the management this time was very hard and the supply should be increased for next campaign to tackle with these issues. The logistics including guidelines, registers, measuring tape for IDA districts, recording and reporting forms, posters, and disease recognition cards were also sent to the local level from the districts. There were issues of late supplies of the logistics and drugs in some local level. The other logistics like bags and street banners were made by local level.

Coordination, Advocacy and Social Mobilization

The interaction meetings and awareness raising activities for the inter-sectoral coordination and advocacy of the LF MDA program were conducted in the districts, municipalities, and wards of the municipalities involving elected representatives and varied sectors of the community. The purpose of these interaction meetings was to inform them about the LF MDA program and aware about the benefits of taking medications and possible adverse events as well as provide response to their curiosities about the program and side effects of drugs. These activities were conducted prior to LF MDA campaign.

5.1.3.8 Morbidity Management and Disability Prevention (MMDP)

In support of Accelerating the Sustainable Control and Elimination of Neglected Tropical Diseases (ASCEND), EDCD has conducted LF MMDP mapping in 14 endemic districts (Dhankuta, Siraha, Kavrepalanchok, Lalitpur, Makawanpur, Baglung, Pyuthan, Bardiya, Rukum East, Salyan, Darchula, Bajhang, Dadeldhura and Doti) in 2021 (2077/2078). MMDP- MTOT was given to the chief of health office, LF Focal person, medical officer of the districts and focal persons from provincial MoHP/MoSD and health directorate. After receiving the MTOT, they conducted training for the respective municipalities and municipalities conducted the training for their health workers. EDCD and ASCEND provided technical support for those trainings. Then, these trained HWs conducted training in their community to the FCHVs. The mapping has been completed in all these 14 districts.

SUPPORTING PARTNERS

World Health Organization (WHO)

The World Health Organization is a specialized agency of the United Nations system and its main constitutional functions are to act the directing and coordinating authority on international health work and to encourage technical cooperation on health with its member states. WHO's mandate which came into force through its constitution in 1948 is as relevant as ever, namely the attainment by all peoples of the highest possible level of health. To this effect WHO provides technical assistance and other support to member states for strengthening respective health systems of those countries.

WHO has been supporting the Lymphatic Filariasis Elimination Program in Nepal from the very beginning of the program. MDA was launched in Parsa district in 2003 with full funding and technical support from WHO. Albendazole used in the campaign is being donated by GlaxoSmithKline (GSK) through WHO. Besides this, WHO has been providing technical and financial support in disease mapping, implementing, and monitoring of LF activities.

Act to End Neglected Tropical Disease | East (Act to End NTDs| East)/RTI International

Act to End Neglected Tropical Diseases| East (Act| East) is a United States Agency for International Development (USAID) funded program implemented by Research Triangle Institute (RTI International) with a consortium of partners including The Carter Center (TCC), Fred Hollows Foundation (FHF), IMA World Health (IMA), Light for the World (L-INT), Results for Development (R4D), Save the Children, Sight savers, and Women Influencing Health, Education, and Rule of Law (WI-HER). Act to End NTDs| East supports Nepal government to reach NTD control and elimination goals through proven, cost-effective public health interventions and also provides critical support to country in its journey to self-reliance, helping to create sustainable programming for NTD control within robust and resilient health systems.

Accelerating the Sustainable Control and Elimination of Neglected Tropical Diseases (ASCEND)

Accelerating the Sustainable Control and Elimination of Neglected Tropical Diseases (ASCEND) is a global NTDs program which is funded and managed by UK government's Foreign Commonwealth Development Office - FCDO). The global NTD programme was implemented in 25 countries of Africa and Asia. In Nepal, the program focused on the elimination of Lymphatic Filariasis and Visceral Leishmaniasis and post validation surveillance survey of the Trachoma Elimination Program.

ASCEND Nepal has provided financial and technical support to implement LF confirmatory mapping in four endemicity uncertain mountain districts; Morbidity management, mapping, and disability prevention including free hydrocele surgery and providing self-care kits to over 3000 cases of lymphoedema.

Annex 1: Year Wise MDA Coverage of the districts

Year	No. of Districts	Total Population	Eligible Population	Treated population	Treated %	Coverage %
2003	1	505,000	475,000	412,923	86.93	81.77
2004	3	1,541,200	1,451,899	1,258,113	86.65	81.63
2005	5	3,008,131	2,827,050	2,509,306	88.76	83.42
2006	3	2,075,812	1,960,977	1,729,259	88.18	83.31
2007	21	10,906,869	10,270,374	8,778,196	85.47	80.48
2009	21	10,907,690	10,023,011	8,690,789	86.71	79.68
2010	30	14,162,850	13,339,351	11,508,311	86.27	81.26
2011	36	15,505,463	1,453,3412	12,276,826	84.47	79.18
2012	46	20,017,508	18,616,282	13,546.889	72.77	67.68
2013	56	21,852,201	20,322,547	16,116,207	79.3	73.8
2014	41	15,874,069	14,762,884	10,933,596	74.1	68.88
2015	41	15,981,384	14,862,687	11,117,624	74.8	69.57
2016	36	12,172,064	11,320,020	8,980,508	79.3	73.78
2017	30	10,836,033	10,077,511	7,866,700	78.1	72.60
2018	24	9,126,506	8,487,651	6,424,332	75.7	70.39
2019	15	7,849,070	7,299,635	5,228,247	71.62	66.61
2020	13	7,461,294	6,939,003	5,465,283	78.76	73.25
2021	12	7,044,990	6,551,841	5,357,045	76.04	81.76

Table 5.1.3.2: Districts wise LF chronic cases based on MMDP Mapping

S.N.	District	# Lymphedema cases	# Hydrocele cases	# Both cases	# Total cases
1.	Arghakhachi	37	70	3	110
2.	Baglung	85	158	0	243
3.	Baitadi	60	62	2	124
4.	Bajhang	25	54	7	86
5.	Bara	203	706	8	917
6.	Bardiya	464	2524	30	3018
7.	Bhaktapur	464	126	4	594
8.	Dadeldhura	23	36	0	59
9.	Dang	430	1614	16	2060
10.	Darchula	9	43	0	52
11.	Dhading	824	1342	28	2194
12.	Dhankuta	38	96	1	135
13.	Doti	124	145	0	269
14.	Gorkha	37	171	1	209
15.	Ilam	0	0	0	0

S.N.	District	# Lymphedema cases	# Hydrocele cases	# Both cases	# Total cases
16.	Kanchanpur	651	2580	14	3245
17.	Kathmandu	653	281	10	944
18.	Kavre	249	345	0	594
19.	Lalitpur	256	115	6	377
20.	Lamjung	43	172	2	217
21.	Mahottari	607	935	2	1544
22.	Makwanpur	119	247	7	373
23.	Nawalparasi	125	313	5	443
24.	Nawalpur	24	25	0	49
25.	Nuwakot	697	1562	0	2259
26.	Okhaldhunga	40	85	1	126
27.	Palpa	127	196	2	325
28.	Panchthar	56	134	3	193
29.	Pyuthan	5	167	0	172
30.	Rukum East	38	81	4	123
31.	Rupandehi	309	830	17	1156
32.	Salyan	16	46	0	62
33.	Saptari	419	1183	15	1617
34.	Siraha	264	572	6	842
35.	Sunsari	351	649	1	1001
36.	Terathum	5	29	0	34
37.	Udaypur	199	186	2	387
Total		**8076**	**17880**	**197**	**26153**

Source: EDCD/DoHS

5.1.4 Dengue

5.1.4.1 Background

Dengue is a vector-borne disease that is transmitted by mosquitoes (*Aedes aegypti* and *Aedes albopictus*) and occurs in most of the districts of Nepal. WHO (2009) classified dengue as i) Dengue without warning signs, ii) Dengue with warning signs, iii) Severe Dengue. The first dengue case was reported from Chitwan district in a foreigner. The earliest cases were detected in 2005. Since 2010, dengue epidemics have continued to affect lowland districts as well as mid-hill areas. This trend of increased magnitude has continued with number of outbreaks reported each year in many districts- Chitwan, Jhapa, Parsa (2012-2013), Jhapa, Chitwan (2016), Rupandehi, Jhapa, Mahottari (2017), Kaski (2018) and Sunsari, Kaski, Chitwan (2019).

The mostly affected districts are Kanchanpur, Kailali, Banke, Bardiya, Dang, Kapilbastu, Rupandehi, Parsa, Chitwan, Kaski, Rautahat, Sarlahi, Saptari and Jhapa, reflecting the spread of the disease throughout the Terai plains from west to east. In 2011, 79 confirmed cases were reported from 15 districts with the highest number in Chitwan (55). During 2012 -15, the dengue cases still continued to be reported from several districts but the number fluctuated between the years. In 2019, we experienced the outbreak at Sunsari (Dharan), Chitwan (Bharatpur) and Kaski (Pokhara) and since then the number of cases were in increasing trend till the start of 2020.

Aedes aegypti (the mosquito-vector) was identified in five peri-urban areas of the Terai (Kailali, Dang, Chitwan, Parsa and Jhapa) during entomological surveillance conducted by EDCD during 2006–2010, indicating the local transmission of dengue. However, recent study carried out by VBDRTC has shown that both the vector mosquitoes responsible for transmitting the disease in Nepal.

Studies carried out in collaboration with the Walter Reed/AFRIMS Research Unit (WARUN) in 2006 by EDCD and the National Public Health Laboratory (NPHL) found that all four sub-types of the Dengue viruses (DEN-1, DEN-2, DEN-3 and DEN-4) were circulating in Nepal. Details of Nepal's Dengue Control Programme are given in Box 5.1.4.1.

5.1.4.2: Goal, Objectives and Strategy of Dengue Control Programme

Box 5.1.4.1: Nepal's Dengue Control Programme

Goal — To reduce the morbidity and mortality due to dengue fever, dengue haemorrhagic fever (DHF) and dengue shock syndrome (DSS).

Objectives:

- To develop an integrated vector management (IVM) approach for prevention and control.
- To develop capacity on diagnosis and case management of dengue fever, DHF and DSS.
- To intensify health education and IEC activities.
- To strengthen the surveillance system for prediction, early detection, preparedness and early response to dengue outbreaks.

Strategies:

- Early case detection, diagnosis, management and reporting of dengue fever
- Regular monitoring of dengue fever surveillance through the EWARS
- Mosquito vector surveillance in municipalities
- The integrated vector control approach where a combination of several approaches are directed towards containment and source reduction

5.1.4.3: Major activities in 2077/78

- Conducted training for physicians, nurses, paramedics and laboratory technicians on dengue case detection, diagnosis, management and reporting as per the updated National Guidelines on Prevention, Management and Control of Dengue in Nepal-2019.
- Supplied rapid diagnostic test kits (IgM).
- Dengue case monitoring and vector surveillance.
- Supportive supervision and monitoring at district and local level.
- Search and destruction of dengue vector larvae in districts in different local levels.
- Developed IEC materials and disseminated health education messages engaging various stakeholders including the media and youth.

New Dengue cases of 2073/074 to 2077/078

Districts	**2074/75**	**2075/76**	**2076/77**	**2077/78**
Gorkha	2	0	63	1
Syangja	4	1	101	7
Kaski	553	21	2221	5
Baglung	4	1	36	3
Tanahu	1	1	184	1
Lamjung	0	0	0	27
Parbat	2	2	41	8
Mustang	1	0	2	0
Myagdi	1	0	38	89
Nawalparasi East	0	0	0	4
Gandaki Province	**568**	**26**	**2686**	**145**
Arghakhanchi	4	5	50	5
Palpa	7	7	63	0
Nawalparasi West	15	11	81	5
Rupandehi	61	55	1386	12
Kapilbastu	8	6	129	10
Pyuthan	3	2	17	4
Rolpa	0	0	6	0
Rukum East	0	0	1	0
Dang	2	2	86	10
Banke	6	5	40	19
Gulmi	10	0	43	2
Bardiya	0	0	0	6
Lumbini Province	**120**	**96**	**1902**	**73**
Surkhet	0	0	30	40
Dailekh	0	0	6	2
Salyan	1	1	7	3
Jajarkot	0	0	0	1
Rukum West	0	0	0	2

Districts	2074/75	2075/76	2076/77	2077/78
Karnali Province	**1**	**1**	**43**	**48**
Kailali	2	3	40	30
Kanchanpur	14	2	22	7
Dadeldhura	2	2	11	15
Achham	0	1	7	29
Bajhang	0	0	0	3
Darchula	9	4	15	5
Bajura	0	0	0	3
Baitadi	0	0	0	14
Doti	0	0	0	15
Sudurpashim Province	**27**	**12**	**95**	**121**
Grand Total	**811**	**3424**	**10808**	**489**

Source: EDCD/DoHS

The number of reported dengue cases has decreased from 10808 in F/Y 2076/77 to 489 cases in 2077/78. The increase in number of cases in the previous fiscal year was due to the outbreak mainly in three districts Chitwan, Kaski and Rupandehi.

Note that Dengue cases reported from Hospitals, HOs and PHCCs via. Early Warning and Reporting System (EWARS), HMIS/DHIS2 and case reports received by the programme sometimes vary. The HMIS usually receives aggregate data from hospitals and other health facilities while the programme proactively collects data from Hospitals through EWARS. EDCD verifies data with the help of line listing report of all cases.

Table 5.1.4.2: Strengths, Weakness and Challenges for the Dengue Control Program

Strengths	Weakness	Challenges
➢ Development of National Guidelines on Prevention, Management and Control of Dengue in Nepal. ➢ Establishment of online reporting system through EWARS on DHIS2. ➢ Availability of dengue registers for better recording and reporting. ➢ Formation of National Dengue Task Force at EDCD. ➢ Development of National Guidelines on Integrated Vector Management (IVM) ➢ Development of standardized training materials on dengue.	➢ Low priority for the dengue control program at province and local level. ➢ Inadequate training and orientation for newly recruited health workers and refresher trainings for focal persons and managers. ➢ Under/over reporting of dengue in HMIS. ➢ Low implementation capacity of the regulating authorities.	➢ Complete and quality reporting from all over the country as EWARS receives the reports only from the identified sentinel sites ➢ Supply and utilization of the dengue register ➢ Implementation of the national guidelines on integrated vector management ➢ Supply of RDTs to the province and local level ➢ Vector surveillance due to the unavailability of resources (trained human resources and budget)

5.1.5 Leprosy

5.1.5.1 Background

The establishment of the Khokana Leprosarium in the nineteenth century was the beginning of organized leprosy preventive services in Nepal. With an estimated number of 100,000 Leprosy cases, in the year 1966, leprosy control program using dapsone mono therapy was started as a pilot project in Nepal. This project gradually expanded as a vertical program and remained so till 1987 when it was integrated into general health services. Multi drug therapy (MDT) was introduced for the first time in Nepal in the FY 1982/83 in selected areas and hospitals. By that time number of registered cases had come down to 31,537 (Prevalence Rate of 21 per 10,000). Number of districts then with a prevalence rate (PR) of over 5 was 62 and in only three districts the PR was less than 1 per 10,000. There was a gradual and steady expansion of MDT services and by the year 1996 MDT coverage was extended to all the 75 districts of the country. Being a member country of WHO, Nepal is committed to the elimination of leprosy as a public health problem in line with the global program and is an active member of the global alliance for elimination of leprosy a six-year plan was developed in 1995 for strengthening the program. Accordingly, as per that plan, an estimation of leprosy prevalence was done and all basic health staff (BHS) were provided training in Leprosy. Health Education was intensified to improve community awareness and to facilitate case detection. The first independent evaluation of the National Leprosy Control Program (NLMP) was undertaken during January (7th to 26th) 1996, by a group of experts representing His Majesty Government (HMG), World Health Organization (WHO) and National Government Organizations (NGOs). Two rounds of Leprosy Elimination Campaigns were organized in the years 1999 and 2000.

Table 5.1.5.1: Milestones of leprosy control programme in Nepal

Year	Landmarks
1960	Leprosy survey by Government of Nepal in collaboration with WHO
1966	Pilot project to control leprosy launched with Dapsone mono therapy
1982	Introduction of multi-drug therapy (MDT) in leprosy control programme
1987	Integration of vertical leprosy control programme into general basic health services
1991	National leprosy elimination goal set
1995	Focal persons (TB and leprosy assistants [TLAs]) appointed for districts and regions
1996	All 75 districts were brought into MDT programme
1999/2000–2001/02	Two rounds of National Leprosy Elimination Campaign (NLEC) implemented
2008	Intensive efforts made for achieving elimination at the national level
2009 and 2010	Leprosy elimination achieved and declared at the national level
2011	Developed and endorsed National Leprosy Strategy (2011–2015)
2012-2013	Elimination sustained at national level and national guidelines, 2013 (2070) revised
2013-2014	Mid-term evaluation of implementation of National Leprosy Strategy (2011-2015)
2014-2015	Ministry of Health designated LCD as the Disability Focal Unit
2015-2018	Piloting of LPEP in Jhapa, Morang and Parsa
2017	Policy, Strategy and 10 Years Action Plan on Disability Management (Prevention, Treatment and Rehabilitation) 2073-2082 developed and disseminated

Year	Landmarks
2018	National Leprosy Strategy 2016-2020 (2073-2077) developed and endorsed. Revised leprosy guide line in line with national leprosy strategy and global leprosy strategy.
2019	In-depth Review of National Leprosy Programme and Envisioning Roadmap to Zero Leprosy
2020	Development of Leprosy Post Exposure Prophylaxis Guideline
2021	Development of National Roadmap for Zero Leprosy-Nepal (2021-2030) Development of National Leprosy Strategy and Action Plan of Nepal (2021-2025) Development of Leprosy Training Package for Medical Officers and Basic Level Health Care Workers

5.1.5.2 Goal, objectives, strategies and targets of the leprosy control programme

The National Leprosy Elimination Program of Nepal has outlined the following vision, goals, objectives and targets as stated in National Leprosy Strategy of Nepal (2021-2025):

Vision: Leprosy free Nepal

Goal: Elimination of leprosy (interruption of transmission of leprosy) at the sub-national level (municipality) (interruption of transmission is defined as zero new autochthonous child leprosy cases for consecutive five years at the municipality level)

Objectives

1. To eliminate leprosy at the sub-national level (province, district, local level).
2. To strengthen clinical case management at district and municipal levels and improve referral system.
3. To enhance capacity building through training of health staff particularly at the peripheral health facilities.
4. To enhance prevention of leprosy.
5. Reduction of stigma and discrimination.
6. To strengthen leprosy surveillance system and regular monitoring, supervision, and periodic evaluation at all level.
7. To strengthen partnerships among different stakeholders.
8. To strengthen management of leprosy complications like reactions and disability prevention and rehabilitation.
9. To coordinate with neighbouring states of India in management, reporting and referral of cases from border areas.
10. To promote research and innovations.

Table 5.1.5.1: Targets of National Leprosy Strategy

S.N.	Targets	2019* (baseline)	2025
Target 1	Mapping of districts/municipalities including human resources	√	updated
Target 2	Number of municipalities with zero new child autochthonous cases over consecutive 5 years period	605**/753	700/753
Target 3	Number of municipalities with zero leprosy cases	65	377
Target 4	Number of annual new leprosy cases reduced to	3282	2462 (25 % reduction from baseline)
Target 5	Rate of new leprosy cases with G2D (per million population)	5.3	< 1
Target 6	New child leprosy case detection rate (per million child population)	30	< 6
Target 7	Number of child cases among new leprosy cases reduced to	260 (7.9 % child case proportion among new leprosy cases)	50 (2% child case proportion among new leprosy cases)
Target 8	Number of child G2D among new child leprosy cases	2 of 260 new child cases	0
Target 9	Discriminatory laws	Discriminatory law exists	Zero discrimination as a result of no discriminatory laws and complaints reporting system in place
Target 10	Roll out of preventive chemoprophylaxis	-	50 % coverage among eligible contacts
Target 11	Household contact examination of an index case within 3 months of case detection	-	75 % of index case

* 2019 is taken as the baseline because of impact of COVID-19 pandemic on leprosy cases diagnosis & treatment.

** for baseline only one year data of 2019 is taken due to unavailability of municipality level data of past 5 years.

Table. 5.1.5.2: Strategic Pillars with Key components

STRATEGIC PILLAR	KEY COMPONENTS
Pillar 1 Implement the national leprosy roadmap for zero leprosy across all level- national, provincial, and local	1. Political commitment with adequate resources for leprosy elimination at all level in an integrated approach 2. National partnerships for zero leprosy and zero leprosy roadmaps engaging all stakeholders 3. Capacity building in the healthcare system for quality services 4. Improved program management, surveillance and monitoring and evaluation system 5. Promote operational research
Pillar 2 Scale up leprosy prevention alongside integrated active case detection	1. Active contact tracing for all new cases (especially household contacts) 2. Preventive chemotherapy scaled up through chemoprophylaxis 3. Integrated active case-finding in targeted endemic hot spots populations
Pillar 3 Manage leprosy and its complications and prevent new disability	1. Early case detection, accurate diagnosis, and prompt treatment 2. Access to comprehensive, well-organized referral facilities 3. Early diagnosis and management of leprosy reactions, neuritis, and disabilities by improving capacity through training 4. Monitoring, support, and training in self-care 5. Mental wellbeing through psychological first aid and therapeutic counselling 6. Monitoring of antimicrobial resistance, adverse drug reactions and adverse drug events
Pillar 4 Combat stigma and ensure human rights are respected	1. Adoption of "Principles and Guidelines for elimination of discrimination against persons affected by leprosy and their family members" 2. Inclusion of organizations and networks of persons affected by leprosy at all level 3. Abolishment of discriminatory laws 4. Develop system to monitor stigma reduction in communities and villages and cities 5. Access to social support and rehabilitation with coordination with government agencies and NGOs

5.1.5.3 Leprosy Program Monitoring Key Indicators

Regular monitoring is vital for proper management of any program. Therefore, Leprosy program has identified the following monitoring indicators.

Table 5.1.5.4: Status of Leprosy program monitoring indicators by province (FY 2077/78)

Province	Population	New Case Detection Rate/100,000 population	Prevalence Rate/ 10,000 population	MB proportion among new	Child proportion among new	Proportion G2D among new	Proportion G2D Child among new	Female Proportion among new
Province-1	4966065	7.75	0.71	78.70	4.42	4.42	-	42.34
Madhesh	6307016	11.78	1.06	64.33	3.63	4.04	-	26.11
Bagmati	6493053	1.68	0.382	89.91	4.59	2.75	0.92	38.53
Gandaki	2522434	4.20	0.381	93.40	4.72	2.83	-	44.34
Lumbini	5134733	10.81	1.03	70.45	7.21	3.96	-	45.41
Karnali	1824131	3.67	0.42	92.54	1.49	4.48	-	11.94
Sudurpaschim	2953668	7.04	0.75	84.62	2.88	8.17	-	43.27
National	**30201100**	**7.20**	**0.73**	**73.95**	**4.65**	**4.37**	**0.05**	**36.63**

Source: HMIS, 2077/78

The national NCDR per 100,000 population was 7.20 with PR per 10,000 population was 0.73. Highest NCRD and PR both were observed in Madhesh Province. Almost three fourth of the new cases were MB cases. The child proportion among the new cases was 4.65 percent. 4.37 percent were found having grade 2 disabilities (G2D) and the proportion of female among new cases were 36.63 percent in FY 2077/78.

5.1.5.4 Key Achievements in the management of leprosy

DHIS incorporates the leprosy data from health facilities. PHC/ORC report only two variables that includes number of follow up of irregular cases and number of referrals for suspected cases and there is no any recording and reporting forms for FCHV.

New Leprosy Cases Detection

The detection of new cases signifies ongoing transmission with the rate measured per 100,000 populations. A total of 2,173 new leprosy cases were detected in 2077/78 with highest new cases (743) in Madhesh Province (34% of total cases). Meanwhile, Karnali Province has the lowest new case detection with 67 cases (3%). The new case detection rate (NCDR) per 100,000 populations for FY 2076/77 was 7.20 nationally. Among the new cases, 73.95 percent were Multi Bacillary (MB) cases.

Eleven districts (Bhojpur, Okhaldhunga, Solukhumbu, Taplejung, Terhathum, Rasuwa, Manang, Mustang, Dolpa, Mugu and Dadeldhura) reported no new cases in this fiscal year.

Table 5.1.5.5 Distribution of new leprosy cases 2077/78 (2020/21)

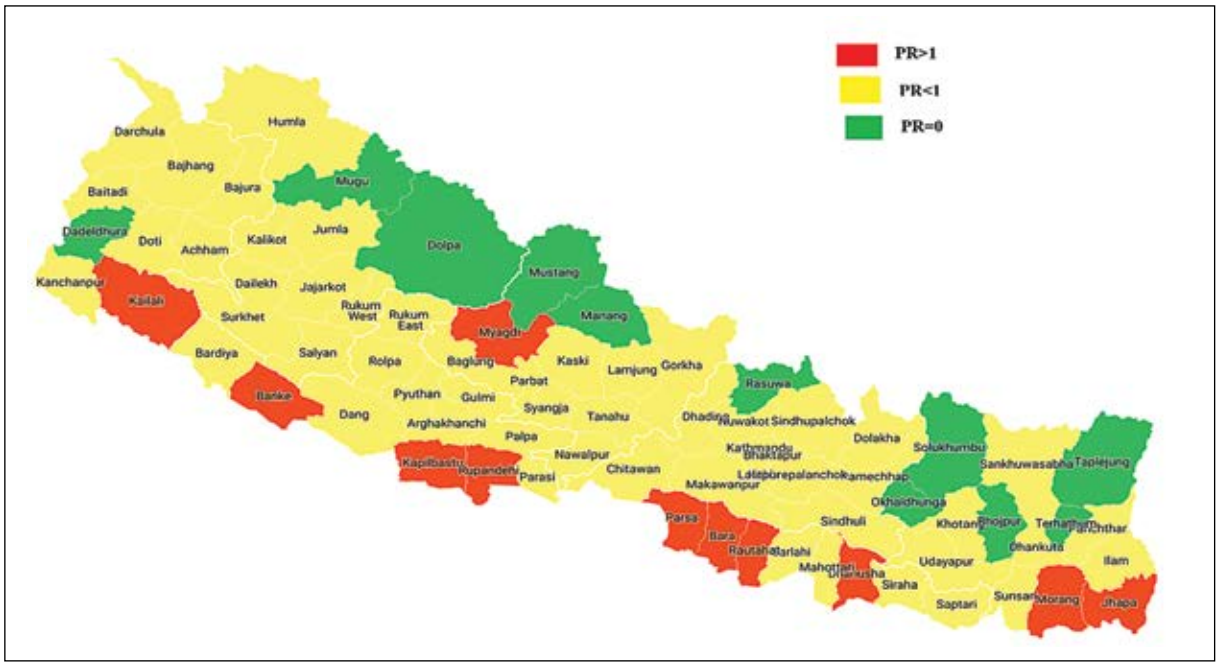
Provinces	Total New Leprosy Cases	NCDR
Province-1	385	7.75
Madhesh Province	743	11.78
Bagmati Province	109	1.68
Gandaki Province	106	4.20
Lumbini Province	555	10.81
Karnali Province	67	3.67
Sudur Paschim Province	208	7.04
National	**2,173**	**7.20**

Source: LCDMS, EDCD/DoHS/DHIS-2/ PHD

Prevalence

At the end of FY 2077/78 (2020/21), 2,197 leprosy cases were receiving MDT in Nepal, which makes a registered prevalence rate of 0.73 cases per 10,000 populations at the national level. This rate is below the cut-off point of 1 case per 10,000 population set by WHO to indicate the elimination of leprosy as a public health problem. This also shows that Nepal's elimination status from 2009 is being sustained. The prevalence rate has increased slightly than that of previous year because of increased activities even in COVID-19 pandemic than the previous year. Out of 77 districts, 11 districts reported zero prevalence, 55 districts had a prevalence rate <1 and 11 districts had a rate of more than 1.

Figure 1: Leprosy prevalence in Nepal, 2077/78 (2020/21)



Source : LCDMS/EDCD/DoHS/DHIS-2/PHD

The highest number of leprosy cases under treatment was reported from Madhesh Province (554 cases, 27% of total) and lowest by Karnali Province (84 cases, 4% of total). The registered prevalence rate was the highest in Madhesh Province (0.89 case per 10,000 population) followed by Lumbini Province and lowest prevalence was reported at Gandaki Province (0.40 case per 10,000 population).

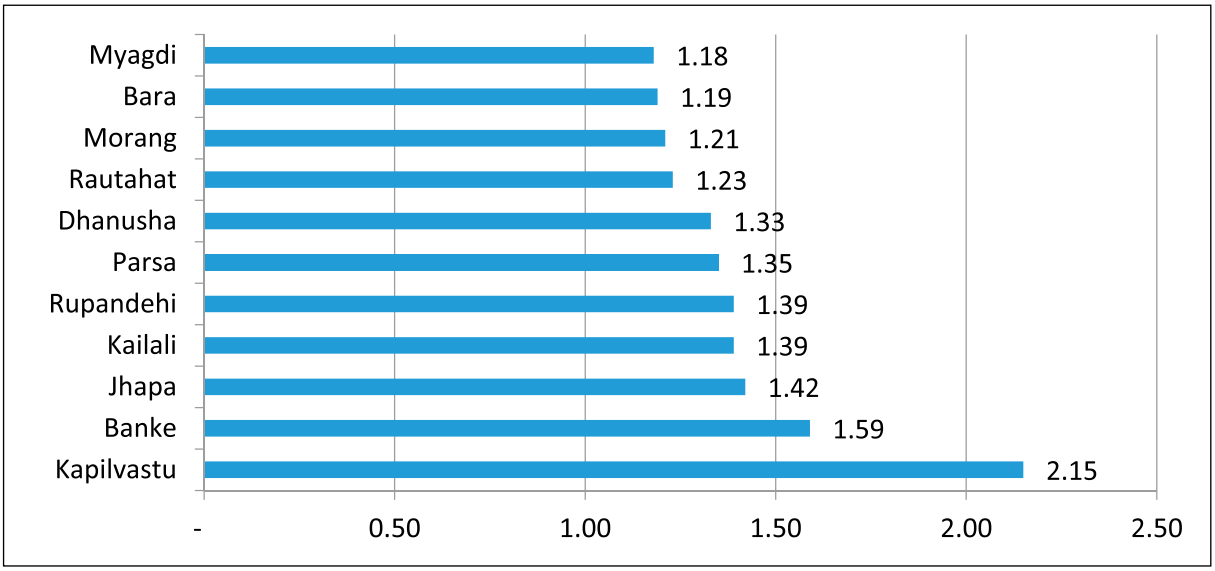
Table: 5.1.5.3 Distribution of registered cases and prevalence rate in 2077/78 (2020/21)

Provinces	No. of prevalence (under treatment) cases at the end of the year		
	Total cases	Percentage	Reg. prevalence rate/ 10,000 population
Province-1	354	16.11%	0.71
Madhesh Province	669	30.45%	1.06
Bagmati Province	248	11.29%	0.382
Gandaki Province	96	4.37%	0.381
Lumbini Province	531	24.17%	1.03
Karnali Province	77	3.50%	0.42
Sudur Paschim Province	222	10.10%	0.75
National	**2,197**	**100%**	**0.73**

Source : LCDMS/EDCD/DoHS/DHIS-2/PHD

The number of districts reporting a prevalence rate of more than 1 case per 10,000 populations has increased to 11 districts from 10 in the previous year (Figure). Kapilvastu district reported the highest prevalence rate of 2.15 cases per 10,000 populations.

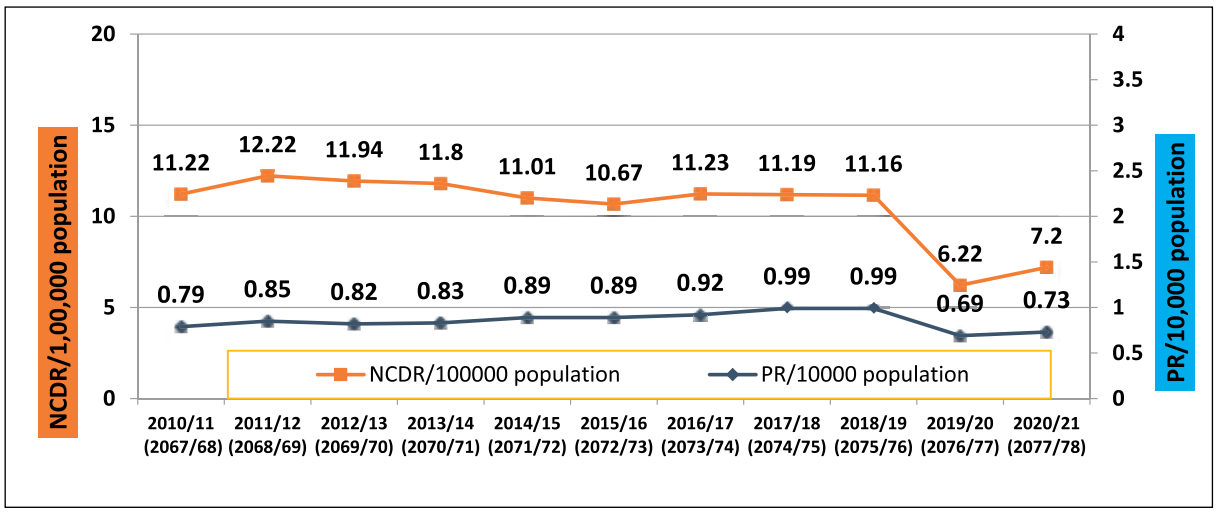
Figure 2: Districts with leprosy prevalence rate above 1 per 10,000 populations



TREND IN PREVALENCE, CASE DETECTION AND RELAPSE CASES

The trend of new case detection and the number of registered cases for nine years since FY 2067/68 had remained almost stagnant. The prevalence rate and new case detection rate had declined in the last FY 2076/77 which might be due to the lockdown imposed during COVID-19 pandemic. Both PR and NCDR increased in this FY and reached 0.73 and 7.20 respectively.

Figure 3: Trend in new leprosy case detection rate and prevalence rate from 2067/68-2077/78 (2010/11-2020/21)

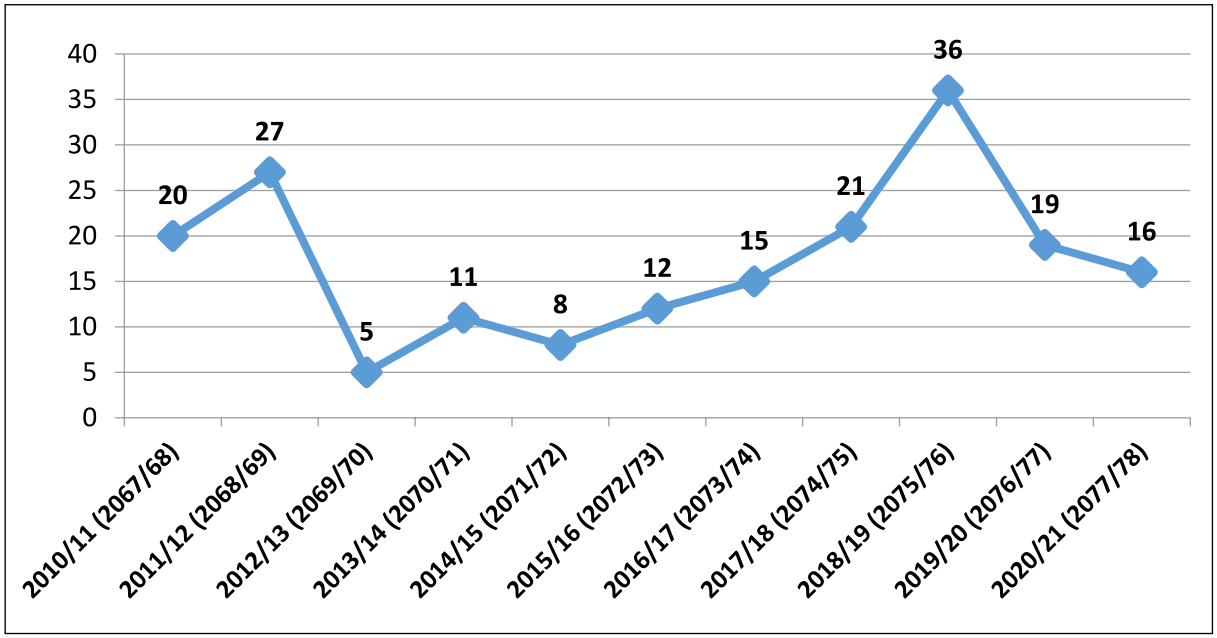


Source: LCDMS, EDCD/DoHS

Trend in relapse cases

The relapse cases were reported declined than that of last year nationally.

Figure 4: Trend in relapse cases from 2067/68 - 2077/78 (2010/2011-2020/21)

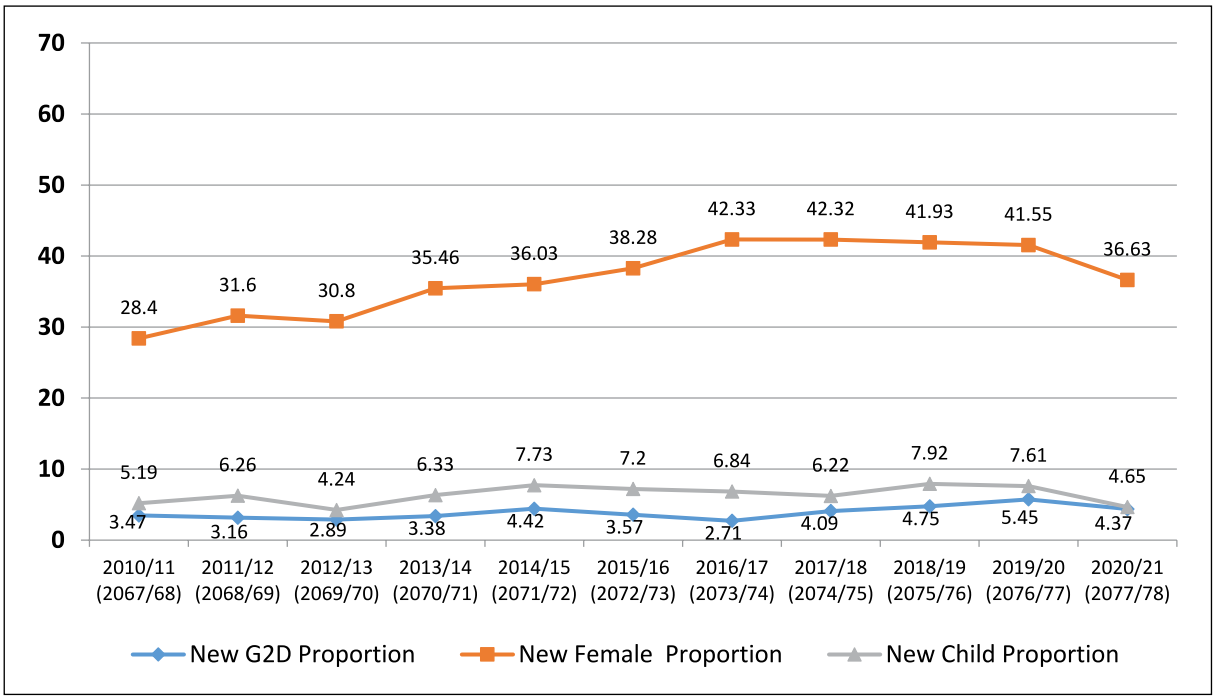


Source: LCDMS, EDCD/DoHS

DISABILITY, CHILD AND FEMALE CASES

Leprosy cases that are not detected early may results in disabilities. Early detection, timely and complete treatment of leprosy is crucial factors for preventing disabilities. The Proportion of Grade 2 Disability (G2D) among new cases and the rate per 100,000 populations are major monitoring indicators of early case detection. During 2077/78 (2020/21), 95 cases of visible disability (G2D) were recorded with a proportion among new cases of 4.37 % nationally.

Figure 5: Trend in Proportion of New Grade 2 Disability, Child and Females cases from 2067/068 to 2077/078 (2010/11-2020/2021)



Source: LCDMS, EDCD/DoHS

A total of 101 new child cases were diagnosed in 2077/78 (2020/21) resulting to 4.65% of new cases. This was an increase from the previous year although the trend is fluctuating. Similarly, 796 female cases were detected in this fiscal comprising 36.63 percentage of new female cases. One of the targets of National Leprosy Strategy 2016-2020 is achieving zero G2D among new paediatric leprosy cases, in order to achieve this target new G2D paediatric leprosy cases had been recorded since last 3 years. In this FY only a G2D new child leprosy cases was are recorded.

Conclusions

The elimination status was maintained at the national level as the prevalence rate remained below 1 case per 10,000 populations this year although this rate was still high in 11 districts. The proportion of female and child cases remained intact. Due to lockdown imposed against the spread of COVID-19 pandemic in this FY too as similar to previous fiscal year resulted in noticeable low in prevalence rate and new case detection rate though there was some increase than that of earlier years.

The figures for the main indicators of leprosy control for the last 11 years are summarised in Table 5.1.5.4

Table: 5.1.5.4 Comparison of leprosy indicators - 2066/67–2077/78 (2009/10 – 2020/21)

Indicators	2067/68 (2010/11)	2068/69 (2011/12)	2069/70 (2012/13)	2070/71 (2013/14)	2071/72 (2014/15)	2072/73 (2015/16)	2073/74 (2016/17)	2074/75 (2017/18)	2075/76 (2018/19)	2076/77 (2019/20)	2077/78 (2020/21)
New cases	3,142	3,481	3,253	3,223	3,053	3,054	3215	3249	3282	2044	2173
New case detection rate	11.2	12.2	11.9	11.18	11.01	10.67	11.23	11.19	11.16	6.22	7.20
Under Treatment cases at the end	2,210	2,430	2,228	2,271	2,461	2,559	2626	2882	2921	1853	2197
PR/10,000 population	0.79	0.85	0.82	0.83	0.89	0.89	0.92	0.99	0.99	0.69	0.73
No. new child cases	163	218	136	204	236	220	220	202	260	141	101
Proportion child cases	5.19	6.26	4.24	6.33	7.73	7.20	6.84	6.22	7.92	7.61	4.65
New G2D cases	109	110	94	109	135	109	87	133	156	101	95
Proportion G2D cases	3.47	3.16	2.89	3.38	4.42	3.57	2.71	4.09	4.75	5.45	4.37
G2D rate/100,0000	3.9	3.9	3.5	4.0	4.9	3.8	3.3	4.1	5.30	3.39	3.15
New G2D Child cases	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	2	6	1
Proportion G2D Child cases	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.06	0.06	0.32	0.05
New female cases	892	1,100	1,004	1,143	1,100	1,169	1361	1375	1376	770	796
Proportion female cases	28.4	31.6	30.8	35.5	36.0	38.3	42.3	42.3	41.9	41.6	36.6
Released from treatment	2,979	3,190	3,374	3187	2,800	2,902	3040	2852	3221	2817	1855
No. Defaulters	31	24	43	24	38	44	57	93	142	153	62
No. relapse cases	20	25	14	11	8	12	15	21	36	19	16

Source : LCDMS/EDCD/DoHS/DHIS-2/PHD

5.1.5.5 Activities and achievements in 2077/78

Leprosy service delivery —2173 new leprosy cases were detected In FY 2077/078, and were provided multi-drug therapy. 2,197 cases were under treatment at the end of the fiscal year. During the year, 1855 patients completed the MDT regime and were released from treatment. Secondary and tertiary care services were provided to leprosy-affected patients through the existing network of referral centres with partner support. MDT drugs (provided by Novartis Foundation through WHO) and anti-reaction drugs were freely available. The supply of drugs to all province and local level were managed smoothly throughout the year.

Case Validation: Case validation was conducted in Rautahat, Banke and Bardiya districts. Overall, 96 cases were validated among which wrong classification was found in 4 cases, over diagnosis was found in 2 cases and no new case was detected during case validation.

Leprosy Post-Exposure Prophylaxis (LPEP) Orientation & Planning Programme at Dhanusha with the objectives of imparting knowledge on implementing LPEP programme in the palika level and support in the development of planning modalities for endemic palikas of respective districts to implement the budget allocated for LPEP programme effectively

Conducted Review Meeting of Leprosy Control Programme for the FY 2076/77 and 1st Trimester of FY 2077/78: LCDMS has organized two separate meetings for participants of Province 1, Madhesh Province and Bagmati Province at Dhanusha, Lalgadh Leprosy Hospital and Service Center and for Gandaki, Lumbini, Karnali and Sudur Paschim province at Butwal.

Conducted Operational Research: Operational research was conducted on "Improvement on assessment of knowledge and skill of leprosy focal persons and overall performance of Health facilities in Dhanusha and Mahottari"

Active Leprosy Case detection Programme: With the objective to determining the epidemiology of leprosy cases active case detection was conducted in three approaches:

- ***House to house visit and individual screen approach***: focusing on high risk and vulnerable population without considering previous confirmed leprosy cases house to house visit was conducted in Rautahat and Banke district. All eligible individuals in the household of confirmed cases and on average eligible individuals of 4-6 neighboring houses were screened for leprosy. House to House visit approach was conducted on 4,233 houses that include 26,469 peoples screened out of which 365 suspected and 27 confirmed cases were identified.

- ***Contact examination:*** 106 confirmed leprosy cases from Siraha and 177 cases from Bardiya diagnosed between recent 2-5 years were taken for contact examination. A total of 7608 contacts were examined among which 214 suspected and 19 confirmed leprosy cases were identified.

- ***Prison screening:*** All the captives or prisoners of Kathmandu, Lalitpur, Siraha, Rautahat, Banke and Bardiya districts who gave verbal consent were screened. A total of 4,428 prisoners were screened among which 185 suspected and 2 confirmed cases of leprosy were identified.

Development of plan/ policies/ guidelines: National Leprosy Roadmap (2021-2030) of Nepal

IEC and advocacy — In order to enhance community awareness, passive case detection, voluntary case reporting and to reduce stigma, IEC activities were regularly undertaken using electronic and print media. Posters highlighting the diagnosis, treatment and availability of free leprosy services were printed and distributed. Leprosy awareness raising messages were broadcasted through Nepal TV during the time of World Leprosy Day.

World Leprosy Day—World Leprosy Day is celebrated on the last Sunday in the month of January worldwide. In Nepal, the 68th World Leprosy Day was commemorated on 18th Magh 2077 (31st January 2021) by conducting various activities at national, province and district levels. A media interaction programme was arranged at DoHS in presence of the Director General, Directors of various divisions, WHO, partner organizations, media person, leprosy affected peoples' organization to highlight the situation of leprosy cases in Nepal and issues and stigma related to programme. The day received the enormous media coverage.

Transport support to released-from-treatment cases — The programme provided grants of NPT 1,000 to patients released from treatment to cover their transport costs after completing MDT treatment. The treatment regularity rate of patients is increasing partly due to the provision of this incentive.

Orientation of Leprosy, Skin Disease, Disability, Injury and Rehabilitation at Dhanusha was done.

Recording, reporting, update, leprosy case validation, supervision and monitoring— Recording, reporting, update and case validation was carried out in various districts to verify data and records of cases in health

facilities, to validate cases diagnosed by health facilities and to strengthen recording and reporting and the release of cases from treatment. LPEP Programme monitoring was conducted at Dhanusha, Sarlahi and Siraha and Morang district.

Coordination with partners — LCDMS organized coordination meetings among the partners working in the leprosy control and disability management sector, that includes WHO-Nepal, Leprosy Mission Nepal (LMN), Nepal Leprosy Trust (NLT), International Nepal Fellowship (INF), NLR, Damien Foundation, FAIRMED Foundation, Partnership for New Life (PNL), Nepal Leprosy Fellowship (NLF), Nepal Leprosy Relief Association (NELRA), Sewa Kendra, READ Nepal, and IDEA Nepal to share regular updates on activities, to have common approach to celebrate World Leprosy Day and to develop programme guidelines. Similarly, coordination meetings with partners working on Disability Management and Rehabilitation sectors were also held simultaneously.

Grant to leprosy affected persons— A grant was provided to support leprosy affected residents in the Khokana and Pokhara Aarogya ashrams through the Nepal Leprosy Relief Association (NELRA). The grant has been provided for leprosy affected people to provide fuel, blanket, food and incentives. Similarly, in the current year, a grant was provided to READ-Nepal to support leprosy affected people taking shelter at its organization.

Annual Report and Bulletin -Annual report of Leprosy Control and Disability Management Programme 2076/77 (2019/20) was published highlighting the activities conducted in the same fiscal year including the activities conducted by partners to support leprosy control programme.

ACTIVITIES SUPPORTED BY PARTNERS

In 2077/78, WHO supported the supply of MDT drugs, provided technical support for the leprosy control and disability management programme, assisted in supervision and monitoring, and supported capacity building, active case detection and the community awareness programme.

The partners: The Leprosy Mission Nepal, Nepal Leprosy Trust, International Nepal Fellowship, Damien Foundation, Netherland Leprosy Relief, FAIRMED Foundation supported the following activities in high endemic districts:

- Community awareness and participation programme
- Orientation of community members
- Provision of primary, secondary and tertiary care at referral centres
- Capacity building activities for government health workers
- Technical support through joint supervision and monitoring
- Prevention of disability in leprosy and rehabilitation service
- Formation, implementation and support of self-care and self-help groups operated by people affected by leprosy and people living with disabilities due to leprosy
- Support for Post-Exposure Prophylaxis Programme

Similarly, regular coordination and cooperation were carried out with partners and stakeholders working on disability management and rehabilitation sector.

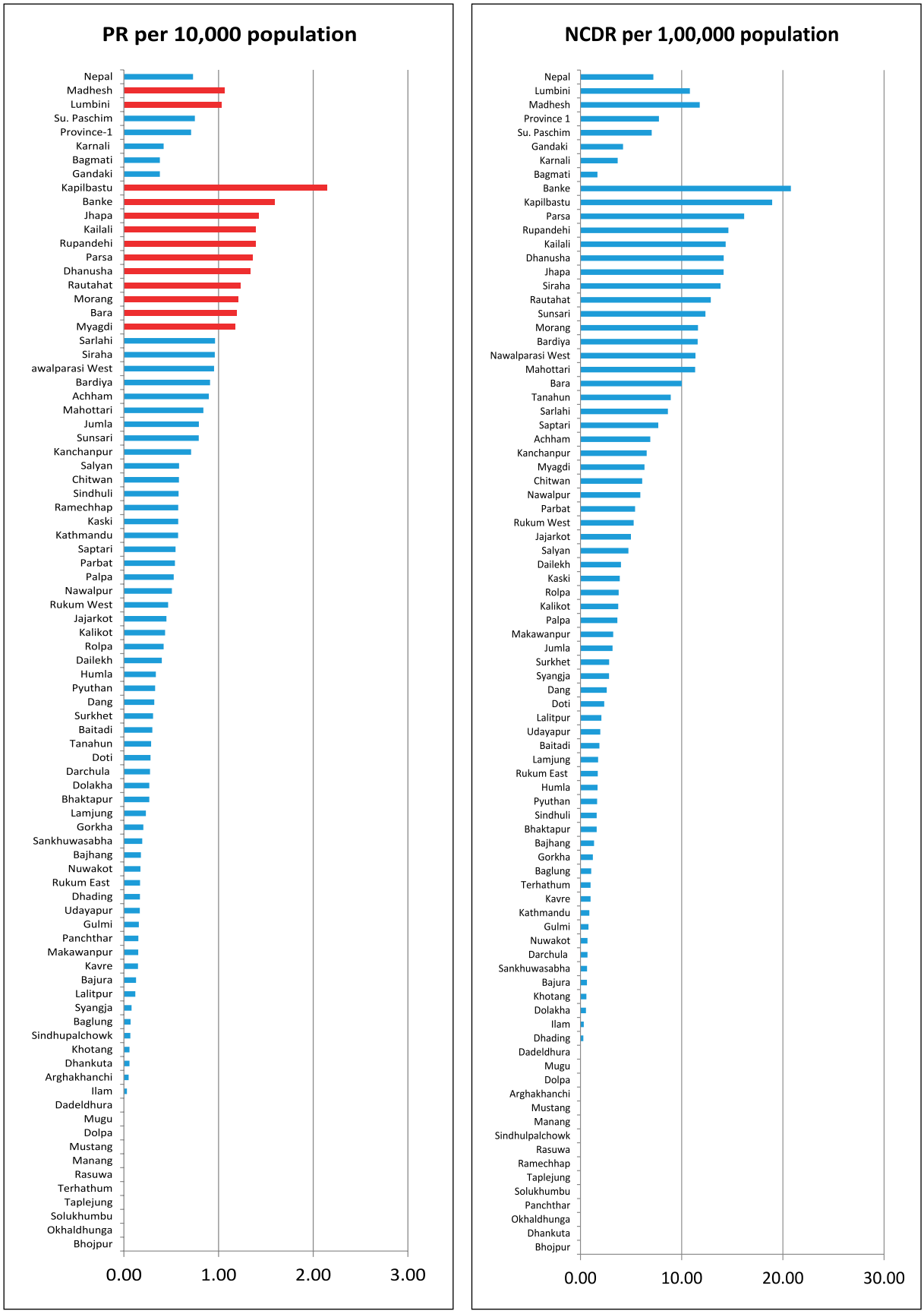
Table: 5.1.5. 5 Strengths, weakness and challenges for the leprosy control programme

Strengths	Limitations	Challenges
• Free MDT, transport service for released from treatment cases and other services for treating complications • Accessible of leprosy service to up to grass root level • Uninterrupted supply of MDT • Good communication and collaboration among supporting partners • Improving participation of leprosy affected people in national programme • Steering, coordination and technical committees formed and conducting meeting in regular basis • Contact examination/ surveillance of patient, family members and neighbours • Implementation of Leprosy Post-Exposure Prophylaxis in all endemic district	• Low priority for leprosy programme at periphery • Very few rehabilitation activities • Inadequate training and orientation for newly recruited health workers and refresher trainings for focal persons and managers • Poor institutional set-up and inadequate human resources • Problem for reaction and complication management at periphery level • Poor result-based output, recording and reporting of contact examination activities • Poor coverage and monitoring of LPEP in implementing districts. • Under and over reporting of leprosy data in IHIMS.	• Issues related to accuracy and under reporting of leprosy cases in DHIS system • No early case detection and management • Low coverage of contact examination • Stagnant indicators since 2010 • Retaining trained human resources • Cross border information sharing • Stigma and discrimination related to leprosy • Maintain access and quality of services in low endemic mountain and hill districts • Poor motivation of health workers

Future course of action and opportunities

- Development of national strategy 2021-2030 and roadmap for achieving zero leprosy in line with Global Leprosy Strategy
- Development of national operational guideline as per the new strategy.
- Intensify IEC activities to raise community awareness on early diagnosis and treatment, the prevention of disability, rehabilitation and social benefits.
- Strengthen early case detection by focusing on pocket areas of high endemic districts.
- Develop an intensified case search activity for the municipality level elimination.
- Promote community participation in the National Leprosy Elimination Programme.
- Improve the access of unreached, marginalized and vulnerable groups to leprosy services.
- Strengthen the involvement of people affected by leprosy in leprosy services and programmes.
- Build the capacity of health workers for early case detection, management and community based rehabilitation.
- Carry out operational research in high endemic districts and pockets on for quality services.
- Intensify vocational education and income generation activities for people affected by leprosy.
- Ensure resource mobilization, partnership and participation of local government and collaboration with new partners, institutions and individuals for leprosy services and rehabilitation.
- Strengthen the capacity of LCDMS for effectively implementing national policies and strategies.
- Strengthen surveillance in low endemic districts and areas.
- Strengthen the evidence-based (laboratory confirmed) reporting of relapse cases.
- Address cross-border issues.
- Sustain the newly initiated programme and services e.g. satellite services, interactions with medical college hospitals, joint monitoring, training and observation in partnership approach.
- Strengthen referral services

Proper recording and reporting of leprosy data in DHIS



5.1.6. Health related Rehabilitation and Disability Management

5.1.6.1. Background

Rehabilitation is a health service aimed at promoting the functioning and preventing disability in an interaction with an environment. With the rising prevalence of non-communicable diseases, injuries and the ageing population, there is a significant and ever-increasing unmet need for rehabilitation. Its main objective is optimizing functioning by rehabilitation supports to those with health conditions to remain as independent as possible, to participate in education, to be economically productive, and fulfil meaningful life roles. As such, the availability of accessible and affordable rehabilitation plays a fundamental role in achieving Sustainable Development Goal (SDG) 3, "Ensure healthy lives and promote well-being for all at all ages". Leprosy Control and Disability Management Section is the focal entity of MoHP for the disability inclusive health and rehabilitation services.

National Health Policy 2019 and Public Health Service Act 2018 have identified the rehabilitation alongside the other health services. Likewise, Nepal Health Sector Implementation Plan 2016-2021 has set the 5 years benchmark for rehabilitations for health system. Furthermore, Policy, Strategy and 10 Years Action Plan on Disability Management developed in 2017 has drawn the comprehensive road map for rehabilitation service in Nepal. Rehabilitation Clinical Protocol, Standard Operating Procedures for Rehabilitation Service and National Standards on Assistive Technology were developed this year.

5.1.6.2 Activities and achievements in 2077/2078

Rehabilitation Clinical Protocol, Standard Operating Procedures for Rehabilitation Service and National Standards on Assistive Technology

In the fiscal year 2077/78, Rehabilitation Clinical Protocol on Osteoarthritis of Knee, Non-Specific Back Pain, Stroke, Developmental Delay and Cerebral Palsy was developed and endorsed. Apart from this, Standard Operating Procedures for Rehabilitation Service and National Standards on Assistive Technology were developed and forwarded to Ministry of Health and Population for approval.

Development of IEC materials

Information, education and communication materials on disability, rehabilitation service and assistive device were developed and printed in collaboration with National health education and communication center and technical support from partners and stakeholders. It consists of 2 brochures on Spinal Injury and Club Foot, pictorial leaflet of 12 types of impairments in children less than 5 years of age and 1 booklet on disability and rehabilitation service.

5.1.6.3 International Day of Person with Disability-2021

The annual observance of the International Day of Person with Disability was proclaimed in 1992 by United Nations General Assembly resolution 47/3. It is observed annually on 3rd of December which aims to promote the rights and well-being of persons with disabilities in all spheres of society and development, and to increase awareness of the situation of persons with disabilities in every aspect of political, social, health, economic and cultural life.

International Day of Person with Disability was commemorated this year with theme "Leadership and participation of persons with disabilities toward an inclusive, accessible and sustainable post-COVID-19 world" through interactions with stakeholders/partners and information sharing through social media and national television.

Coordination and Technical Committee Meeting

LCDMS organized coordination meetings among partners working in disability inclusive health and rehabilitation sectors including WHO-Nepal, USAID, National Federation of Disabled Nepal, National Disabled Fund, Handicap International, Spinal Injury Rehabilitation Center, Hospital for Rehabilitation of Disabled Children, National Trauma Center, etc to share regular updates on activities, to have common approach to celebrate International Day of Person with Disability Day and to develop programme guidelines.

5.1.6.4 Training on HMIS Rehabilitation Service Dataset

7 Batches of training on HMIS rehabilitation module was conducted to 56 institutions (hospitals including 7 Province Health Directorates) of 7 provinces having rehabilitation service like physiotherapy, Prosthetic and Orthotic, Physical Medicine & Rehabilitation, etc in collaboration with Management Division, USAID's physical rehabilitation activities managed by Handicap International and WHO-Nepal. In the training, 107 participants were oriented on rehabilitation recording form, rehabilitation reporting form and rehabilitation service card which was recently introduced in HMIS.

5.1.6.5 Rapid Assistive Technology Assessment (rATA)

rATA is the population survey developed by WHO to estimate the population need of assistive products. Through the collaboration among NHRC, EDCD and WHO,

rATA is being deployed nationally. This survey will identify the need, access, supply, demands and satisfaction of assistive products in Nepal. The outcome of this survey will be utilized to inform the reforms on assistive technology sector of Nepal.

5.1.6.6 Analysis of HMIS Rehabilitation Service Dataset

Following an integration of rehabilitation module within the HMIS in 2076/2077, several batches of trainings were organized for the rehabilitation professionals and medical recorders of tertiary and secondary level facilities, and Non-government organization (NGOs) managed hospitals and physical rehabilitation centers. Private hospital and rehabilitation centers supply the large volume of rehabilitation services in Nepal. Therefore, training for private hospitals, rehabilitation centers and medical collages is planned for each province in fiscal year 2078/2079. The rehabilitation module in HMIS is at the phase of training to its users. The mechanism of its data quality assurance and capacity building of provinces on its supervision and monitoring are important priorities for upcoming days. As the rehabilitation data recording and reporting matures, more disaggregated analysis of the data will be presented in future DoHS report. Below presented are the indicators and supporting analysis of the data reported by 57 facilities trained on rehabilitation module.

5.1.6.7 Total number of clients

In this fiscal year, a total of 29,814 new clients received the rehabilitation services from government and NGO operated rehabilitation facilities. The actual total number of new client could be higher than 29,814 as the reporting from private hospitals, medical colleges and eye hospitals is yet to be operationalized. Almost 30,000 new clients receiving the rehabilitation service (excluding the data from private service providers) in one fiscal year depicts the strong presence of rehabilitation need within health. As shown by this data, actually the weightage of rehabilitation in terms of its service utilization volume is high, and this should correspond to the resource allocation in rehabilitation. With the increasing trends of ageing, non-communicable disease and injuries, it is expected that the need of rehabilitation service will go higher.

New Clients	Foreign Clients	Total New Clients	Old Clients
29788	26	29814	22102

Therefore, rehabilitation should be an urgent priority of health system. More attention needs to be given to its enhanced coverage, access and affordability.

Table 5.1.6.1 New clients dissagrated by the provinces

Province	New Clients
Province 1	622
Madhesh Province	874
Bagmati Province	14640
Gandaki Province	3586
Lumbini Province	5658
Karnali Province	3718
Sudurpashchim Province	716
Total	29814

Source: EDCD/DoHS

Bagmati Province observed the more recording of new clients followed by the Lumbini and Karnali provinces. In Bagmati province, most of the government hospitals offer some form of rehabilitation service and also lots of NGO operated rehabilitation hospitals/centers are based here. In Lumbini and Karnali, province governments have established the physiotherapy units in the most of district hospitals. Province one marked the lowest recording of new client because there are only two government hospitals (Koshi and Rangeli), B.P. Koirala Institute of Health Sciences and Community based Rehabilitation Centre are offering the facility level physical rehabilitation services. As shown by this data, in each province, there is some presence rehabilitation service. Hence, it's vital to ensure that all the health system reforms initiatives lead by provincial government should capture the rehabilitation.

5.1.6.8 Distribution of new clients by the types of rehabilitation service

Rehabilitation service consists of the different core specialties. The composition of rehabilitation service discipline can be single or multiple types based on impairment and its severity. In this fiscal year, maximum clients received the physiotherapy service. In Nepal, physiotherapy is one of the most commonly available services in rehabilitation while there is an urgent need to expand the other forms of rehabilitation such as occupational therapy, speech and hearing, assistive products, rehabilitation medicine and nursing.

Table 5.1.6.2 Number of assistive products delivered

Assistive products	Developmental Aid	Mobility Aid	Orthosis	Prosthesis	Others	Total
Number of clients	129	2402	1029	168	136	3864

Assistive products (AP) are external appliances or devices that promote the functioning and prevent disabling

consequences of impairment. AP is a health service and one of an important element of rehabilitation. Delivery of AP at the service level requires the assessment, prescription, product preparation, user training and follow up from the qualified professionals.

More than one half of new clients received the walking/mobility aids such as crutches, sticks and walkers. One out of every eight new clients of rehabilitation received at least one AP. The actual delivery number of AP is expected to go further higher because the vision related products such as lens and spectacles are still yet to be integrated in HMIS rehabilitation module. Likewise, government facilities are only delivering the mobility related walking aids and pre-fabricated orthosis. Complex assistive products such as prosthesis, customized orthosis and modified wheelchairs are delivered by the private entities and NGOs operated rehabilitation hospitals and physical rehabilitation centers.

Table 5.1.6.3 Rehabilitation service received by clients with Disability

Disability card	Red(Ka) Complete	Blue (Kha) Severe	Yellow (Ga) Moderate	White (Gha) Mild	Total
Rehabilitation service received by clients with having Disability card	649	958	581	320	2508

Rehabilitation is a health service for the entire population group including the people with disabilities. The HMIS rehabilitation module has a provision to disaggregate the data of rehabilitation service user by the type disability severity. The ratio of non-disabled to disabled (defined by Government of Nepal) rehabilitation service users is 12:1.

Table 5.1.6.4 Number of referrals

Province	Referred In	Referred Out	Reaching directly
Total Clients	**28028**	**1567**	**1786**

Of the total new rehabilitation service user, 94% reached the rehabilitation services through a referral source such as hospital OPDs, public health programs and NGOs. Rehabilitation complements the overall health and well-being of clients receiving curative and other public health intervention such as NCDs, Nutrition, IMNCI and Neglected tropical diseases. Hence the referral to rehabilitation from curative and public health services hints good practice towards promoting the client centered and comprehensive delivery of health services to the citizen.

Future course of action and opportunities

- Development and testing of training package on disability inclusive health and rehabilitation
- Strengthen the existing physiotherapy units and promote the establishment of new units in government hospital
- Training to private/other hospitals and data quality of the HMIS rehabilitation module
- Focus on the multidisciplinary approach of rehabilitation
- Support the assistive product service provision through rehabilitation centers/hospital
- Integrate the basic rehabilitation service into the primary health care
- Promote the continuing professional development of rehabilitation professionals
- Development of national rehabilitation strategic plan
- Conduct the operational research in rehabilitation
- Establishment of Assistive Technology Lab in DoHS
- Development of health facility access audit tools and its piloting

5.2 EYE CARE

5.2.1 Background

Vision impairment is a global public health problem that needs urgent attention. Recently the Vision Loss Expert Group (VLEG) has come up with the estimates on the magnitude and projections of vision loss and its key messages i.e 1.1 billion have vision loss primarily because they do not have access to eye care services. Likewise, over 90% of those with vision loss live in low- and middle-income countries. 73% of people with vision loss are over 50 years old and 55% of people with vision loss are women. The number of people with vision loss will rise from 1.1 billion to 1.7 billion people, mainly due to population growth and population ageing. An additional 1 billion people live with eye health conditions that need on-going access to services to optimize their vision and maintain their ability to function in society. By 2050 more than half the global population is going to need ongoing, regular access to eye care services to maintain their eye health. These numbers are projected to increase in the next couple of decades as population age.

Commitment to VISION 2020 in Nepal was demonstrated by the establishment of Apex Body for Eye Health Committee at the Ministry of Health and Population for formulating partnership of eye care organisations together with WHO to develop and implement national eye care policy, act as the directing, facilitating and coordinating authority and encourage the technical cooperation. National Plan of Action was prepared under the leadership of Apex Body for Eye Health to achieve the goal of VISION 2020 in Nepal. Several achievements can be credited to VISION 2020 and efforts of eye health stakeholders of Nepal, both direct and indirect, during the last two decades in terms of infrastructure development, human resources development, disease control (Reduction in the prevalence of blindness from 0.84% to 0.35%, significant decline in blinding xerophthalmia, elimination of trachoma as a public health problem) and advocacy. Some added newer initiatives while others helped in either enhancing or sustaining ongoing programmes.

However the number of blind people (120,000 in 2010) was about the same as in 1980-81 (117, 623), and still, about 275,000 people had severe visual impairment (inability to count fingers at 6 meters) indicating that severe visual impairment for economic emancipation remains a serious public health problem. Women continue to carry two-thirds of blindness. People living beyond district headquarters, Dalits and low-income people everywhere have limited access to eye care services. Close to one million children have either disabling visually impairment or are unable to use their visual potential optimally because of lack of a simple pair of glasses. Nepal will be getting fresh data on the prevalence of blindness and visual impairment soon as Provincial Rapid Assessment of Avoidable Blindness survey has been completed except in Sudurpaschhim Pradesh. Preliminary findings of completed provinces shows that the prevalence of blindness has not been reduced significantly compared to data of the 2010 survey. However, the cataract surgical coverage at visual acuity 3/60 level and visual outcome of the cataract surgery has been significantly improved in recent years. The prevalence of blindness ranges from 0.7% in Bagmati Province to 1.7% in Lumbini Province of Nepal. The main causes of blindness are untreated cataract and posterior segment eye diseases. Proportion of untreated cataract remains highest in Province 2 (88.5%) while it accounts least in Gandaki Province (42.6%). Posterior segment diseases account for 44.7% of all causes of blindness in Gandaki Province while they account only 4.9% in Province 2. Prevalence of refractive error is 15.7% - 25.9% in people aged 50 years and above. The unmet need for refractive error is maximum in Karnali Province (70.1%) and minimum in Bagmati Province (29.3%). Prevalence of functional low vision (FLV) among 50 years and above ages is 0.5% - 1.3%. The main barriers to uptake cataract surgical services were Affordability, Accessibility, lack of felt need, Fear of surgery.

Recently WHO launched World Report on Vision which provides a strategic path to achieve sustainable eye health systems and universal eye health coverage (UHC). Its first recommendation is the inclusion of eye care as an integral part of UHC.

The United Nations Political Declaration on UHC has also stated that UHC cannot be achieved without eye care. It recognizes that one of the key criticisms of VISION 2020 (and indeed, many other 'vertical' health programmes) has been its isolation and targeted focus on eye health alone. Its key recommendation is the implementation of integrated people-centred eye care. Also, the impact of vision loss cuts across many of the Sustainable Development Goals. Improving eye health helps to reduce poverty (Goal 1) and helps to deliver on quality inclusive education, gender equality and decent work and economic growth (Goals 4, 5 and 8).

The Government of Nepal has also issued a new National Health Policy in line with the right to health guaranteed by the constitution, list of functions to be carried out by all three levels of government, relevant policies, challenges in health sector and achievements made so far in relation to providing health services to citizens.

The policy aims to develop and expand oral, eye, ENT and specialized health services to all levels. In order to achieve this, government has planned to integrate the primary eye care into the basic government healthcare system and eye care services will be further developed and expanded as per the public private partnership policy. Eye health unit will be established at Federal Ministry of Health to coordinate, cooperate and regulate the present eye care program in the country.

5.3 ZOONOTIC DISEASE

5.3.1 Background

A zoonosis is an infectious disease that has jumped from a non-human animal to humans. Zoonotic pathogens may be bacterial, viral or parasitic, or may involve unconventional agents and can spread to humans through direct contact or through food, water or the environment. Zoonotic diseases are a threat to Health Security. Around 60% of existing human infectious diseases are zoonotic in origin and at least a 70% of emerging infectious diseases of humans including Ebola, HIV and influenza have an animal origin. Every year, 5 new human diseases appear out of which three are of animal origin. Among agents with bioterrorism potential, 80% are found to have zoonotic pathogens. The Epidemiology and Disease Control Division (EDCD) has been working in co-ordination, collaboration and consultation with governmental livestock, wildlife, agriculture, environment, general public and other non-governmental sectors. Zoonotic and other communicable disease control section is mainly focuses on public health interventions for zoonotic diseases. In order to prioritize the national resources, activities and achieve the greatest benefit to improve human and animal health, ten zoonotic diseases were prioritized based on one health approach. Among them most of the activities for fiscal year 2077/78 were focused on Rabies and snakebites.

Prioritization of Zoonotic Disease in Nepal

The workshop on prioritization of zoonotic disease in Nepal was done on 1st and 2nd April, 2021 to bring together representatives from human, animal, and environmental health sectors, as well as other relevant partners, to prioritize zoonotic diseases of greatest concern for multi-sectoral, one health collaboration in the country. First of all the list of zoonoses were compiled from various sources such as WHO's list of zoonoses, WHO's South East Regional Office's list of zoonoses, CDC's list of zoonoses, OIE, list of Potential Diseases Recommended for Inclusion in South Asia Disease Surveillance Network, Public Health England list of zoonoses, and notifiable zoonoses in India, China, and Sri Lanka. The list of zoonoses were then shortlisted from the large compilation of 90 disease in context of Nepal to 42 diseases, methodically and objectively by six voting members through voting based on criteria used by different countries such as burden of disease, epidemic potential, severity of disease, intervention available, socioeconomic impact, bioterrorism and others. A total 15 participants comprising of the members of NTWG-ZD and external experts identified six criteria for zoonotic disease prioritization in Nepal. A zoonotic disease prioritization tool was developed with criteria weight and associated criteria score that would be combined to produce a final score for ranking of the disease and prioritization.

Workshop Objectives

The objective of the workshop was to use a multi-sectoral, One Health approach.

1. To prioritize a list of zoonotic diseases of greatest concern for Nepal.
2. To develop next steps and action plans to address the prioritized zoonotic diseases in collaboration with One Health partners.

List of Prioritized Zoonotic Disease in Nepal

1. Influenza (Avian and Seasonal)
2. Rabies
3. Coronavirus (SARS-CoV and MERS-CoV, SARS-CoV2)
4. Leptospirosis
5. Brucellosis
6. Salmonellosis
7. Leishmaniasis

8. Zoonotic Tuberculosis
9. Cystode (Cysticercosis/Hydatidosis)
10. Toxoplasmosis

Rabies

Rabies-Rabies is primarily a disease of warm-blooded animals like Dogs, Jackals, Wolfs, Mongoose wild cats etc. Rabies cases are almost all fatal but it is 100% preventable by vaccination, awareness about human and animal interaction. Most of the affected are children. It has been assumed that almost half of Nepal's population are at high risk and a quarter at moderate risk of rabies. It is estimated that around 30,000 cases in pets and more than 100 human rabies cases occur each year with the highest risk are in the Terai. Latent infections have been reported in dogs and cats. Very few patients take rabies immune globulin (post-exposure prophylaxis). Almost all of human cases (99%) of rabies are result of dog bites. Vaccinating 70% of dogs break rabies transmission cycle in an area at risk. So, along with the EDCD, every dog owner and animal health authorities are more concerned to eliminate it as public health problem.

Activities and achievements in 2077/78 in Rabies control Programme

The following activities were carried out in 2077/78 for the control of rabies cases:

- Awareness programs about Rabies for school students and general public.
- Celebration of Work Rabies day on 28th September and co-ordination with province and local level health officials for its effective implementations.
- Epidemiological study on the active dog bites cases.
- Surveillance about Rabies on outbreak area.
- Orientation program about the benefit of Intradermal (ID) delivery of Anti Rabies Vaccine (ARV) for health workers.
- Orientation on application of immunoglobulin for provincial level health facilities.
- Procurement of cell culture ARV vaccine and immunoglobulin.

In FY 2077/78, 54,996 cases of animal bites were reported (Table 5.3.1). The number of reported animal bite cases has fluctuated in recent years but the number of rabies deaths has increased four times as compared to last year.

Table 5.3.1: Status of reported animal bites and rabies in Nepal

Fiscal year	Number of cases of dog bites	Number of cases of other animal bites	No. of cases of animal bites (dog+ Other animal)	Number of ARV vials consumed	Deaths
2070/71	31,976	2,540	34,516	195,868	10
2071/72	17,320	3,290	20,610	273,000	13
2072/73	20,133	2,494	22,627	320,139	6
2073/74	37,226	2,518	39,744	227,639	8
2074/75	33,204	2,477	35,681	281,718	32
2075/76	32,882	2,368	35,250	236022	18
2076/77	52610	4009	56619	-	-
2077/78	54996	4418	59414		

Source: EDCD/DoHS

Issues, recommendations from reviews and actions taken-Rabies

Issues	Recommendations	Action taken
The under reporting of cases and deaths from dog, Monkey, Jackal, Bear	Develop a regular reporting mechanism to medical stores and EDCD	Increased supervisory visit to reporting sites
Proper awareness about animal bites	Collaborate with different local stakeholders	Coordination with livestock
Training and Availability of ARV in all health care facilities	Provide regular supply and service at least to PHC level	Training and availability is being increased
Intra dermal vaccination not started to all sites	Training to health worker and proper supervision	Training followed by guidance to start is being expanded
Mass dog vaccination	Coordinate with animal health and local other stakeholders for at least 70% dog vaccination	Proper Coordination& collaboration not started in reality

Snake bites

Poisonous snake bites — Twenty-one of the 79 species of snakes found in Nepal are poisonous (11 pit viper species, 5 krait species, 3 cobra species and 1 each coral and Russel's viper species). Around 15,000 snake bite cases estimated annually of which about 10 percent are poisonous bites. The mortality rate is about 10 percent among poisonous bite cases. The 26 Terai districts are highly affected. In the last eight years between 1 and 131 deaths have been reported from poisonous snake bites each year. The free distribution of anti-snake venom serum (ASVS) began in 1999/2000. Indian quadrivalent ASVS is being used now. There are 88 snake bite treatment centres are in the country for snakebite management in collaboration with Nepal army, Nepal Red Cross Society, community members. In addition to these, other hospitals in Kathmandu valley has been getting ASVS on basis of cases they manage. The following activities were carried out in 2077/78 for the control and management of poisonous snake bites:

- Formation of Standards on Snakebite treatment centres in Nepal.
- On site coaching for Snakebite treatment centres.
- Orientation program to Medical officers, nurses and paramedics was conducted on the proper use of Anti snake venom
- Procurement and supply of ASVS for respective centres.

In 2077/78, altogether 7,902 snake bite cases were reported at national level. A total of 967 cases were poisonous. Table 5.3.2 summarises progress against previous years' data.

Table 5.3.2: Snake bite cases and deaths, Nepal (2070/71–2077/78)

Fiscal year	Total cases	Non-poisonous	Poisonous	Cure	Deaths	% deaths
2070/71	5,143	4,145	998	988	10	1.0
2071/72	4,128	3,461	667	666	1	0.1
2072/73	3,268	2,605	663	643	20	3.0
2073/74	6,121	5,209	912	879	33	3.6
2074/75	5,606	4,812	794	362	20	2.5

Fiscal year	Total cases	Non-poisonous	Poisonous	Cure	Deaths	% deaths
2075/76	4,567	3,871	696			
2076/77	5,081	4,203	878			
2077/78	7902	6935	967			

Source: EDCD/DoHS

Issues, recommendations from reviews and actions taken-Snake bite management

Issues	Recommendations	Action taken
The under reporting of cases and deaths from Snake bites	Develop a regular reporting mechanism to medical stores and EDCD	Increased supervisory visit to reporting sites
Public being died in community	Coordination with local regarding quick transportation, awareness etc	Awareness about importance of co-ordination and transportation
Use of ASVS vial	Timely procurement, supply, training and treatment availability	Snake bite management training for health worker
Not included in regular health service	The snake bite treatment centres should be in collaboration with health facilities with at least trained physician	Training and orientation started up to treatment centres
ICU and ventilator	Prepare at least one equipped snake bite management centre in each province	No action is taken
Motivation, security and sustainability to provide snake bite management	All snake bite management centres should be ensured with security, motivation of HR and sustainability of service	Inclusive management by local and security personnel

Snake Bite Treatment Centres in Nepal

Table 5.3.3: Province wise Animal Bite cases in Nepal 2077/78

S/N	Animal Bite cases	Province No. 1	Province No.2	Bagmati Province	Gandaki Province	Province No.5	Karnali Province	Sudurpashchim Province	Nepal
1	Dog Bite	4993	4593	9541	4756	16715	2342	7056	54996
2	Other rabies susceptible animal Bite	672	523	755	590	1177	142	559	4416
3	Snake bite- Non Poisonous	2376	514	596	1244	1920	159	126	6935
4	Snake bite Poisonous	266	123	120	96	278	43	21	967
5	Insects/Wasp Bite	4056	4498	6435	3917	6352	2226	3303	30787

Source: EDCD/DoHS

5.4 TUBERCULOSIS

5.4.1 Background

Tuberculosis (TB) is a communicable disease which is a major public health problem in Nepal. It is one of the top 10 causes of death worldwide and in Nepal, and the leading cause of death from a single infectious agent (ranking above HIV/AIDS). TB is caused by the Bacillus Mycobacterium Tuberculosis, which is spread when people who are sick with TB expel bacteria into the air; for example, by coughing. The disease typically affects the lungs (pulmonary TB) but can also affect other sites (extra pulmonary TB). About a quarter of the world's population is infected with M. tuberculosis which is similar for Nepal.

TB can affect anyone anywhere, but most people who develop the disease are adults, there are nearly twice as more cases among men than women, and 30 high TB burden countries account for almost 90% of those who fall sick with TB each year. TB is a disease of poverty, and economic distress, vulnerability, marginalization, stigma and discrimination are often faced by people affected by TB.

TB is curable with medicine (nearly 90% cure rates) and preventable with specific measures that reduce risk of transmission. With access still falling short of universal health coverage (UHC) for all forms of TB, many still have also missed out (nearly 58% in Nepal) on diagnosis and care.

This report is to provide a comprehensive and up-to-date assessment of the status of the TB epidemic, and of progress in the response to the epidemic at country levels in terms of global and end TB commitments. The report is based primarily on data gathered by NTCC through HMIS, NTPMIS, WHO country profile, National TB prevalence survey 2018-19 report and other surveillance data. In recognition of the enormous impacts of the COVID-19 pandemic, the report includes a provisional assessment of how the pandemic affected the TB control programme in Nepal.

Global and country commitments and strategy to end TB

In the year2014 and 2015, all Member States of WHO and the UN committed to ending the TB epidemic, through the adoption of WHO's End TB Strategy and the UN Sustainable Development Goals (SDGs). The strategy and SDGs include milestones and targets for large reductions in TB incidence, TB deaths and costs faced by TB patients and their households. This was followed by the Moscow Declaration to End TB and then by the UN General Assembly held its first-ever high-level meeting on TB in 2018. The outcome was a political declaration in which commitments to the SDGs and End TB Strategy were reaffirmed and new ones added [1](Multi-sectoral accountability framework and meaningful engagement of civil society). Nepal also committed to these declarations and developed strategies in line with these commitments.

Status of TB epidemic in Nepal

Globally, an estimated 9.9 million people fell ill with TB in 2020. There were an estimated 1.3 million TB deaths. Men (aged ≥15years) accounted for 53% and children (aged <15 years) for 16%. 8% were people living with HIV.

In Nepal, an estimated 69,000 fell ill with TB during FY 2077/78. National Tuberculosis Programme (NTP) registered 28,677 (nearly 58% missing vs. the projection) all forms of TB cases (38% female and 62% male). Out of 28,677 all forms of TB cases, 28,182 incident TB cases; Out of 28,677 TB cases, 16,258 (56.7%) were pulmonary bacteriologically confirmed (PBC) cases, 3,960 (13.8%) were pulmonary clinically diagnosed (PCD) cases and 8,459 (29.5%) were extra pulmonary TB cases. Geographically, most people who reported

1 https://www.who.int/news-room/events/un-general-assembly-high-level-meeting-on-ending-tb

TB were from terai region (60%). At provincial level, Bagmati Province, Madesh Province and Lumbini province reported at 23.24, 23, 16, and 21 percent respectively.

Drug-resistant TB continues to be a public health threat. Globally, the burden of MDR-TB or RR-TB (MDR/RR-TB) is stable. For more than 10 years, the best estimate of the proportion of people diagnosed with TB for the first time who had MDR/RR-TB has remained at about 3–4% and the best estimate for those previously treated for TB has remained at about 18–21%, 78% of DR TB had multidrug-resistant TB (MDR-TB)[2]. In Nepal nearly 2,200 people were estimated to have developed DR TB, but only 687 were detected (i.e. 68.7% were missed) and out of those diagnosed, NTCC was able to put 418 on DR TB treatment. Preventive therapy was also provided to 64% of childhood TB contacts through contact tracing.

Progress towards the 2020 milestones of the End TB Strategy and revised burden estimates

Globally, the TB incidence rate and TB deaths are falling, but not fast enough to reach the 2020 milestone of 20% and 35% respectively.

Based on the National TB prevalence survey report and revised burden estimates, there was been a 3% decline in annual incidence rates in TB in Nepal but the TB burden in Nepal is still higher than previously estimated. For 2018, the prevalence rate was 416.35 per 100,000 populations, and the incidence rate was 245.1 per 100,000 populations, which was 1.8 times and 1.6 times higher respectively than previously estimates (*National TB Prevalence Survey Report, 2018-19*). Mortality rates were also re-estimated to be 17,000 which were 3.3 times higher than previously estimated. (*Country profile-Nepal*, *Global TB Report, WHO 2020*). However, TB death among registered TB patients was 902 (3.3%) among 27,231 registered TB cases in FY 2077/78.

TB diagnosis, treatment, and prevention

TB services were mostly provided through the integration of decentralised health service delivery system through 5503 DOTS centers and 896 microscopic centers. Specialized services were provided from 22 DR TB treatment centers, 81 DR TB treatment sub-centers, 6 DR TB hostels and 1 DR TB home. Diagnosis services were further provided through 84 Genexpert sites, 2 Culture labs with DST and LPA services. As a part of **Universal health coverage, social determinants and multi-sectoral action,** DS TB services are part of UHC and provided as essential health care services throughout the country. **TB preventive therapy** was scaled up to 42 districts and provided to nearly 1836 child contacts.

5.4.2 Introduction

Tuberculosis (TB) is a potentially fatal infectious disease of global public health importance. Every year, about 10 million people fall ill with tuberculosis (TB). Despite being a preventable and curable disease, 1.5 million people die from TB each year – making it the world's top infectious killer. TB is present all over the world. But most of the people who fall ill with TB live in low- and middle-income countries. About half of all people with TB can be found in 8 countries: Bangladesh, China, India, Indonesia, Nigeria, Pakistan, Philippines and South Africa.

Most people (about 85%) who develop TB disease can be successfully treated with a 6-month drug regimen; treatment has the also the additional benefit of curtailing onward transmission of infection.

2 As published by WHO in annual global TB reports.

History of TB in Nepal and progress towards global and national TB targets

Within the organizational structure of the Ministry of Health and Population, National Tuberculosis Control Centre (NTCC) is the leading entity for National TB Control Program (NTP) and responsible for formulating policies, strategy, planning, monitoring, and quality assurance. The efforts of controlling TB disease in Nepal started from 1937 establishing a sanitarium at Tokha to care TB patients. In 1951, a chest clinic was established in Kathmandu and begun the formal treatment of TB patients for the first time in Nepal. Likewise in 1965 GoN established the National TB program. Later in 1989 the clinic and the program were merged and NTCC was established as an apex body to manage TB program in the country.

Starting with DOTS strategy in 1996 Nepal was a pioneer in implementing effective TB programs at the global level. With the adoption of the Stop TB Strategy in 2006 and the End TB Strategy in 2015, NTP is in-line with other global and strategic commitments to reach END TB targets.

There were various commitments made by the government at different points of time regarding global declarations to ending TB.

Figure 5.4.1: Global declarations and commitments for TB program

All the commitments and calls for action were to reach SDG and end TB targets as mentioned below.

INDICATORS	MILESTONES		TARGETS	
	2020	2025	SDG 2030	END TB 2035
Reduction in number of TB deaths compared with 2015 (%)	35%	75%	**90%**	**95%**
Reduction in TB incidence rate compared with 2015 (%)	20% (<85/100 000)	50% (<55/100 000)	**80% (<20/100 000)**	**90% (<10/100 000)**
TB Affected Families facing catastrophic costs due to TB (%)	ZERO	ZERO	**ZERO**	**ZERO**

Based on the following commitments with aim to reach the set targets, NTC developed its **National Strategic plan 2016-21**[3]with **VISION** of TB Free Nepal by 2050: "Ending TB" is defined as less than 1 TB patient per 1,000,000 population. The **goals** are to decrease the TB Incidence Rate by 20%, from 2015 to 2021 i.e. to identify additional 20,000 new TB cases by the in 5 years. The 9 key **objectives** of the NSP as mentioned below:

Objective 1: To increase case notification through improved health facility-based diagnosis; increase diagnosis among children (from 6% at baseline to 10% of total cases by 2021); examination of household contacts and expanded diagnosis among vulnerable groups within the health service, such as PLHIV (from 179 cases at baseline to over 1,100 cases in 2020/21), and those with diabetes mellitus (DM).

Objective 2: To maintain the treatment success rate of 90% for all forms of TB (except drug resistant TB) by 2021

Objective 3: To provide DR TB diagnosis services to 50% of the presumptive MDR TB patients by 2018 and 100% by 2021 and to successfully treat at least 75% of those diagnosed.

Objective 4: To expand case finding by engaging providers for TB care from the public sector (beyond MoHP), medical colleges, NGO sector, and private sector through results-based financing (PPM) schemes, with formal engagements (signed MoUs) to notify TB cases

Objective 5: To gradually scale up the Community System Strengthening Program (CSS) at 60% of the local administrative units by 2018 and to 100% of the administrative units by 2021. It will help in creating a patient-friendly ambiance in the health facilities, advocacy for TB patients regarding their rights which will, in turn, contribute to the diagnosis and management of TB cases

Objective 6: To contribute to health system strengthening through HR management and capacity development, financial management, infrastructure, procurement, and supply management in TB

Objective 7: To develop comprehensive Monitoring and Evaluation system

Objective 8: To develop plans so that NTP can function even at times of crises like natural disasters or public health emergencies.

5.4.3 Progress, epidemiology and disease burden of TB

Institutional coverage

Nepal adopted the DOTS strategy in 1996 and achieved nationwide coverage in 2001. All DOTS centers are integrated into public health services or run through NTP partner organizations in the public and private sectors. In 2077/78, a total of 5,503 institutions were offering TB diagnosis and treatment; DOTS-based TB control services. To increase access to treatment services, NTP has developed partnerships with different organizations including private nursing homes, polyclinics, I/NGO health clinics, prisons, refugee camps, police hospitals, medical colleges, and municipalities.

3 https://nepalntp.gov.np/wp-content/uploads/2018/01/NSP-report-english-revised.pdf

Table: 5.4.1 TB service delivery outlets

Program Indicators	National Level					FY 2077/78 by Province						
	2073/74	2074/75	2075/76	2076/77	2077/78	P-1	Madhesh	Bagmati	Gandaki	Lumbini	Karnali	Sudurpaschim
Number of Service Sites												
DOTS Center	4221	4323	4382	4955	5503	925	1003	1099	657	814	442	563
MDR Treatment Centers	18	21	21	22	22	4	3	2	3	3	2	5
MDR Treatment Sub-Centers	81	86	81	81	81	12	18	24	10	13	2	2
DR Homes	1	1	1	1	1	-	-	-	1	-	-	-
DR Hostel	6	6	6	6	6	1	1	1	-	2	-	1
Microscopy Centers	604	624	604	765	896	83	94	260	61	171	47	180
GeneXpert Facility	27	55	56	72	84	13	18	19	6	17	4	7
Culture Labs and DST	2	2	2	2	2	-	-	2	-	-	-	-
Line Probe Assay (LPA)	2	2	2	2	2	-	-	2	-	-	-	-

Source: NTP service data

Estimation of TB burden following 1st National TB prevalence survey 2018-19

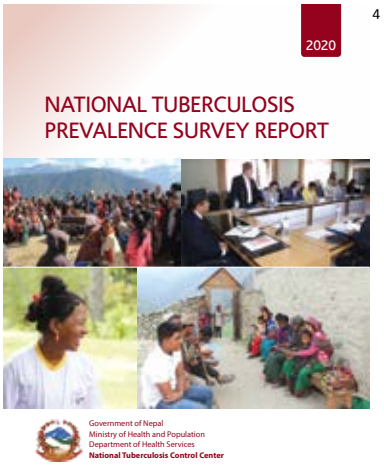
The burden of TB can be measured in terms of incidence (defined as the number of new and relapse cases), prevalence, and mortality. Based on the **National TB prevalence survey report 2018-19**, the revised burden estimated shows higher incidence (1.6 times), higher prevalence (1.8 times), and higher mortality rates (3.1 times) than previously estimated as detailed out in Table 5.4.2

Table: 5.4.2: Comparison between the previous and revised burden of TB

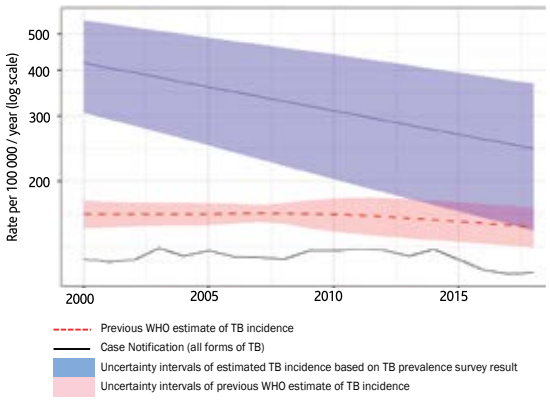
Year	Incidence (all forms)	Prevalence (all forms)	Mortality (HIV -ve& +ve)
2018 New estimates	69,000 (245 per 100k)	1,17,000 (416 per 100k)	17,003 (9,000-26,000)
2018 Prior estimates	42,000 (151 per 100k)	60,000 (215 per 100k)	5,500 (3,900 - 7,400)
Revised burden, higher by:	1.6	1.8	3.1

Though the incidence is higher than the previous estimate but is declining by around 3% annually. An assumption of a 3% rate of decline in incidence over the period 2000-2018 was used, supported by a steep gradient in prevalence rates over groups of increasing age, suggesting a decline in transmission, and an average 8%/year growth in GNI/capita (National TB Prevalence Survey 2018/19)

Figure5.4.2: Results of prevalence survey and key summary



[4]



Summary of key results from the survey are:

- TB burden significantly higher, despite better program performance (3% annual incidence decline)
- The burden of TB higher in all-terrain and not limited to high notification areas unlike previously estimated
- Burden significantly higher among men and in elderly population
- Need to scale up the use of better screening (e.g. X-ray) and diagnosis (e.g. Genexpert and mWRDs)
- Need to improve health-seeking behavior of general community
- TB service services should be strengthened both in the private and public sectors including cross-border collaboration.

Case notification

The reported case notification rate (CNR) of all forms of TB is 95/100,000 whereas CNR for incident TB cases (new and relapse) is 93/100,000 population. In Fiscal Year 2077/78, a total of 28,677 cases of TB was notified and registered at NTP. There were 98.27% incident TB cases registered (New and Relapse) among all TB cases. Among the notified TB cases, 70.5 % of all TB cases were pulmonary cases and out of notified pulmonary TB cases, 80.4% were bacteriologically confirmed. Among those bacteriologically confirmed and notified, 75.8% (12,336) were confirmed using Xpert MTB/RIF testing.

Table 5.4.3: TB case notification FY 2077/78

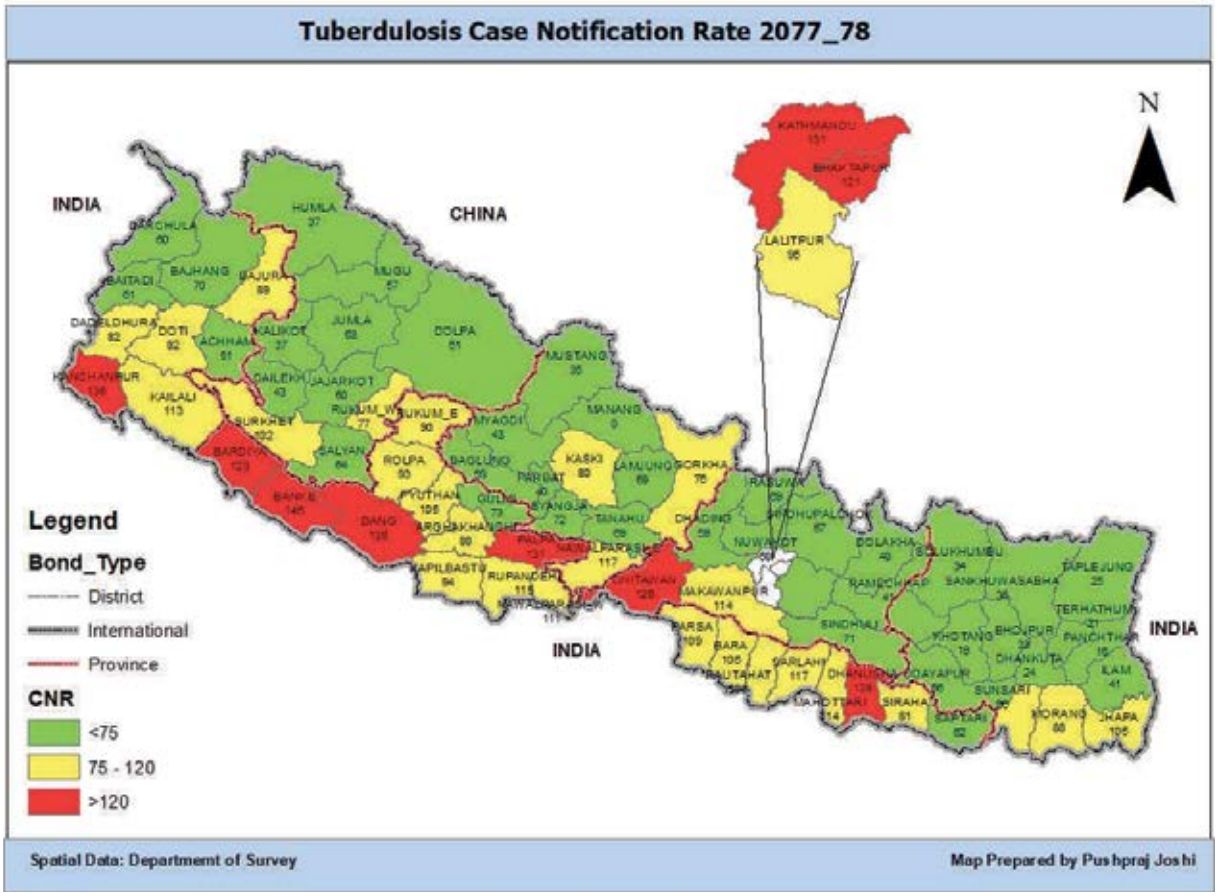
TB case notifications, 2077/78	
Total new and relapse	28182
– % tested with rapid diagnostics at time of diagnosis	
– % with known HIV status	72%
– % pulmonary	71%
– % bacteriologically confirmed	57%
– % children aged 0-14 years	6.6%
– % women	38%
– % men	62%
Total cases notified	28677

Source: DHIS2/HMIS 2077/78

4 National TB Prevalence survey 2018-19, Nepal https://nepalntp.gov.np/wp-content/uploads/2021/03/NTPS-Report-Bodypages.pdf)

More than half of all TB cases (19,226, 67.04%) were reported from Madesh Province, Bagmati Province and Lumbini Province. Around 23.24% of the TB cases were reported from Bagmati Province. Kathmandu district alone holds around 44% (2,982 TB cases) of the TB cases notified from the Bagmati Province while its contribution is around 10.39% in the national total (Figure 5.4.4). In terms of eco-terrain distribution, the Terai belt reported more than half of the cases (17,310, 60.4%). Most cases are reported in the middle age group with the highest of 48% in 15-44 years of age. Childhood TB is around 6.6% while men are nearly 2 times more than women among the reported TB case.

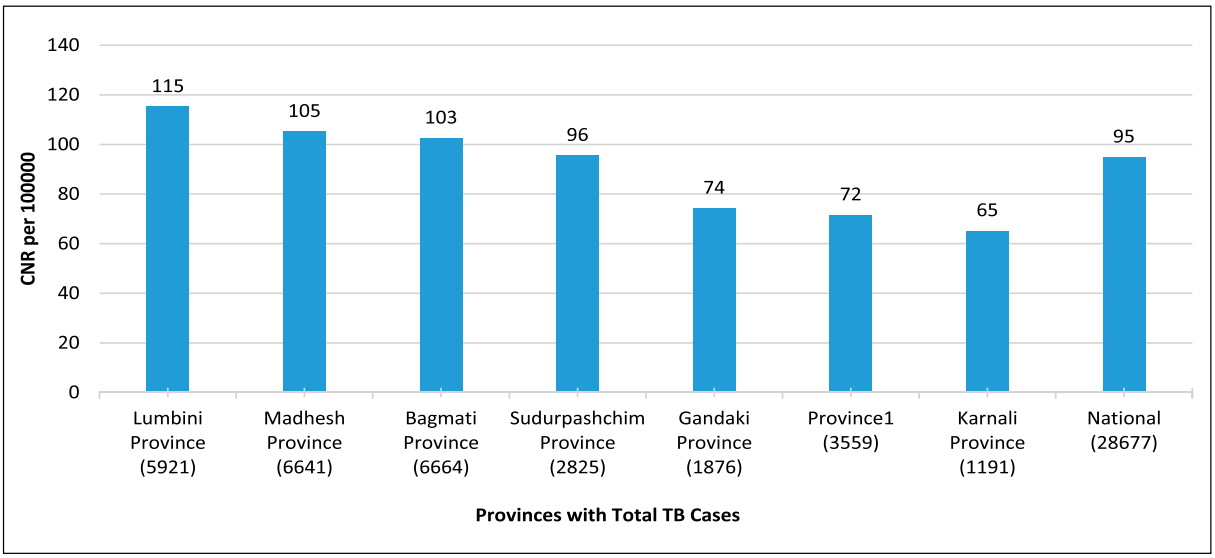
Figure: 5.4.3 Tuberculosis case notification rate, 2077/78



The National Case Notification Rate (All forms) is 95/100,000 population. Based on the CNR, there are 9 districts with CNR of more than 120, while 27 districts had CNR between 75-120 and the remaining 41 districts had below 75 CNR. Among 9 high burden districts, 6 districts are from the Terai belt while the remaining 3 are from the Hilly region. Further, more than half of all TB cases (19,226, 67.04%) were reported from Madesh Province, Bagmati Province and Lumbini Province respectively whereas in terms of eco-terrain distribution, Terai belt held more than half of TB cases (17310, 60.4%) in the reporting year.

Figure 5.4.4 shows the province-wise case notification rate. Lumbini province had the highest CNR (115 per 100,000 population) followed by Madesh Province, Bagmati Province, Sudurpaschim Province, Gandaki Province, Province-1 and Karnali Province 2 (105, 103, 96, 74 and 72 per 100,000 population) respectively. CNR was the lowest at Karnali Province (65 per 100,000 population).

Figure 5.4.4: Notified TB cases (All forms) in rates and numbers by provinces for FY 2077/78

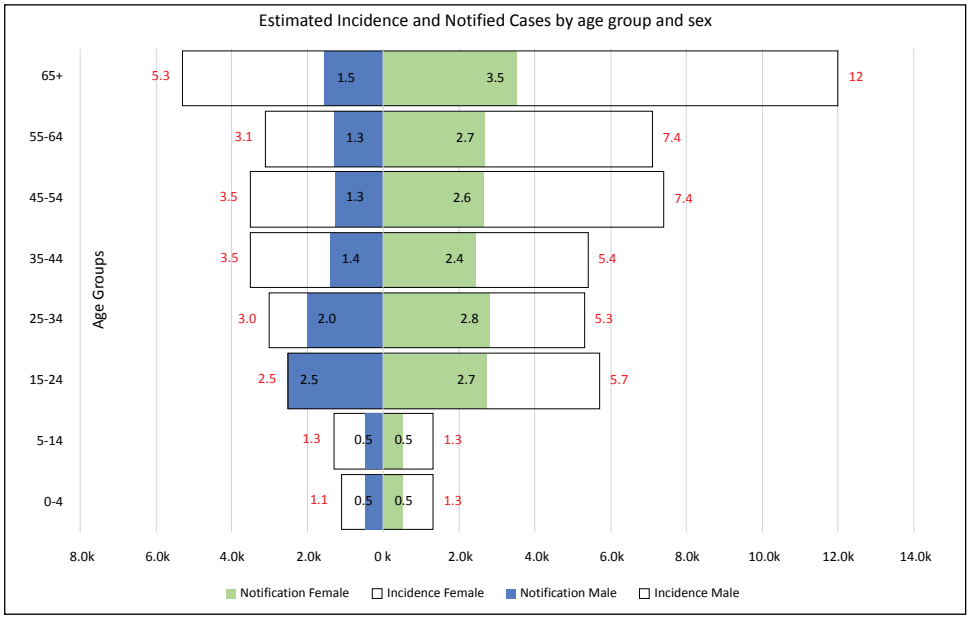


Source: DHIS2/HMIS 2077/78

Distribution by age and sex

In FY 2077/78, around 6.6% of cases were registered as child TB cases while the remaining 93.4% were registered as adult TB. Among them, male TB cases were reported nearly 2 times more than female. In Nepal, the incidence notification gap is higher, with missing cases projected to be around 58% and especially higher among the elderly population where access to health services is still a big challenge. The estimated TB in children should not be less than 10-15%, hence NTP requires focusing on increasing the current (6.6%) proportion of child TB among all notified TB cases. The low proportion of child TB cases suggested the high existence of TB transmission that requires measures of early diagnosis and treatment of child TB. In Nepal, men were nearly twice as more reported to have TB than women which were nearly the same in the region and global context.

Figure 5.4.5: Notified TB cases by age-group compared to the estimated incidence

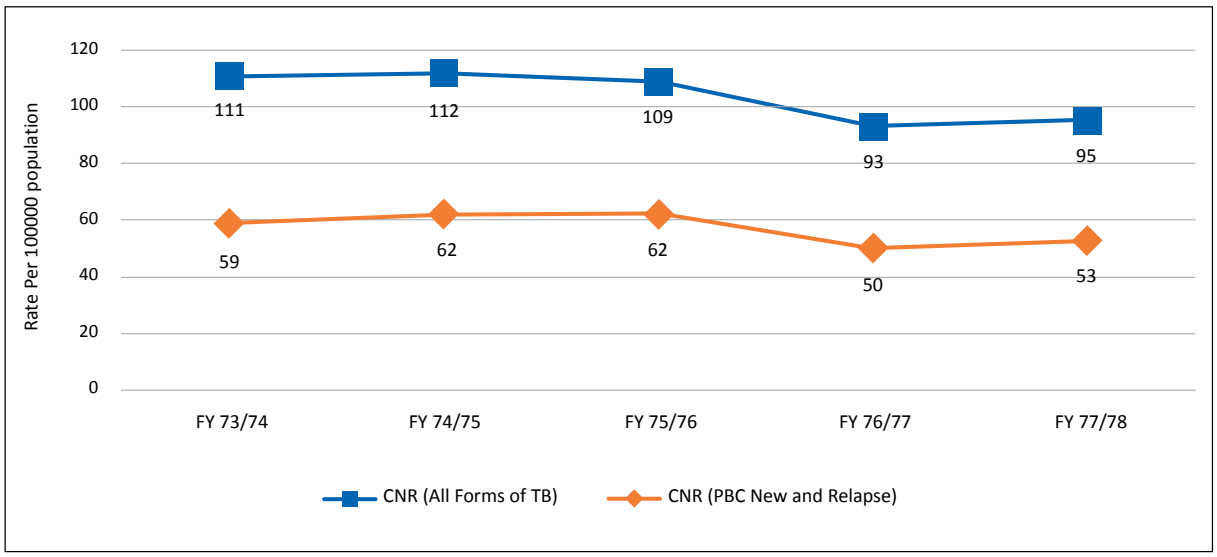


Source: DHIS2/HMIS 2077/78, WHO Global TB Report 2021

Annual trends

Figure 5.4.6 shows the trend of TB cases notification from 2073/74 to 2077/78. It has decreased gradually from 112 per 100,000 population in 2074/75 to 95 per 100,000 population in 2077/78.

Figure 5.4.6: TB case notification rate (2073/74–2077/78)

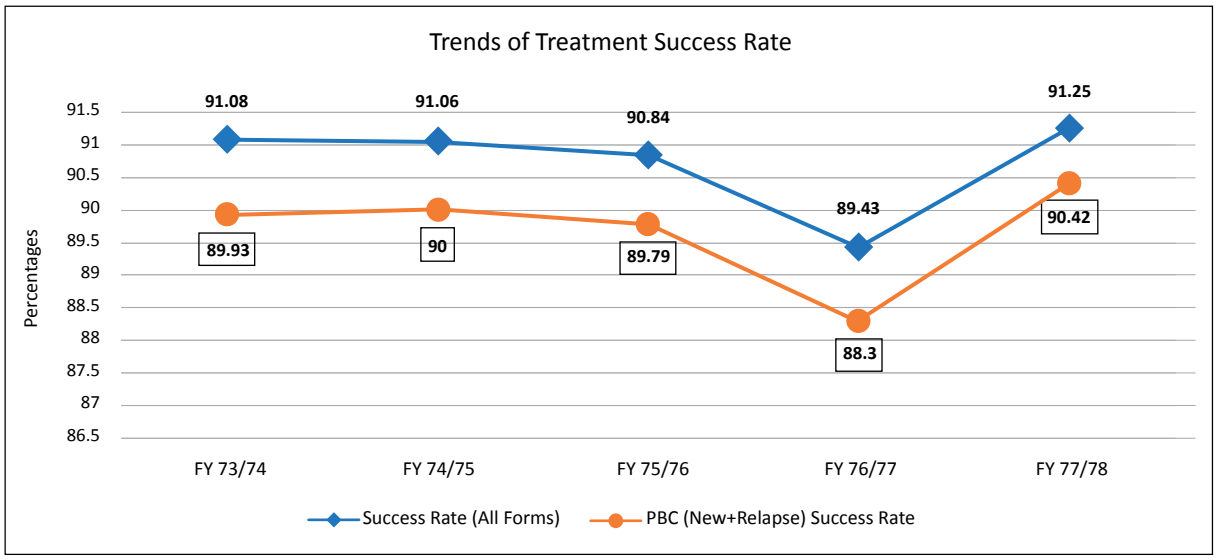


Source: NTP Excel Data for the FY 2073/74 to FY 2075/76 and HMIS for FY 76/77 onwards

Treatment outcomes

The trend of TB treatment success rates has been consistently above 90% since the last few years. The annual trend of TB treatment success rates at the national level for newer cases (New and Relapse) is progressive (90.42%), for this FY 2077/78 with respect to the previous year. However, the trend of success rates among the retreatment cases (Success, Failure, Loss to Follow-up and other previously treated) had been constantly lesser (in comparison to treatment success among newer cases).Figure 5.4.7

Figure 5.4.7: TB Treatment Success Rate (TSR) trend (FY 2073/74– FY 2077/78)



Source: Source: NTP Excel Data for the FY 2073/74 to FY 2075/76 and HMIS for FY 76/77 onwards

Table 5.4.4 shows the treatment outcomes of the TB patients across different provinces. Among the 7 provinces, Karnali Province, Madesh Province, Bagmati Province, Gandaki Province, and Lumbini Province have achieved the highest treatment success rate (i.e. more than 90%). The treatment failure rate was constant across all the provinces. Meanwhile, around 4% of registered TB patients died in Gandaki Province, Sudurpaschim Province, and Lumbini Province during TB treatment. Similarly, Sudurpaschim and Province-1 experienced a high loss to follow-up (around 3%) in comparison to other provinces.

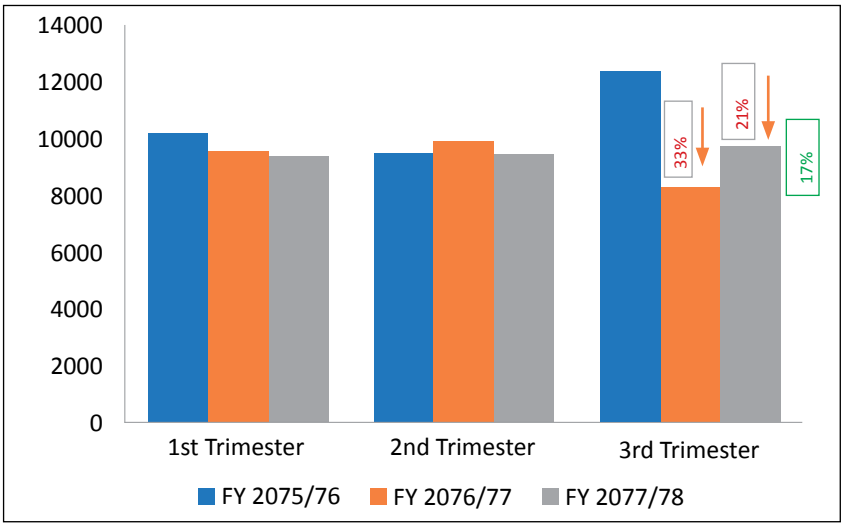
Table 5.4.4: Province wise TB treatment outcomes (2077/78)

Province	Treatment Success Rate	Failed Rate	Death Rate	Rate of LFU	% of Not Evaluated
Province 1	89.66%	0.59%	3.11%	3.21%	2.65%
Madesh Province	92.87%	0.49%	3.28%	1.82%	0.69%
Bagmati Province	92.08%	0.62%	2.15%	1.67%	3.50%
Gandaki Province	91.46%	0.98%	4.50%	1.92%	1.66%
Lumbini Province	90.33%	1.00%	4.09%	2.47%	0.76%
Karnali Province	93.57%	0.26%	2.66%	2.91%	1.03%
Sudurpashchim Province	88.75%	0.92%	4.22%	3.11%	1.00%
National	**91.25%**	**0.71%**	**3.31%**	**2.29%**	**1.74%**

Source: HMIS

Impact of COVID-19 in TB case notification

Figure 5.4.8: Impact of COVID-19 on TB case notification, FY 2077-78



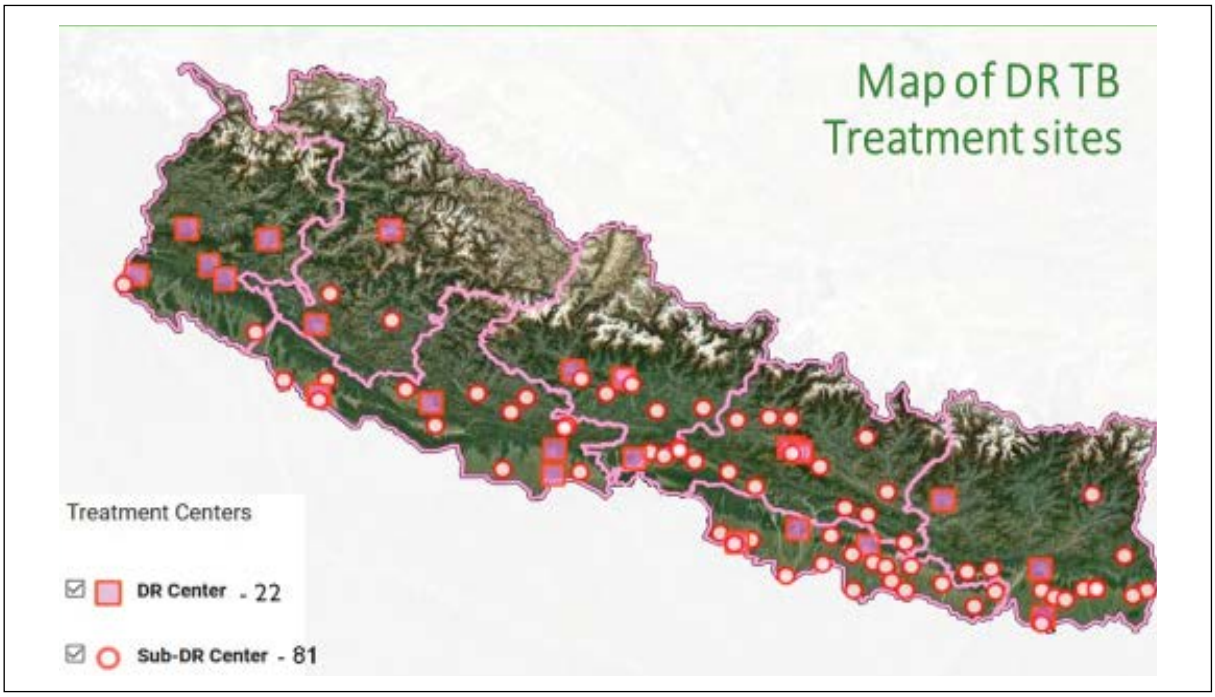
While comparing the result of 3 years in three different trimester, the TB notification significantly declined in third trimester (4 months period from Chaitra to Asadh) in FY 2076/77 and 2077/78. There was 33% decrease in FY 2076/77 and while In FY 2077/78 there was 21% decrease in the notification compared with the result of third trimester of 2075/76. However, there was an increment by 17% in the notification in FY 2077/78 compared with the result of third trimester of FY 2076/77.

Drug resistant tuberculosis (DR TB)

Drug-resistant TB (DRTB) has become a great challenge for the NTP and a major public health concern in Nepal. Innovative approaches and more funding are urgently needed for the programmatic management of

drug resistance TB nationally to detect and enroll more patients on multi-drug resistant (MDR) TB treatment, and to improve outcomes. The DR TB services are provided through different sites as shown in Figure 5.4.9

Figure 5.4.9: DR TB Treatment Sites



Burden of MDR-TB

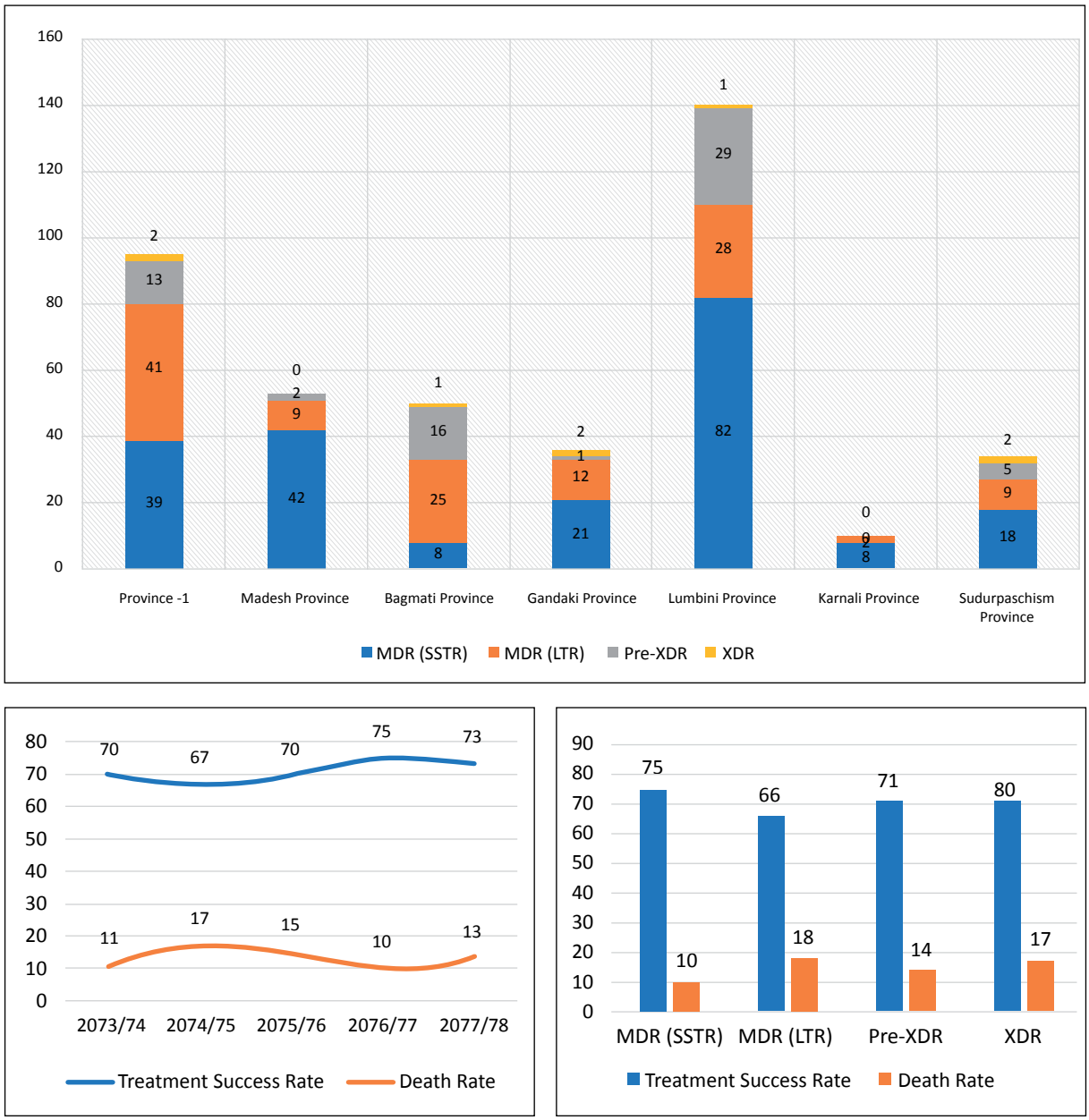
A total of 418 RR/MDR-TB cases were registered for treatment in FY 2077/78. Among them, 95 cases (23%) were on treatment at DR centers of province 1 53 cases (13%) at Madhesh Province, 50 cases (12%) at Bagmati Province, 36 cases (9%) at Gandaki Province, 140 cases (33%) at Lumbini Province, 10 Cases (2%) at Karnali Province and remaining 34 cases (8%) were on DR treatment at Sudurpaschim province respectively.

Case finding

The National DR TB Treatment Guideline defines three types of MDR-TB (RR TB, Pre-XDR TB, and XDR TB). Drug resistant forms of TB are detected through GeneXpert, Culture/DST, and LPA methods in Nepal. In this reporting period, 418 MDR TB cases were reported to have enrolled in the DR treatment. Where among the total MDR cases reported, 218 (52%) were registered under MDR (SSTR), 126 (30%) cases under MDR (LTR), 66 (16%) cases under Pre-XDR, and 8(2%) cases were registered under XDR.

Figure 5.4.10 shows the burden of MDR TB across the different provinces in this fiscal year 2077/78. In terms of the number of RR/MDR TB patients notified, Lumbini Province has found to have higher burden followed by Province-1, Madesh Province, Bagmati Province, Gandaki Province, Sudurpaschim province, and Karnali Province respectively. Similarly, the burden of Pre-XDR and XDR TB patients was found more at Lumbini Province followed by Bagmati, Province 1, Sudurpaschim , Gandaki and Madhesh respectively

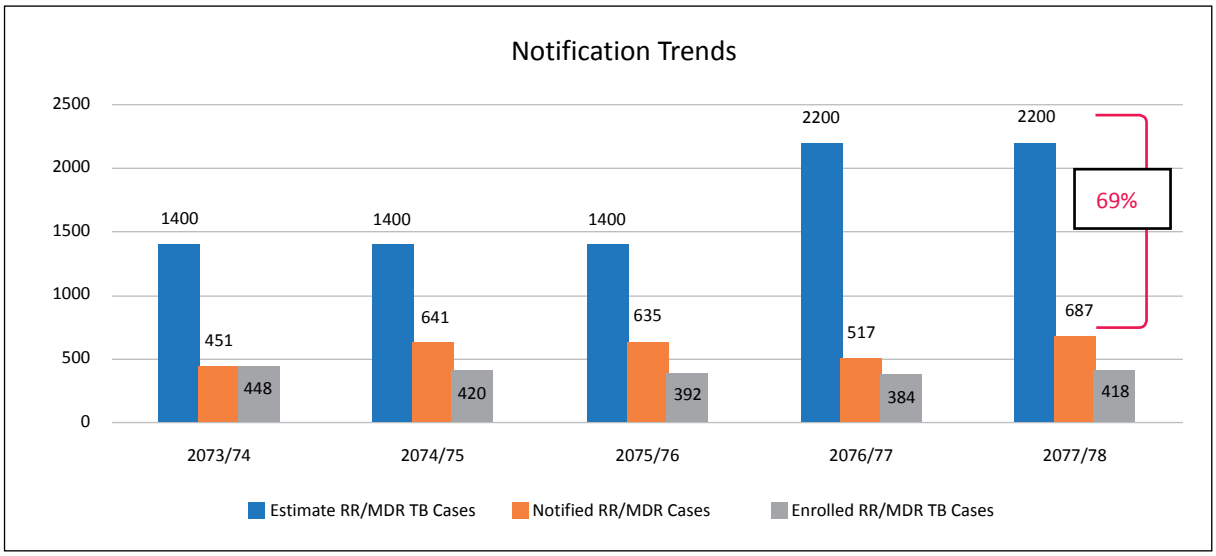
Figure 5.4.10: MDR-TB cases enrolled in treatment by provinces



Source: NTPMIS

Based on revised estimation of TB Burden following the National TB prevalence survey 2018-19 and other current epidemiological and other related information, the burden of RR/MDR TB was also revised by WHO and published in the Global TB report for 2020. After readjustment in the annual burden of DR TB, the annul estimated figure of DR TB increased from 1,400 to 2,200 DR TB cases annually. With this projection, the missing cases for RR/MDR TB are now estimated to be around 69% in FY 2077/78. Figure 5.4.11 Similarly, NTP has been successful in maintaining the higher treatment success rates for RR/MDR TB above 73%.

Figure 5.4.11: DR TB annual case finding and outcome trend



Source: NTPMIS

NTP's laboratory network

MAP of TB Diagnostics Sites

The diagnosis and treatment monitoring of TB patients relies on sputum smear microscopy because of its low cost and ease of administration. It is also the worldwide diagnostic tool of choice worldwide. Nepal has 896 microscopy centers (MCs) that carry out sputum microscopy examinations. Most of the MCs are run by government health facilities while a few are operated by NGOs and private instructions (Table 5.4.5 and Figure 5.4.14). There are well-established networks between the microscopy centres (MCs) at PHCCs, DHOs and DPHO, the five regional TB quality control centres (RTQCCs), and the National TB Centre (NTC). The microscopy centres send examined slides to their RTQCCs via DHOs according to the Lot Quality Assurance Sampling/System (LQAS) method. At the federal structure, NTP has already initiated coordination and communication with respective provinces to provide technical and financial support to establish the provincial structure for the external quality assurance of smear microscopy slides. The external quality assurance (EQA) for sputum microscopy is carried out by provincial health directorates (previously regional health directorates) at seven provinces and the National TB center in Kathmandu.

Table 5.4.5: NTP laboratory network (no. of institutions) by province

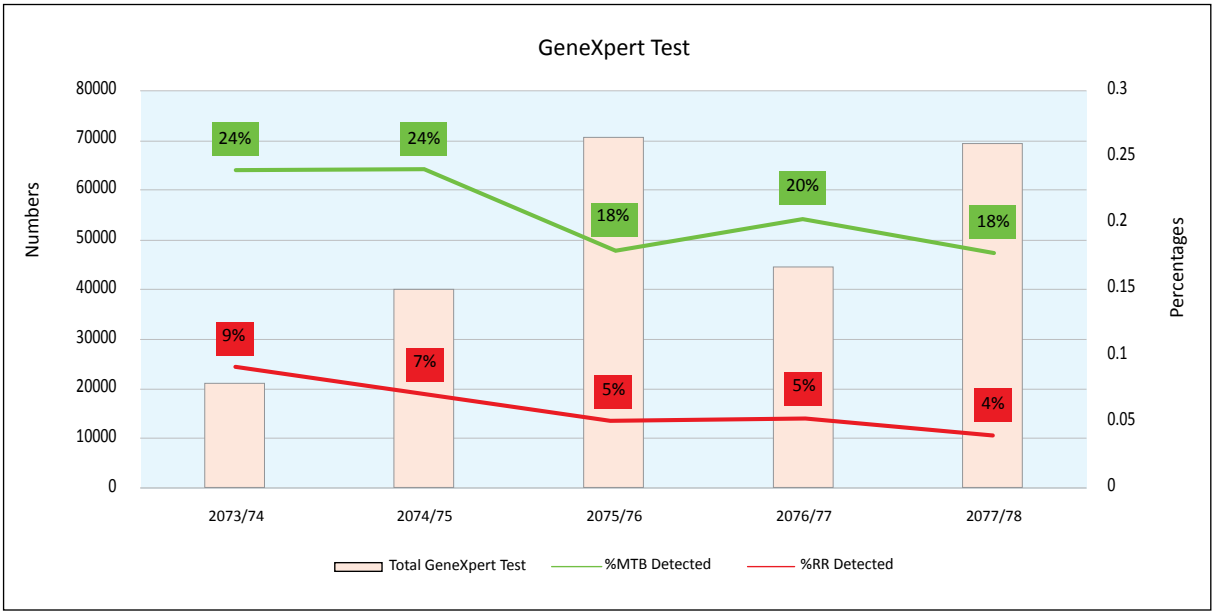
Center	Province 1	Madhesh	Bagmati	Gandaki	Lumbini province	Karnali	Sudurpaschim	Total
MC	83	94	260	61	171	47	180	896
GX sites	13	18	19	6	17	4	7	84

Source: HMIS and NTPMIS /DoHS

A lot of quality assurance sampling/system (LQAS) has been implemented throughout Nepal. At each microscopy center, examined slides for EQA are collected and selected according to the LQAS. Previously NTP used to collect all positive and 10 percent negative slides for EQA. In LQAS, slides are collected and selected using standard procedures to give a statistically significant sample size. LQAS is a systematic sampling technique that helps maintain good quality sputum results between microscopy centres and quality control centres.

TB Diagnosis

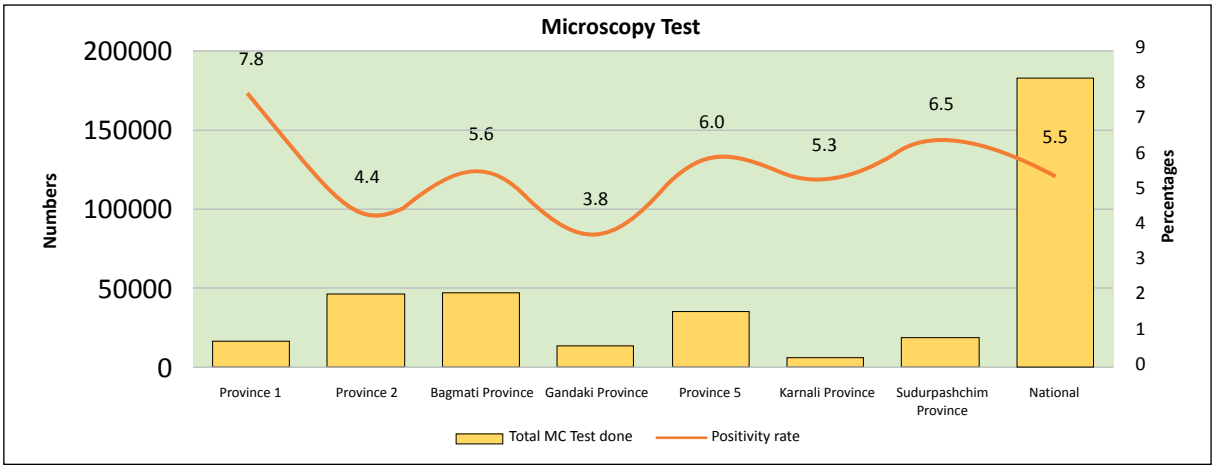
GeneXpert test



Source: NTPMIS

The above graph shows the GeneXpert test from 84 sites during the fiscal year 2077/78. The GeneXpert test has been increased by 45% (21,507) from the total test of 47,879 of FY 2076/77. Likewise TB detection from GX has been increased by 35% (3369 cases) from 9536 cases reported in FY 2019/20. The proportion of MTB among total test in GX was 18% in the fiscal year 2077/78. Similarly, the proportion of RR MTB among total MTB cases was almost 5% in past couple of years which has decreed to 4% in the fiscal year of 2077/78.

Sputum microscopy test



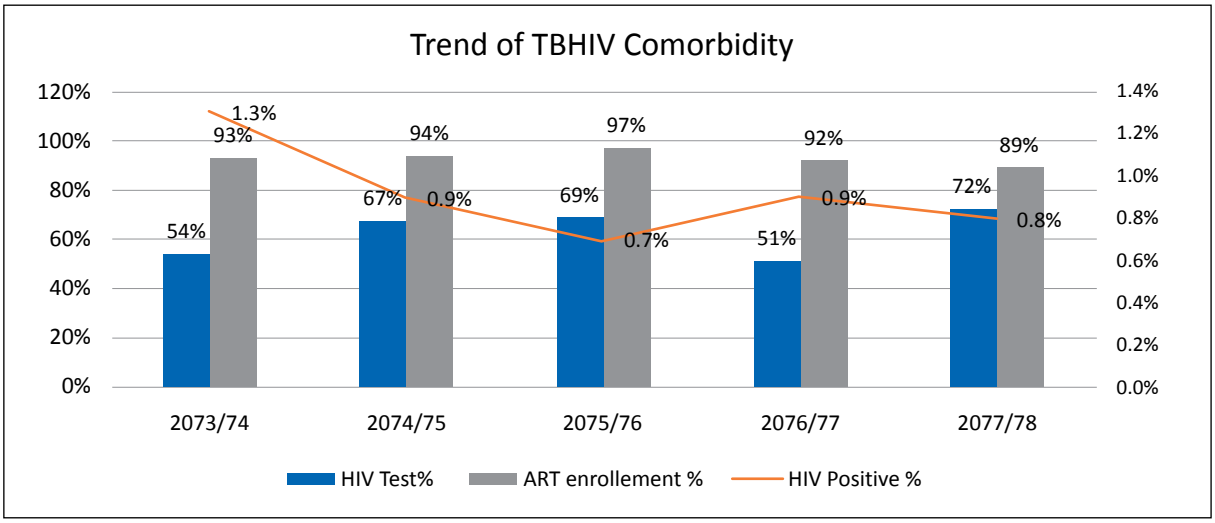
Source: DHIS2/HMIS

The above graph shows the sputum microscopy test during the fiscal year of 2077/78. It was reported that that 182,830 presumptive TB were tested with 5.5% positivity rate and diagnosed 10,110 PBC TB in the FY 2077/78.

TB/HIV co-morbidity

The testing proportion for HIV among TB patients has been increasing for the last few years which showed a significant increase from 51% of FY 2076/77 to 72% in FY 2077/78. While 89% TBHIV co-infected patients enrolled on ART which has also declined from 92% of preceding year to 89% in FY 2077/78.

Figure 5.4.12: TB/HIV co-morbidity.



Source: DHIS2/HMIS

TB preventive therapy

Initiation of TBPT among children under-5 years old has been highlighted in the National Strategic Plan of TB, 2016-21, and NTP has been implementing TBPT among children under-5 years in all 77 districts, however, there has been focus in 42 high burden districts of Nepal. A total of 666 children aged under-5 years were reported to have been initiated in preventive treatment in this fiscal year.

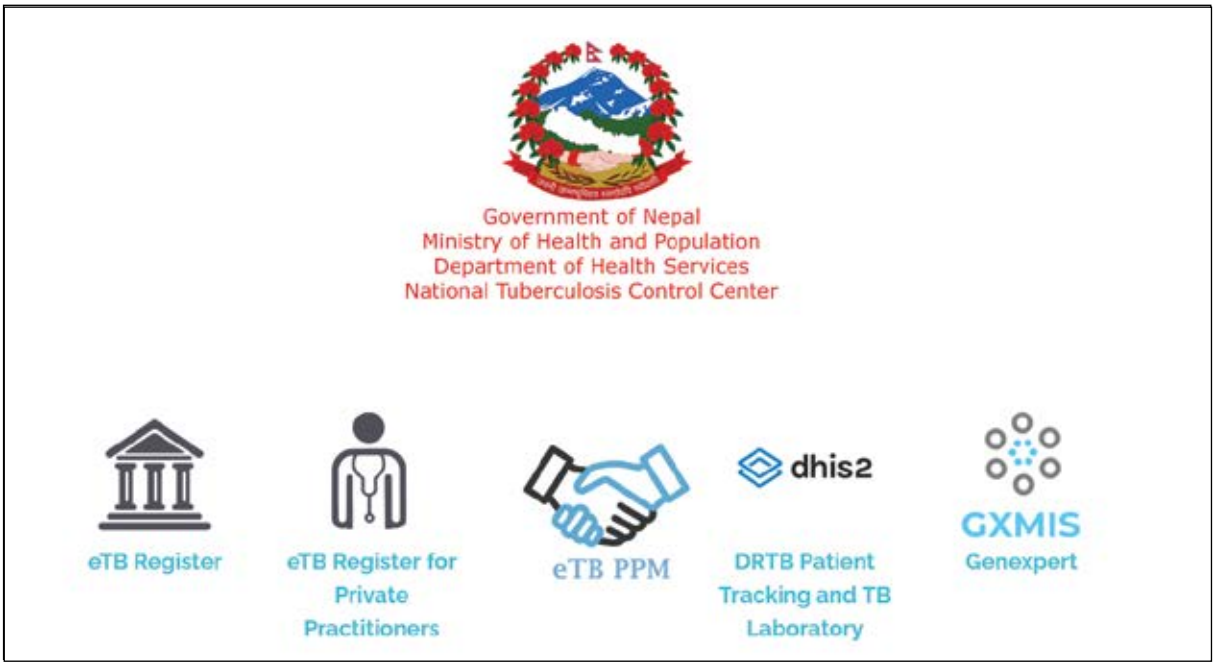
Planning, Monitoring & Evaluation

National Tuberculosis Centre is responsible for formulating long and short terms strategies and plans to fight against Tuberculosis throughout the country Planning and implementation of the National Tuberculosis Programme (NTP) is guided by National Strategy Plan (NSP). Currently, NTP is implementing its activities as per the strategy, objectives, and targets of NSP 2016-21.

Data source for TB program review

The key data source for NTP is HMIS data. But, as a direction set in NSP to develop a e-case based data, NTP has invested to develop a NTP MIS database, which records individual case based data for each patients. The page can be accessed at https://ntpmis.gov.np/

Figure: 5.4.13 NTPMIS Home Page



The NTP MIS system is on online platform, compatible with DHIS2 platform, which has the following components to it and their current status as detailed in Table 5.4.6

Table: 5.4.6 Different components of NTP MIS and updates

No.	Components of NTP MIS	Description	Status in FY 2077/78
1	eTB register	Master eTB register is a web-based application being used for reporting TB patient registration, follow-up and outcome in central online database from existing paper-based tuberculosis register. This patient tracker software is developed to collect, manage and analyses transactional case-based data records. Master eTB has advanced features for data analytics, feedback mechanism, reporting, SMS integration and dashboard which lets user explore and bring meaning to raw data.	Orientation/training packages developed, and training has been initiated at national and provincial levels. Expected to start reporting form coming FY

No.	Components of NTP MIS	Description	Status in FY 2077/78
2	eTB Register for Private Practitioners	eTB Register Module for Private Practitioners is a separate module developed for reporting TB patients from private sector and can be used to collect, manage and analyses data from these private sectors.	Reporting initiated
3	eTB PPM	It is an online web-based R&R tool to record/report presumptive TB patients at pharmacies who are then referred to designated doctors and hospitals for screening for TB. Similarly, this system is also able to capture the referral from communities to designated doctors/hospitals. This system not only tracks the referral and diagnosis of TB but also tracks the enrollment in TB treatment in DOTS Center. Hence, this R&R system tracks the presumptive TB referred from pharmacies and communities to diagnosis and enrollment in TB treatment.	The system is introduced in major six cities; Kathmandu, Lalitpur, Chitwan, Nepalgunj, Birantnagar and Birgunj. Around 250 pharmacies were using the system during the period.
4	DRTB Patient Tracking and TB Laboratory System	DRTB Patient Tracking and TB Laboratory System is a Web-Based Management Information System developed using DHIS2 platform for effective management and monitoring of DR TB patients by taking their treatment stage and generate reports for MDR TB management program. This system also features the complete laboratory information system, including Microscopy, Culture/ DST, GeneXpert, and LPA and provides SMS notifications to the patients/DR Focal person of their test results and notification. As both DRTB Patient Tracking and TB Laboratory System are incorporated within the same system, a patient can be tracked with a single system ID within both systems.	All DR TB sites and nearly 50 out of 72 GeneXpert sites have been using and reporting details through this mechanism.
5	GX-MIS	Web-based real-time geneXoert machine functionality monitoring system that provides information regarding the functionality of genexpert machine and modules, so maintenance procedures can be carried out on time.	Functional and nearly 72 sites out of 102 sites linked to the system by FY 77/78

Supervision and monitoring

The supervision and monitoring of TB health care services are carried out by regular visits to all levels of the program. Also, the quarterly reporting of activities is carried out at trimester planning, monitoring, and evaluation (PME) workshops at all levels of the program.

The NTP regularly monitors case notification, smear conversion, treatment outcomes, and program management reports from all levels of the program. Data is initially analyzed by TB focal persons of DOTS center and Health Coordinator of respective local level during reporting and planning workshops. Thereafter, TB focal person from the respective health office report at province level planning, monitoring, and evaluation workshop. Finally, TB focal persons from provincial health directorates report at national PME workshops. These workshops take place every four months at the Local level province and national level.

Figure 5.4.14: NTP line supervision

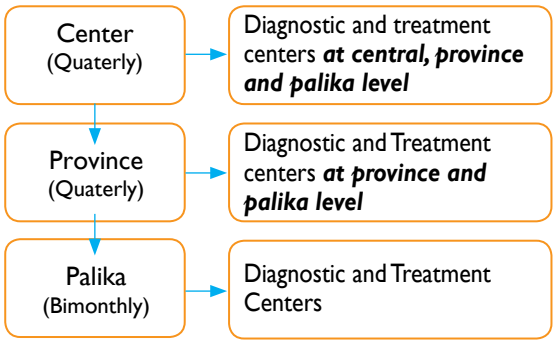


Figure 18: NTP review system

International	International Review	Annual
National	National Reporting & Planning Workshop	4 monthly
Provincial	Provincial Reporting & Planning Workshop	4 monthly
Palika level (Local body)	Local Level Reporting & Planning Workshop	4 monthly

Logistics supply management

The NTP's logistics management system supplies anti-TB drugs and other essentials every four months to service delivery sites based on the number of new cases notified in the previous quarter and the number of cases under treatment. Prior to the procurement of Anti TB Drugs, forecasting and quantification are done considering all available data. NTC follows rules and regulations of PPMO to procure drugs from the GoN Budget while Pooled Procurement Mechanism (PPM) is adopted to import medicines from the Global Drug Facility (GDF), Switzerland. All the drugs from procurements are received in the central NTCC Store and stored by adopting proper storage methods. Drugs are supplied every 4 months to District Medical Store via Provincial Logistic Management Center (PLMC) after receiving the order as a result of workshops in each Region. In the case of First-Line Drugs buffer of 4 months is added in the order while supplying but no such buffer quantity is given in the case of DR Drugs. Supply of DR drugs is done directly to DR Centers and to some DR Sub Centers.

Physical and Financial Progress status

In the Fiscal year 2077/78, The budget allocated for NTCC was 814.929million NPR, among which NTCC made 83.85% physical progress and 73.34% financial progress with a total of 597.65 million NPR used.

Source: DHIS2/HMIS, GoN Redbook

Partners of TB program

NTP has had collaborations and support from many different organizations. WHO had been a key technical partner to NTP, whereas Save the Children as a principal recipient of Global Fund Grant has been the key financial partner. There are partners like Damien Foundation, NATA who support in DR TB program to NTP and there are sub-recipient partners who support for Global Fund program implementation at the field level. The detail is provided in Table 5.4.7: NTP

Table 5.4.7: NTP Partners

Partners	Key Support Area
WHO	Main Technical Partner of NTP
Global Fund	Major Donor of NTP
Save the Children International (SCI)	Principal Recipient of Global Fund Grant and key Technical Partner
NATA, TB Nepal, JANTRA, BWSN, KIDS, Trisuli+, BNMT, HERD, IoM and Damien Foundation	NTP program implementation Partner

5.4.4 Challenges, and way-forward

The Nepal NTP has regularly been facing several challenges and constraints, which influence the inability to expand and sustain the vision of the program. Following are the key challenges and constraints faced by the NTP to reach the intended goals and targets of the program in the last fiscal year.

Challenges:

- Accountability, prioritization, engagement, and investment in TB at all levels have been a key challenge.
- Proper identification of community and private sectors and their meaningful engagement in the TB program is another challenge for the program.
- Expansion, maintenance, and utilization of rapid diagnostic have been a key diagnostic challenge.
- Nationwide scale-up of web and case based surveillance system.
- Investment and incorporating effective infection control measures at all levels has been a challenge and so was the effective implementation of ACF.
- Effective and functional collaboration with other health and non-health program is another key challenge.
- Defaulter tracing and providing patient-friendly services including side effect management for DR TB is a key challenge.
- aDSM management and scale-up
- Recently, the continuation of TB services in the context of COVID has been another key challenge.

Way Forward

For immediate challenges for next FY are:

- Timely development/revision of key strategic guidelines (National Strategic Plan 21/22-25/26), securing increased domestic funding and partner's support (e.g. finalization of Global Fund grant 21-23), lab networking plan
- Data validation, report analysis, and report publication of National TB prevalence survey
- Capacity building and engagement of new management and health focal points at different levels for TB

For the long term, to achieve the end TB goals and targets envisioned by NTP

- Secure enough resources (Human resource and budget) for TB at all level
- Initiate and drive TB Free Initiatives
- All TB including Drug-resistance TB to be under UHC
- Make TB mandatorily notifiable
- Scale-up TB preventive treatment
- Identify, strengthen and support community organizations engagement in TB care and support including advocacy for human rights
- Include all TB patients and family in the Health insurance scheme
- Advocate including TB in social protection and poverty alleviation support schemes.

Summary of NTP result in FY 2077/78

Estimates of TB burden, 2076/77	**Number**	**Rate (per 100000 Population)**
Total TB incidence	69000	235 (139-356)
HIV positive TB incidence	1400	4.6(1.4-9.9)
MDR/RR-TB incidence	2200	7.6 (3.1–14)
HIV negative TB motality	16000	55 (25–96)
HIV positive TB mortality	210	0.74 (0.34–1.3)
Source- Global TB Report 2021, WHO		
Estimated proportion of TB cases with MDR/RR-TB, 2077/78		
New cases		2.2% (1.1–3.6)
Previously treated cases		15% (9.6–22)
Source- Global TB Report 2021, WHO		
TB case notifications, 2077/78		
Total new and relapse		28182
– % tested with rapid diagnostics at time of diagnosis		
–'% with known HIV status		72%
– % pulmonary		71%
–% bacteriologically confirmed		57%
–% children aged 0-14 years		6.6%
–% women		38%
–% men		62%
Total cases notified	–	28677
Source- HMIS data FY 2020/21		
Universal health coverage and social protection		
TB treatment coverage (notified/estimated incidence), 2076/77		40% (26-67)
TB patients facing catastrophic total costs		-
TB Case fatality ratio (estimated mortality/estimated incidence), 2076/77		25% (9-46)
TB/HIV care in new and relapse TB patients, 2077/78	Number	(%)
Patients with known HIV-status who are HIV-positive	162	0.8%
on antiretroviral therapy	144	89%
Source- HMIS data FY 2020/21		
Drug-resistant TB care, 2077/78		
% of bacteriologically confirmed TB cases tested for rifampicin resistance		
New cases	82%	
Previously treated cases(Including Relapse)	90%	
Laboratory-confirmed cases	MDR/RR-TB: 674, XDR-TB:13	
Patients started on treatment	MDR/RR-TB: 410, XDR-TB: 8	
MDR/RR-TB cases tested for resistance to second-line drugs	297	
Source- NTPMIS data FY 2020/21		
Treatment success rate and cohort size	Success	Cohort
New and relapse cases registered in 2076/77	91%	26,889
Previously treated cases, excluding relapse, registered in 2076/77	85%	342
MDR/RR-TB cases started on second-line treatment in 2075/76	72%	326
XDR-TB cases started on second-line treatment in 2075/76	80%	30
Source- NTPMIS and HMIS data FY 2020/21		
TB preventive treatment, 2077/78		
% of HIV-positive people (newly enrolled in care) on preventive treatment		
% of children (aged <5) household contracts of bacteriologically-confirmed TB cases on preventive treatment		64%
Source- HMIS data FY 2020/21		
TB financing, 2077/78	**Funding Source**	**(NPR Million)**
National TB budget	Nepal GoV:	473.50
	Global Fund	196.60
	WHO and other Partners (poolfund)	59.20

Details and province-specific data can be accessed at http://nepalntp.gov.np/wp-content/uploads/2021/04/Factsheet_Final.pdf

5.5 HIV/AIDS and STI

5.5.1 Background

With the first case of HIV identification in 1988, Nepal started its policy response to the epidemic of HIV through its first National Policy on Acquired Immunodeficiency Syndrome (AIDS) and Sexually Transmitted Diseases (STDs) Control, 1995 (2052 BS). In 2050 B.S., National Centre for AIDS & STD Control was established to formalize response against HIV and STI Control in Nepal. Taking the dynamic nature of the epidemic of HIV into consideration, Nepal revisited its first national policy on 1995 and endorsed theupdated version: National Policy on Human Immunodeficiency Virus (HIV) and Sexually Transmitted Infections (STIs) in 2011. National HIV Strategic Plan 2016-2021 is launched to achieve ambitious global goals of 90-90-90. By July 2021, 90% of all people living with HIV (PLHIV) will know their HIV status, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART), and 90% of all people receiving ART will have viral suppression. Overall, the epidemic is primarily driven by a sexual transmission in Nepal and characterized as concentrated HIV epidemic among key populations (men who have sex with men, male sex workers, transgender people, people who inject drugs, female sex workers and their clients, migrants and prisoners). The total estimated PLHIV in Nepal was 30,300 in 2020 and 31,144 in 2021.

The National HIV Strategic Plan (NHSP) 2016-2021, the fifth national strategy with the aim of meeting the global goal of 90-90-90 by July 2021. The commitment by Nepal of both the global "UNAIDS Strategy 2016-2021," and the "Sustainable Development Goals" adopted by the UN General Assembly, include commitments to Fast-Tracking for ending the AIDS epidemic as a public health threat by 2030. NHSP 2016-2021 vision is to end the AIDS epidemic as a public health threat in Nepal by 2030.

5.5.2 HIV and STI Program Implementation

The following programs are implemented at national level to ensure achievement of vision and targets set by the NHSP 2016-2021.

HIV Testing and Counselling Services

Pursuant to its goal of achieving universal access to prevention, treatment care and support, HIV Testing Services (HTS) has been a strategic focus in the national response to HIV ever since Nepal started its response to HIV. Before HTS was called as voluntary HIV counselling and testing (VCT) or HTC services. The first-ever HTS began in 1995 with the approach of voluntary Client-Initiated Testing and Counseling (CITC).

The Government of Nepal is promoting the uptake of HIV testing among key populations (KPs) through targeted communications and linkages between community outreach and HTS. Likewise, Provider-Initiated Testing and Counseling (PITC) have been taken to STI clinics, Antenatal Clinic (ANC), childbirth, malnourished clinic, postpartum, Family Planning, and TB services. Managing TB/HIV co-infection.

PROGRESS AND ACHIEVEMENT

HIV Testing Services

HTS are available in all 77 districts of Nepal. Programmatic data of people who were tested and Positives over the last four yearsis showed in Table 1

Table1: Service Statistics HIV Testing and Counseling for the period of BS 2073/074-2077/078

Indicators	2073/074	2074/075	2075/076	2076/77	2077/78
Total tested for HIV	210,525	330,460	237,496	147,968	176,895
Total HIV Positive reported	1,854	2,152	2,298	2,416	2,944
HIV Positivity rate (%)	0.88	0.65	0.97	1.63	1.66

Source: HMIS

A detail of descriptive statistics of HIV testing from FY 2073/074 up to FY 2077/078 is mentioned below. As per annual report of five years St. Deviation is very low only 70074 than median (210525). So, it is clear from this that the uniformity in the five- years report is very good. Also, Skewness is 1 and Kurtosis is 1. A total of 1,103,344 people has been tested for HIV in five years in all the seven Provinces of Nepal. A detail is herewith.

Median	210525
Std. Deviation	70074
Skewness	1
Kurtosis	1
Minimum	147968
Maximum	330460

The HIV testing is highest in Lumbini Province (51,856) and lowest in Karnali Province (1,497) whereas the percentage of positivity yield is highest in Bagmati Province followed by Karnali Province. The province-wise detail is also shown in Table 2.

Table2: Province wise Service Statistics HIV Testing and Counseling in 2077/78

Provinces	Tested for HIV	Positive reported	% of positivity yield
Province 1	21348	254	1.19
Madhesh	25978	475	1.83
Bagmati	14416	1211	8.40
Gandaki	21356	222	1.04
Lumbini	51856	473	0.91
Karnali	1497	30	2.00
Sudurpaschim	40444	279	0.69
Total	**176895**	**2944**	**1.66**

Source: HMIS

Table 3: Key challenges/Issues and recommendations

Issues	Recommendations
Data gap is found in the HIV program especially the report from many sites (major private hospitalsandNGOs) are yet to be covered in the electronic iHMIS system.	Training programs focusing on major non-reporting private hospitals and NGOs should be done by NCASC and iHMIS in order to ensure reporting to iHMIS. In addition to this, workshops to strengthen the capacity of data entry users of iHMIS at all levels is necessary for the updated, consistent and valid data reporting in iHMIS.

Issues	Recommendations
Timely, complete and accurate reporting is chronic problem especially in Bagmati Province.	Federal, province level and site level efforts including implementation of different capacity development activities to strengthen recording and reporting of services provided is must.

Sexually Transmitted infections (STI) management program

In the context of management of STI, the standardization of quality STI diagnosis and treatment up to health post and sub-health post level as a part of primary health care services has been a key strategy in the national response to HIV. This strategy further foresees standardization of syndromic approach with the referral for etiological treatment when needed. Strengthening documented linkages (referral of follow-up mechanisms) between behavioral change communication (BCC) services and HIV testing and counseling, including the strengthening of linkage between HTS and STI services has been one of thekey actions in the context of the concentrated epidemic of Nepal. Key populations targeted STI management services are provided through ART centres.

Table 4: STI cases Assessed

Indicators	2073/074	2074/075	2075/076	2076/77	2077/78
Total STI cases Assessed	34275	30465	15424	16405	12076

Table 5: Total number of clients assessed for STI by Province and fiscal year

Period	Organization Unit/Data	Etiology – Total STI cases Assessed
Shrawan 2077 to Asar 2078	Province 1	3,107
	Madhesh Province	427
	Bagmati Province	3,873
	Gandaki Province	829
	Lumbini Province	1,526
	Karnali Province	689
	Sudurpaschhim Province	1,625
	Nepal	**12,076**

Among Kps, total STI Cases assessed is highest in Bagmaiti Province (3873), and lowest in Karnali Province (689). The province-wise detail is also shown in Table 5.Total number of clients assessed for STIs by province in fiscal year 2077/78.**Key Challenges/Issues and Recommendations**

Table 6: Key challenges/Issues and recommendations

Issues	Recommendations
Ensuring STI drugs throughout the year in all HIV treatment centres of Nepal. This also halts the implementation of STI services in many ART centres.	Ensure adequate budget and timely procurement of required STI drugs.
Timely, complete and accurate reporting of data related to STI services from ART centres is chronic problem.	Federal, province level and site level efforts including implementation of different capacity development activities to strengthen recording and reporting of STI services is must.

Prevention of Mother to Child Transmission of HIV for elimination of vertical transmission (eVT)

Nepal started its Prevention of Mother to Child Transmission (PMTCT) program which is also called eVT in February 2005 with setting up three sites at 1) B. P. Koirala Institute of Health Science (BPKIHS), Dharan; 2) Maternity Hospital, Kathmandu and; 3) Bheri Hospital, Banke. Community-based PMTCT programs were initiated in several districts in Nepal beginning in 2009, based on recommendations from the 2007 PMTCT National Review and the knowledge that current facility-only based PMTCT models were not reaching the majority of pregnant HIV infected women in the county.

Moving further in this direction, apart from the free provision of maternal ART and prophylaxis for infants, the National Guidelines on PMTCT have been developed and integrated intoNational HIV Testing and Treatment Guidelines in Nepal, 2020. Apart from it, HIV testing has been incorporated into maternal and child health care in the form of PITC. Tailoring to the needs of HIV-infected infants as well as HIV exposed babies; counselling and information on infant feeding have been adjusted accordingly.

The PMTCT service in Nepal has been integrated into maternal and neonatal health services since 2009 in the districts with CB-PMTCT services and the program has been expanded in all 77 districts of Nepal where HIV screening and counseling is done among women during ANC visit at the health facilities. Apart from CB-PMTCT program, adhering to the key actions envisaged by the National Strategy, the country is scaling up PMTCT service synchronizing with planned ART, HTC /STI, OI services for ensuring access to acontinuum of care and ART to pregnant women with HIV. Furthermore, linkages have been established between PMTCT sites and key populations targeted intervention, Family Planning, sexual and reproductive health and counseling services.

PROGRESS AND ACHIEVEMENT

Pursuant to its commitment toeliminate vertical transmission of HIV among children by 2026, Nepal has scaled up its PMTCT services in recent years. As a result of this scale-up of PMTCTsites,the number of women attending ANC and labour who were tested and received results has increased over the years.

Table 7: Service Statistics on PMTCT in Nepal for the period of BS 2073/74-2077/78

Indicators	2073/74	2074/75	2075/76	2076/77	2077/78
Tested for HIV (ANC & Labour)	382,887	439,225	440,709	386,215	431784
HIV Positive Pregnant women (New)	128	70	79	57	371
Total Deliveries by HIV +ve mothers	126	127	129	110	238

Source: HMIS

The HIV testing among pregnant women is higher in Bagmati (100075 and Province Lumbini (88108) whereas the percentage of positivity yield among pregnant women is higher in Province Bagmati (0.50), than national average. The provincewise details are shown in Table 4.

Table 8: Province wise Service Statistics on PMTCT in Nepal 2077/78

Provinces	women tested for HIV(ANC & delivery)	Positive women (ANC & delivery)identified	Positivity Yield (%)
Province 1	45905	19	0.04
Madhesh	75677	4	0.01
Bagmati	100075	498	0.50
Gandaki	43118	14	0.03

Provinces	women tested for HIV(ANC & delivery)	Positive women (ANC & delivery)identified	Positivity Yield (%)
Lumbini	88108	61	0.07
Karnali	30279	3	0.01
Sudurpaschim	53962	10	0.02
Total	437124	609	0.14

Source: HMIS

Aiming at the elimination of mother to child transmission, Nepal adheres to Option B+ and embarks for providing lifelong ART for all identified pregnant women and breastfeeding mothers with HIV, regardless of CD4 along with prophylaxis treatment for their infants as well. The rollout of the lifelong treatment adds the benefits ofthe triple reinforcing effectivenessof the HIV response: (a) help improve maternal health (b) prevent vertical transmission, and (c) reduce sexual transmission of HIV to sexual partners.

Table 9: Key challenges/Issues and recommendations

Issues	Recommendations
Tracking of HIV-positive mothers and exposed baby for EID.	To address this issue, efforts are ongoing for tracking of HIV positive mothers and baby started using HIV Care and ART Tracking (DHIS2 Tracker, mHealth and Biometric) system.
Mainstreaming the private hospital in the national reporting system for PMTCT test.	The federal and province should strengthen coordination with private hospitals to regularize the reporting to district.
Supportive monitoring visit at service delivery points from the Province and centre.	Frequent monitoring visit should be performed to intensify the services at birthing centre and beyond birthing centre.
Double reporting of testing data of mothers from multiple sites	Reporting of HIV positive data from only confirmatory three-tier HIV testing sites i.e., HIV Counselling and Testing Sites.

HIV Treatment Services

With a primary aim to improve survival among people living with HIV (PLHIV), the government, in 2004, started giving free antiretrovirals (ARVs) from antiretroviral therapy (ART) centres. National Centre for AIDS and STD Control (NCASC) has adopted the WHO “Treat All” policy since the revision of the National HIV Testing and Treatment Guidelines in 2017. Necessary diagnostic and treatment-related infrastructures such as CD4 machines and viral load machines have been set up in different parts of the country for supplementing ART management program. Human resources have been trained for Treatment, Care and Support in parallel with the preparation and updating of training guidelines. People Living with HIV have been empowered aiming at enhancing their supplementary roles in Treatment, Care and Support.

The total cumulative number of PLHIV receiving ART by the end of the fiscal year 2077/78 has reached the figure of 20,883. Out of those who are currently on ART, 19713 are adults (≥15 years) and remaining 1,170 are children (0-14 years), while male population makes 10,780 (51.6%), female population 9,826 (47.1%), and remaining 277 (1.3%) are of the third gender.

Table 10: ART Profile of the period of FY2073/74-FY 2077/78

Indicators	2073/74	2074/75	2075/76	2076/77	2077/78
People living with HIV ever enrolled on ART (cumulative)	19,388	22,048	24,423	26,563	33827
People with advanced HIV infection receiving ARVs (cumulative)	14,544	16,428	17,987	19,211	20883
People lost to follow up (cumulative)	2,049	2,388	2,679	3,337	3435
People stopped treatment	25	22	25	17	12
Total deaths (cumulative)	2,770	3,201	3,617	3,998	4487

Source: HMIS

The number of people on ART is higher in Bagmati Province (5,467) and Lumbini Province(3,912). The province wise details are also shown in Table 11.

Table 11: Province wise people on ART FY 2077/78

Province	People on ART
Province 1	1,848
Madhesh	2,998
Bagmati	5,467
Gandaki	2,537
Lumbini	3,912
Karnali	651
Sudurpaschim	3,470
Total	**20,883**

Source: HMIS

National Public Health Laboratory Kathmandu, Seti Hospital Kailali, Sukraraj Tropical and Infectious Disease Hospital Kathmandu, Bir Hospital Kathmandu, Pokhara Academy of Health Sciences Pokhara, Koshi Hospital Morang and two sites; Karnali Provincial HospitalSurkhet and Bayalpata Hospital Achham using GeneXpert Machine offer viral load test service to the people on ART treatment.

With the purpose of early diagnosing of HIV infection among children born to HIV infected mother early Deoxyribonucleic Acid (DNA) Polymerase Chain Reaction (PCR) test is done at the National Public Health Laboratory in Kathmandu. The DNA PCR test is done at birth and 6 weeks. This test is recommended for diagnosing HIV status of children below 18 months and for those whose test result is inconclusive by rapid test.

Table 12: Key challenges/Issues and recommendations

Issues	Recommendation
Low access to Viral Load testing services	Use of existing PCR machines by replacing cartridge would improve access and coverage of viral load testing services in Nepal. Strengthen Provincial Public Health Laboratories to initiate viral load testing services in all provinces of Nepal.
Limited ART centres and ART dispensing sites (ADS) in remote and rural areas	Expansion of ART centres and ADS in rural and remote areas to improve access to HIV treatment services rather than concentrating coverage in only urban areas.
Not all sites are integrated to IHMIS for reporting of HIV prevention, CCC, CHBC data to national IHMIS.	NCASC and its partners in close cooridnation with IHIMS of Management Diviison need to integrate HIV prevention, care and support services to naitonal IHMIS.

Opioid Substitution Therapy (OST) Services

Harm Reduction comprises methods, programs and practices for people in stages of continued use of drugs before motivation for enrolment in treatment is established (or during slips/relapses). Harm Reduction is a goal-oriented approach to reduce the specific health risks and damages caused by substance use. OST is one of the harm reduction initiatives with an aim to facilitate eventually cure from substance use disorder especially dependent on opioids. OST is one of the effectives treatments which also plays critical role in prevention of HIV and hepatitis C virus. Currently, 12 OST sites (8 government sites and 4 NGO managed sites) are implementing services from 10 districts of Nepal.

Table 13 Number of clients enrolled in OST by province and fiscal year 2077/78

Indicators	2073/074	2074/075	2075/076	2076/77	2077/78
New Clients Enrolled in Current Month Buprenorphin	322	192	165	134	139
New Clients Enrolled in Current Month Methadone	435	444	451	468	466

Source: HMIS

The new clients enrolled in Buprenorphin and methadone is highest in Bagmati Province. The Province wise details are shown in the table 14.

Table14 new clients enrolled in Buprenorphin and methadone cases

Period	Level	HIV/AIDS-OST-New Clients Enrolled in Buprenorphin	HIV/AIDS-OST-New Clients Enrolled in Methadone
Shrawan 2077 to Asar 2078	1 Province 1	5	181
	2 Madesh Pradesh	33	10
	3 Bagmati Province	63	137
	4 Gandaki Province	30	78
	5 Lumbini Province	8	60
	6 Karnali Province	0	0
	7 Sudurpashchim Province	0	0
	Nepal	139	466

Table 15 Key challenges/Issues and recommendations

Issues	Recommendation
Clients enrolled in OST over time is low. Similarly, retention in OST among client is also low over time (<5%).	Address barriers for enrolment in OST.
Limited coverage of OST services. OST not available in Karnali and Sudurpaschim provinces.	Expansion of OST services based on the burden of opioid depedent clients.

Strengthening Strategic Information of National HIV Programme

To overcome the challenges of the aggregated data reported to national system, National Center for AIDS & STD Control (NCASC) has developed and rolled out HIV Care and ART Tracking System (also known as DHIS2 Tracker) to generate real-time data for an informed HIV response in the country. The existing recording and reporting (R&R) system was exclusively based on paper-based system, which did not provide the individual-level data at National level. HIV Care and ART Tracking System has three interlinked systems: namely DHIS2 Tracker, mHealth and Biometrics. Since 2017, DHIS2 Tracker has undergone series of development; from piloting to full-phase implementation at all ART sites through-out the country to record the HIV testing and treatment details of the clients. There have been many learnings and findings from the implementation of DHIS2 Tracker categorized as follows:

DHIS2 Tracker: DHIS2 Tracker keeps records of all personal information of clients for HIV testing and counselling services, medical History of client, Anti-Retroviral Therapy (ART) and Follow-ups, Prevention of Mother to Child Transmission (PMTCT), Early Infant Diagnosis (EID), and Discontinuation of Follow-up to services from 81 ART sites operational in 61 districts of Nepal. Once the client is registered in the system, all the related information is entered during their treatment process and it can be retrieved from the system at any time. The primary purpose of this system is to record all the information of clients in real time so that the information can be accessed whenever required for their treatment and effective implementation of the HIV related programs. Additionally, this system also ensures easy transfer of client information and facilitates referral of clients to other sites. This system is inter-linked with Biometric System for scanning the fingerprint of clients, which makes it easier to trigger the duplication and makes transferring of clients easier. However, few sites are experiencing problem related to internet speed to ensure full functionality of DHIS2 Tracker system. NCASC has developed a YouTube channel to make sure that users can (https://www.youtube.com/channel/UCO3Dq5vnPPSYxGb9qEhq2hA) understand and use the information system (HIV Care and ART Tracking system) more effectively in a situation where in-person training is not possible due to COVID-19.

As a priority of NCASC and IHIMS section of Management Division, sites can generate monthly ART report from HIV Care and ART Tracking System and upload it into the aggregated DHIS2 system of national IHMIS. As the platform of DHIS2 Tracker System and National Reporting System are same; the individual-level data of clients can be generated as a monthly ART report in National IHMIS reporting formats. The report generated from this system can be imported directly into IHMIS; which will help in the reduction of typos in data entry and will also help in timely reporting from ART sites.

mHealth (Mobile Health): mHealth aims to support HIV treatment and improve retention in treatment. mHealth system consists of automated and manual push SMS methods to send frequent and timely messages to the clients for appointment reminder and general awareness messages. In an essence, various routine and scheduled service and awareness related messages, as well as messages targeted to mother and their babies have contributed to the increased adherence of clients to the services and sites, hence conclusively increasing their retention on the HIV Care and Treatment services. However, health workers frequently need to update the mobile number of PLHIV into the system as certain group of PLHIV frequently changes their mobile number.

Biometrics: Currently, biometric system is used if the clients are confirmed to be HIV positive or enrolled in HIV care. This system registers new clients in HIV Care and ART Tracking System with a unique identification code (alphanumeric code). It identifies whether the client is registered in another ART center of Nepal. In other words, it ultimately helped to solve the issue of client duplication. With the use of a unique identification code, it facilitated the user to search and view old records of clients and helped to facilitate treatment plan. The system also made easier to assess the clients who are transferred out between sites and districts.

The lesson learnt from this system is also used by different partners to integrate the recording and reporting of individual level data of HIV prevention, care and support component into the national HIV programme. NCASC also prioritizing the integration of components managed by different implementing agencies or partners (INGOs, NGOs) such as HIV prevention, testing, care and support services into existing information system of NCASC with an aim to ensure real time generation of data throughout the HIV Care Cascade.

Table 16: Total clients on ART by district 2077/78

Provinces and Districts	Total	Adult	Child
Province 1	**1848**	**1755**	**93**
Sankhuwasabha	40	38	2
Okhaldhunga	15	13	2
Dhankuta	21	21	0
Ilam	61	61	0
Jhapa	501	482	19
Morang	430	410	20
Sunsari	725	678	47
Udayapur	55	52	3
Madhesh Province	**2997**	**2810**	**187**
Saptari	150	137	13
Siraha	286	268	18
Dhanusa	614	580	34
Mahottari	279	260	19
Sarlahi	340	318	22
Rautahat	254	236	18
Bara	97	94	3
Parsa	977	917	60
Bagmati Province	**5469**	**5179**	**290**
Dolakha	11	11	0
Sindhupalchok	70	65	5
Dhading	111	101	10
Nuwakot	153	148	5
Kathmandu	3195	2993	202
Bhaktapur	95	90	5
Lalitpur	403	398	5
Kavrepalanchok	76	75	1
Sindhuli	66	64	2
Makwanpur	276	266	10
Chitawan	1013	968	45
Gandaki Province	**2537**	**2425**	**112**
Gorkha	214	209	5
Myagdi	79	75	4
Kaski	1279	1231	48
Lamjung	118	108	10
Tanahu	237	222	15

Provinces and Districts	Total	Adult	Child
Nawalparasi East	65	62	3
Syangja	305	293	12
Parbat	68	61	7
Baglung	172	164	8
Lumbini Province	**3911**	**3658**	**253**
Rolpa	44	42	2
Pyuthan	92	88	4
Gulmi	175	160	15
Arghakhanchi	109	109	0
Palpa	294	281	13
Nawalparasi West	266	239	27
Rupandehi	1486	1392	94
Kapilbastu	478	437	41
Dang	325	304	21
Banke	510	486	24
Bardiya	132	120	12
Karnali Province	**651**	**608**	**43**
Kalikot	43	42	1
Dailekh	193	174	19
Rukum West	56	55	1
Salyan	26	23	3
Surkhet	333	314	19
Sudurpashchim Province	**3470**	**3279**	**191**
Bajura	57	55	2
Bajhang	75	75	0
Darchula	40	38	2
Baitadi	106	101	5
Dadeldhura	102	96	6
Doti	490	442	48
Achham	683	643	40
Kailali	1560	1490	70
Kanchanpur	357	339	18

5.6 NON-COMMUNICABLE DISEASES AND MENTAL HEALTH

5.6.1 Background:

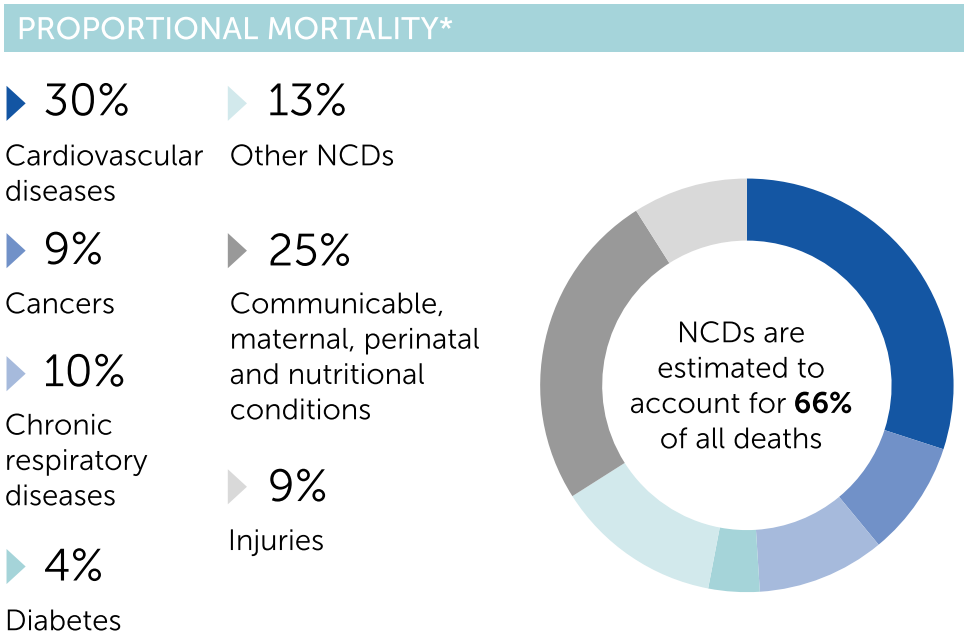
Non-Communicable diseases (NCD) are a leading cause of morbidity and premature mortality in the world. Globally, 15 million people die prematurely due to NCDs annually and over 85% of these deaths occur in low and middle-income countries. The World Health Organization has identified NCDs as a major public health problem. NCDs pose a challenge in achieving the Sustainable Development Goals 2030 of reducing the premature NCD related mortality by one third by 2030.

Table 5.6. 1: NCDs and shared modifiable risk factors

NCD	Tobacco use	Unhealthy diet	Physical inactivity	Harmful use of alcohol	Air pollution
Cardiovascular disease	✓	✓	✓	✓	✓
Diabetes	✓	✓	✓	✓	
Cancer	✓	✓	✓	✓	✓
Chronic respiratory disease	✓				✓
Mental disorders	✓		✓	✓	

The Burden of Non-Communicable diseases has been steadily rising in Nepal. The premature mortality due to NCDs has risen from 51% in 2010 to 71% in 2019. The proportional mortality of NCDs is ever increasing. CVD is responsible for 30% deaths, cancer 9%, diabetes 4%, chronic respiratory disease 10% and other NCDs 13%. Increasing life expectancy, demographic and epidemiological transition, rampant urbanization and change in the lifestyle all account to this rising burden of non-communicable diseases. The increasing disease burden is associated with decreasing quality of life, increase in DALYs and catastrophic health expenditures. A four-year analysis of National Health Accounts reported highest healthcare spending was on NCDs at NPR 37.73 billion. Out of Pocket expenditure by disease and health conditions was highest for NCDs with 31% OOP (National Health Accounts 2012/13 – 2015/16).

Figure 5.6.1: Proportional Mortality from NCDs



5.6.2 Multi-sectoral Action Plan for NCD

Nepal developed the first Multi-sectoral Action Plan for prevention and control of non-communicable disease 2014-2020 with targets and set of indicators. The action plan was the national guiding document for implementation of NCD related activities. The Action Plan defined targets, activities, roles and responsibilities of the MoHP and concerned line Ministries for the period of 2014-2020. There was a High-Level Committee (HLC) chaired by Chief Secretary, Prime Minister's Office, with Secretaries of 17 Line Ministries as members of the committee for policy level decision and integration of NCD related activities in line ministries' Annual Work Plan Budget (AWPB). The HLC has been key to providing policy direction related to NCDs and has assigned NCD focal point in Office of the Prime Minister and Council of Ministers (OPMCM) and key Line Ministries. Subsequently, National Health Policy 2019, Public Health Service Act 2018, Health Service Regulation 2020, NHSS IP (2016-2021), focused on prevention and control of NCDs. The National Health Account reports dedicated funds have been allocated to prevention and control of NCDs and its risk factors.

5.6.3 Multi-sectoral Action Plan for NCDs (2021-2025)

The MSAP II focuses on creating actions which are potentially implementable, have high health impact, politically and culturally acceptable and financially feasible in co-ordination across multiple sectors and multi-stakeholders. Sustainable Development Goals have provided a renewed impetus to accelerate progress in addressing NCDs, its risk factors and determinants. The goal 3 on ensuring healthy lives and promoting well-being for all includes target 3.4: "by 2030, reduce by one third premature mortality from NCDs. The 11 SDG targets (1,2,4,5,6, 7,8,10,11,12, 13) are linked with NCDs and call for integrated national response. If Nepal is to meet the SDG targets, investing in interventions to reduce the burden of NCDs and its risk factors will improve health and accelerate progress on many other SDGs. The Nepal NCDI Poverty Commission's An Equity Initiative to Address Non-communicable Diseases and Injuries National Report, 2018 reports NCD as health and societal inequity issue and need for more resources and strategic investment. Nepal has moved from unitary government system to federalism and is divided into 7 provinces and 753 local levels with federal, provincial and local government. Federalism in Nepal provides an unprecedented opportunity for strengthened governance to establish linkages across sectors, provide predictable and sustained resources including innovative financing mechanism and accountability to accelerate implementation of the action plan.

5.6.4 Strategic Approach for MSAP II

Vision

All people of Nepal enjoy the highest attainable status of health, well-being and quality of life at all age, free of preventable NCDs and associated risk factors, avoidable disability and premature death.

Goal

Reduce the burden of NCDs in Nepal through "whole of government" and "whole of society" approach

Specific objectives

1. To raise priority accorded to the prevention and control of non-communicable diseases in the national agenda, policies and programs
2. To strengthen national capacity and governance to lead multi-sectoral action and partnership across sectors for the prevention and control of non communicable diseases
3. To reduce risk factors for non communicable diseases and address underlying social determinants across sectors

4. To strengthen health systems through provision of people-centric, comprehensive, integrated and equitable care for improved prevention and control of NCDs
5. To establish NCD surveillance, monitoring and evaluation system for evidence-based policies and programmes.

Targets

The overarching target is to reduce premature death from major NCDs by 25% by 2025 and by one third by 2030.

Table 5.6. 2 : National Monitoring Framework for NCDs

Targets/Outcomes	Indicators	Data source	Frequency of collection	National target 2025	Current status
1.Premature mortality and morbidity			Baseline 2010		
1.1 25% relative reduction in the overall premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases	Indicator 1: Unconditional probability of dying between ages of 30 and 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases	CRVS	Base line 23.8 (2010) End line in 2025	17.9	21.8 (2016)
2 Behavioural Risk factors					
2.1 At least 10 % reduction in the harmful use of Alcohol (heavy episodic drinking)	Indicator 2: Age-standardized prevalence of heavy episodic drinking among adolescents and adults	Adolescent or school health survey, NCD STEPS Survey 2013	Base line 10.6 (2013) End line in 2024	9.5	6.8 (2019)
2.2 10% relative reduction in prevalence of in sufficient physical activities	Indicator 3: Prevalence of insufficiently physically active adolescents, defined as less than 60 minutes of moderate to vigorous intensity activity daily	NCD STEPS survey 2013	Base line 3.5 (2013) End line in 2024	3.2	7.4 (2019)
2.3 30% relative reduction in prevalence of current tobacco use in persons aged over 15 years	Indicator 4: Prevalence of current tobacco use among adolescents Indicator 5: Age-standardized prevalence of current tobacco use among persons aged 18+ years	NCD STEPS survey 2013	Baseline: 30.8 (2013) End line in 2024	21.6	28.9 (2019)

Targets/Outcomes	Indicators	Data source	Frequency of collection	National target 2025	Current status
2.4 30% relative reduction in mean population intake of salt/sodium	Indicator 6: Age-standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+years	NCD STEPS survey 2019	Base line: 9.7 (2010) End line in 2024	6.8	9.1 (2019)
3. Biological Risk Factors					
3.1 25% reduction in prevalence of raised blood pressure	Indicator 7: Age-standardized prevalence of raised blood pressure among persons aged 18+ years (defined as systolic blood pressure > 140 mmHg and/or diastolic blood pressure >90 mmHg) and mean systolic blood pressure	NCD STEPS survey 2013	Baseline: 25.7 (2013) End line in 2024	19.3	24.5 (2019)
3.2Halt the rise in obesity and diabetes	Indicator 8: Age-standardized prevalence of raised blood glucose/ diabetes among persons aged 18+ years (defined as fasting plasma glucose concentration > 7.0 mmol/l (126 mg/dl) or on medication for raised blood glucose)	NCD STEPS Survey 2013	Base line: 4 (2013) End line in 2024	4	4.3 (2019)
3.3 Decrease in prevalence of raised cholesterol	Indicators 9 : Age standardized prevalence of raised total cholesterol among the persons aged 18+ years (defined as total cholesterol > 5.0mml/l or 150 mg / dl) ; mean total cholesterol concentration.	NCD STEPS Survey 2013	Once in 5 years - 2024		

Targets/Outcomes	Indicators	Data source	Frequency of collection	National target 2025	Current status
4. National Health System Response					
4.1 50% of eligible people receive drug therapy and counselling (including glycemic control) to prevent heart attacks and strokes	Indicator 10: Proportion of eligible persons (defined as aged 40 years and older with a 10-year cardiovascular risk >30%, including those with existing cardiovascular disease) receiving drug therapy and counselling (including glycemic control) to prevent heart attacks and strokes	PEN imple-mentation research	Baseline and end line in 2025		
4.2 80% availability of affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities	Indictor 11: Availability and affordability of quality, safe and efficacious essential no communicable disease medicines, including generics, and basic technologies in both public and private facilities	Logistic management information system	Baseline and end line in 2025		
5. Additional areas					
5.1 Cancer patients receiving palliative care with opiod analgesics increased to x%	Indicator 12: Access to palliative care assessed by morphine equivalent consumption of strong opioid analgesics (excluding methadone) per death from cancer	Hospital and health facility records	End line and base line assessment		
5.2 To increase proportion of caries free 6 years old by x% 5.3 To reduce periodontal disease among 35 to 44 years old by x%	Indicator 13: Proportion of children aged 6 years screened for dental caries Indicator 14: Proportion of adults between 35- 44 years screened for periodontal disease	National Dental Survey	Once in 5 Year		

Targets/Outcomes	Indicators	Data source	Frequency of collection	National target 2025	Current status
5.4 Service coverage for mental disorders increased by 25%	Indicators15: Proportion of persons with psychoses who have used services over last 12 months (%) Indicator16: Proportion of persons with depression who have used services over last 12 months (%)	National mental health survey	Base line and end line in 5 years.		
5.6 Adoption of policies limiting saturated fatty acid/trans fat	Indicator 17: Adoption of national policies that limit saturated fatty acids and virtually eliminate partially hydrogenated vegetable oils in the food supply, as appropriate, within the national context and national program	Document records	One time		
5.7 Increase in vegetable and fruit consumption	Indicator18: Age standardized prevalence of persons (Aged 18+ yrs) consuming less than 5 total servings (400grams) of fruit and vegetable per day.	NCD STEPS Survey 2013	One in 5 year		
5.8 50% relative reduction in the proportion of households using solid fuels as the primary source of cooking	Indicator 1: Proportion of households in rural areas using solid fuels (firewood, animal dung, coal) as primary source of cooking	National household Survey	Routine household survey		

5.6.5 Nepal PEN program

The Package of Essential Non-Communicable Diseases Program was developed on a risk-based approach to be implemented in a low resource setting in the Primary Health Care model.

The Nepal PEN protocol I, II and concept note was developed and endorsed in June, 2016 and the program started in two pilot districts (Ilam and Kailali) on October, 2016. In addition, Nepal PEN protocol III and IV was endorsed and the program was scaled-up in the 8 districts (Palpa, Myagdi, Baglung, Achham, Bardiya, Surkhet, Makwanpur and Rautahat) for Fiscal Year 2073/74.

This fiscal year, 2077/78, the PEN program has been expanded to all the 77 Districts of the Country. This is section has been conducting regular Monitoring and supervision on the Program Districts.

5.6.6 Strategy Development

This year, the NCD and MH section is introducing a Cancer and Injury Strategy and Action Plan Development. The both Strategies are scheduled to be launched on the fourth trimester of this fiscal year. The orientation and training for the strategies will be done in Provincial Level on the next fiscal year.

Table 5.6.3 Trend of some NCDs:

Disease	Period	Province 1	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Su. Pa. Province	Nepal
COPD	2073/74	24014	12848	74478	34368	28148	14652	21663	210171
	2074/75	24901	14248	83231	35503	32304	16963	24535	231685
	2075/76	33234	18805	78350	32039	38705	19833	24802	245768
	2076/77	34858	21647	78659	30995	48356	23373	28387	266275
	2077/78	42622	23757	67011	31451	51300	30985	36115	283241
Hypertension	2073/74	58495	29356	123897	57937	40000	7919	11739	329343
	2074/75	65126	37045	160036	64587	54161	8828	14162	403945
	2075/76	94148	47848	162187	75214	86376	14840	18827	499440
	2076/77	133161	167627	171862	97385	127657	17612	25846	74150
	2077/78	153035	57907	153875	101635	133925	20705	36101	6571183
Diabetes Mellitus (DM)	2073/74	25847	10637	74541	28128	17236	1098	3862	161349
	2074/75	32127	9436	95781	32287	22851	1972	4659	199113
	2075/76	55461	15520	90419	38903	38922	5859	6512	251596
	2076/77	80201	21562	92812	38841	53665	5995	8259	301339
	2077/78	95665	21585	90443	41398	60096	6598	13445	329130
Breast Cancer	2073/74	46	16	1345	390	47	5	14	1863
	2074/75	11	29	1435	278	47	2	6	1808
	2075/76	9	54	1547	357	40	5	21	2033
	2076/77	77	22	1142	407	57	8	6	1719
	2077/78	111	69	1203	536	42	5	1	1967
Cervical Cancer	2073/74	82	2	924	267	138	5	3	1421
	2074/75	362	0	1767	204	44	2	28	2407
	2075/76	391	3	2148	237	80	0	4	2863
	2076/77	437	0	1694	175	22	0	3	2331
	2077/78	32	14	1159	186	25	5	6	1426

Source: EDCD, DoHS

By the table above, it can be observed that COPD cases are in increasing trend since 2073/74. It has reached 266,275 cases in FY 2077/78 whereas it was 210,171 in FY 2073/74. Similarly hypertension is also in increasing trend and it is observed highest in number in Bagmati province and least in Madhesh province. In case of cervical cancer, province 1 is has the highest number and least in Karnali province.

5.6.7 Mental Health

The Strategy for Mental Health was launched on the last fiscal year. This year, the piloting and endorsement of Module 5 was done on two Provinces (Karnali and Su. Pa.). The revision of the Module 2 package to separate them into 2 trainings (for Medical Officers and other paramedics) is also being done.

The Child and Adolescent Mental Health Training for Medical Officers, Paediatricians and General Practitioner was conducted in Lumbini, Karnali and Sudurpaschim Province this year and will be conducted in the remaining 4 Provinces in the coming year.

5.6.7.1 WHO Special Initiative for Mental Health (SIMH)

The WHO Special Initiative for Mental Health was proposed to achieve Universal Health Coverage in Mental Health. Nepal has been enrolled as 7th country on this initiative. Financial support was received from the Government of Norway/NORAD. A rapid situation assessment of mental health systems in Nepal by the University of Washington has been complete. A multi-year log frame-implementation plan has been developed in collaboration with wide range of stakeholders. The piloting of this initiative will be done in 14 Districts of the country; two from each Province.

Table 5.6.4: SIMH Pilot Districts

Province	District
Province 1	Bhojpur, Paanchthar
Madesh Province	Mahottari, Rautahat
Bagmati Province	Sindhupalchowk, Rasuwa
Gandaki Province	Myagdi, lamjung
Lumbini Province	Rukum East, Bardiya
Karnali Province	Dailekh, Kalikot
Sudurpaschim Province	Baitadi, Bajhang

Source: EDCD

5.7 EPIDEMIOLOGY AND DISEASE OUTBREAK MANAGEMENT

5.7.1 Introduction

Epidemiology and Outbreak Management Section in EDCD works in the area of preparedness and response to outbreaks, epidemics and other health emergencies occurring in different parts of the country. The section aligns with the organizational objective to reduce the burden of communicable diseases and unwanted health events through preparedness and responses during outbreak and epidemic situations by using the existing health care system.

Major Responsibilities of Epidemiology and Outbreak Management:

- Provide support to Ministry of Health and Population (MoHP) for drafting national laws, policies, and strategies related to epidemiology and outbreak management.
- Provide support to Ministry of Health and Population (MoHP) for drafting national laws, policies and strategies related to preparedness and management of outbreaks/epidemics and other health emergencies.
- Prepare standards, protocols and guidelines regarding epidemiology and outbreaks/epidemics management.
- Coordinate with provincial and local level for epidemics and outbreak management.
- Provide support for preparation and implementation of annual work plan at federal level related to epidemics and outbreak management.
- Coordinate and collaborate with concerned authorities at federal level for epidemics and outbreak management.
- Coordinate and provide support in conduction of information management training and other federal level programs related to epidemiology, epidemics and other emergency management.
- Coordinate with multi-sector authorities in minimizing the impact of natural disasters in health sector, conduct response activities and control of epidemics.
- Facilitate and coordinate in providing preventive and curative services through provincial and local level to prevent the spread of diseases after natural disasters in displaced communities.
- Monitoring and supervision of disaster preparedness and management activities in coordination with province and provide feedback to the concerned authorities accordingly.
- Carryout outbreak control and management by mobilization of Rapid Response Team (RRT) in order to control epidemic prone diseases.
- Coordinate and facilitate for management of buffer stocks of essential medicines and other logistics required for the control of outbreaks/epidemics.
- Monitoring and supervision of disease epidemics, outbreak preparedness, prevention and control activities and provide feedback accordingly.

5.7.2 COVID-19 Response:

Epidemiology and Outbreak Management Section in the year 076/077 focused on response to COVID-19 pandemic. In the paragraph below, we can see the timeline of COVID-19 response by the section. All the activities are illustrated in the graphic form.

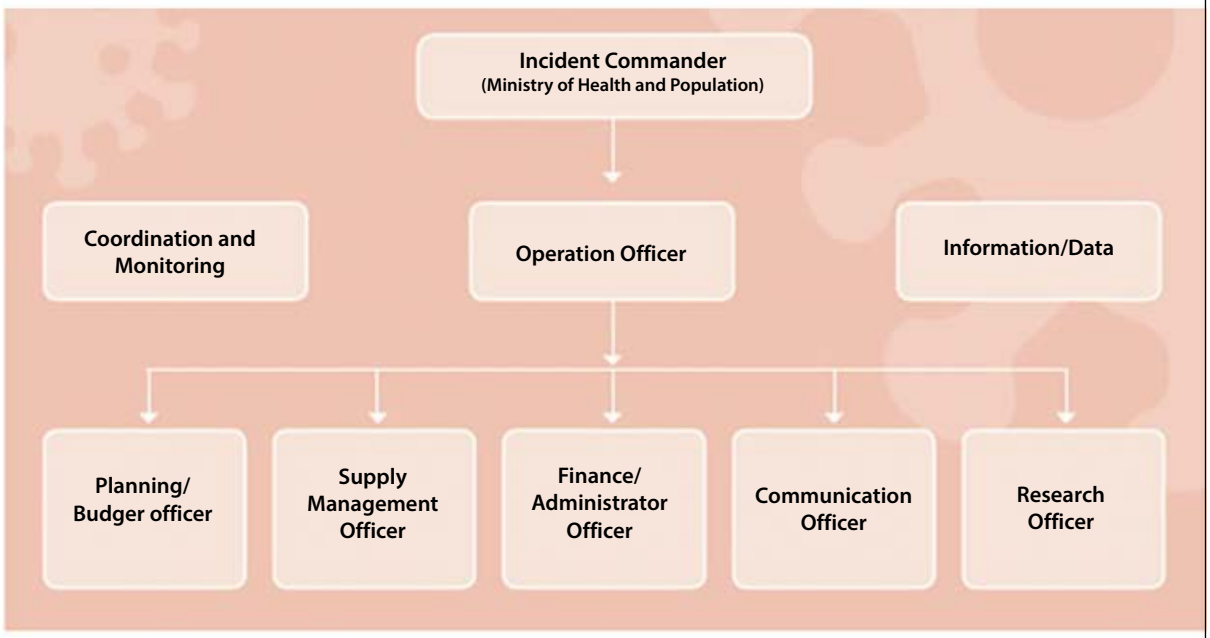
Nepal's COVID-19 pandemic scenario and initial response

Nepal reported first case of SARS COV-2 on 23rd January (Wuhan Ph.D. Student)

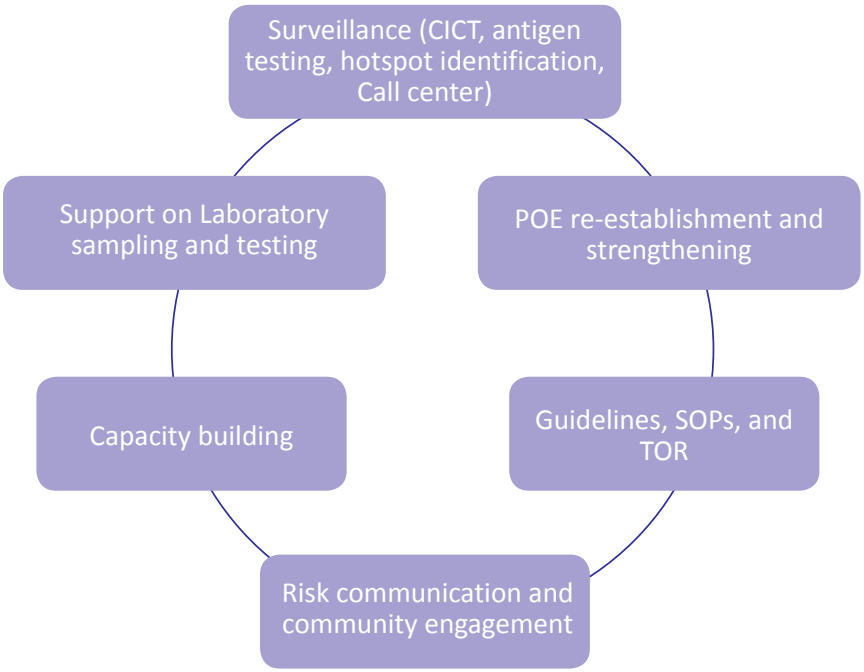
Isolation at STIDH and contract tracing done by EDCD team

Committee formed under Prime minister to co-ordinate and repond to incoming threat	The government activated the infectious Disease Act 2020 (1964) to fight the pandemic.	COVID Crisis **Management Center** formed Province- PCCMC District- DCCMC	ICS formed under the secretary MOHP Coordination and monitoring Operation and Information/data	April 9, 2020, the **Health Cluster** for COVID-19 was activated and led by thg incident Management System (IMS) coordinator and co-lead (52 agencies and 200 partners)

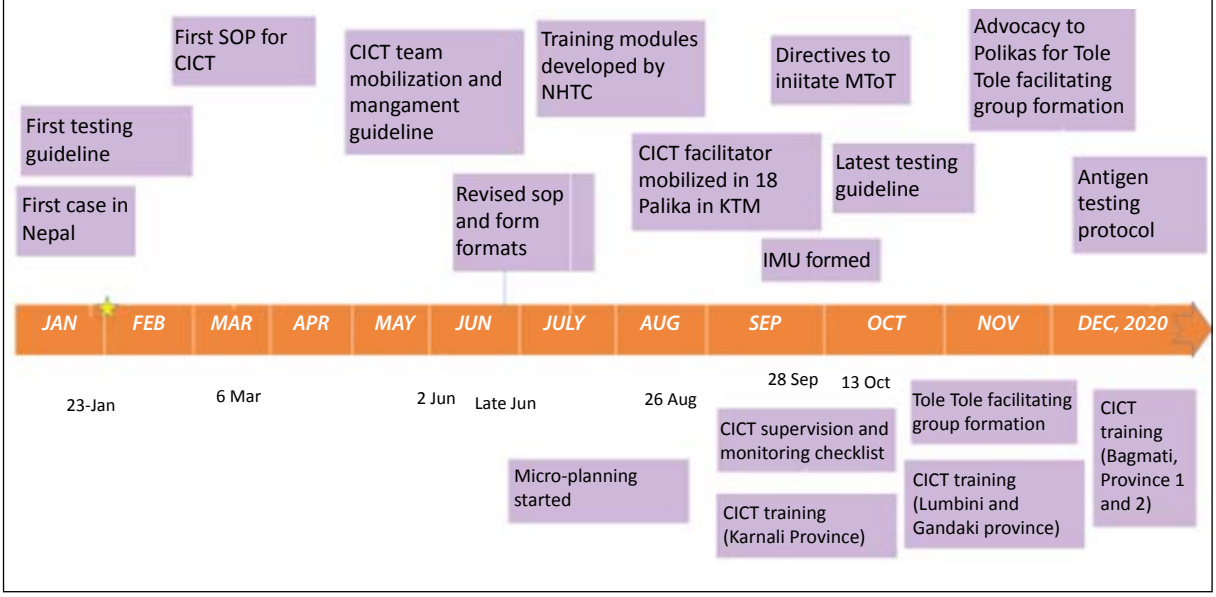
ICS and its reponse pillars

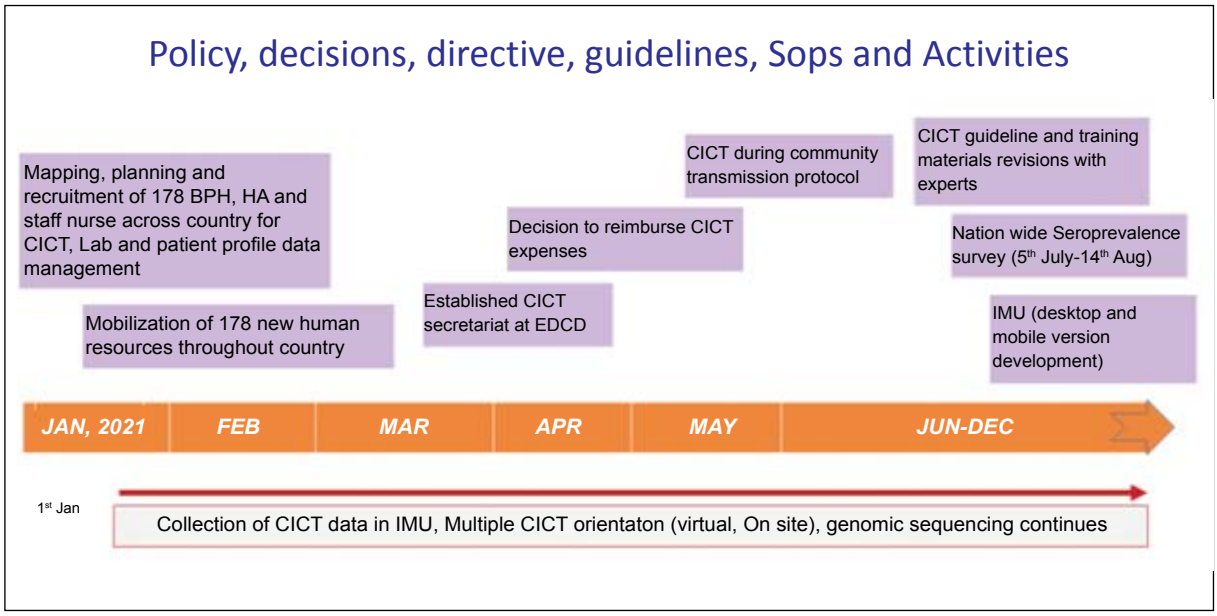


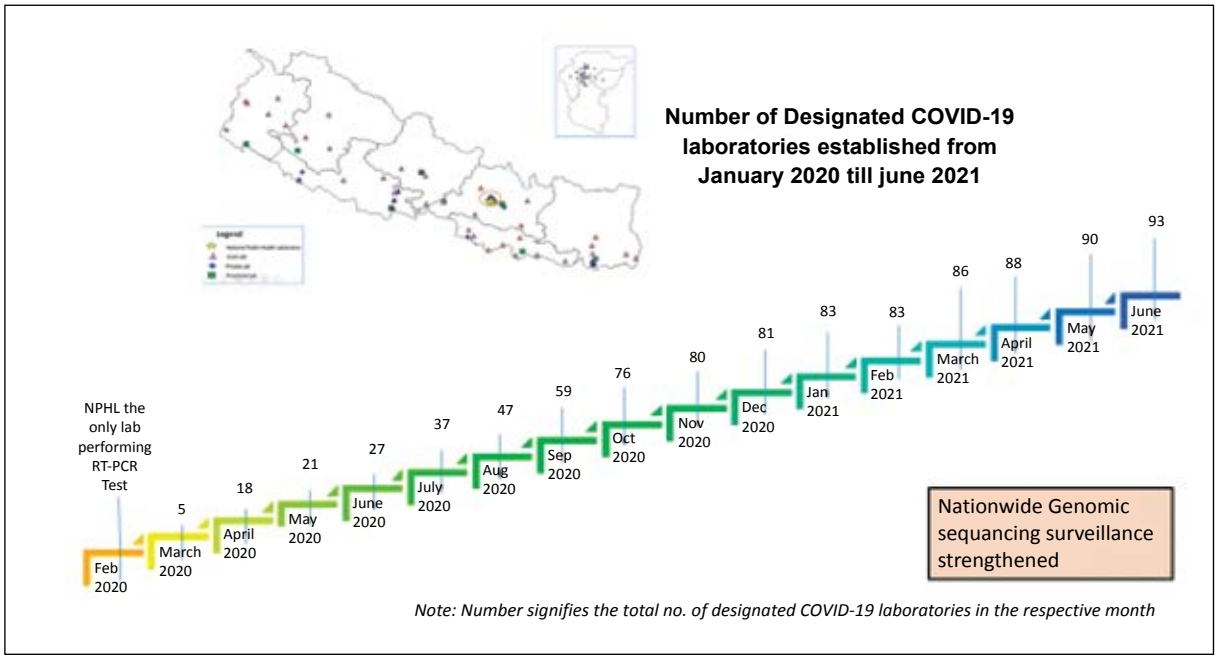
Preparedness and response area (EDCD's roles):



Policy, decisions, directive, guidelines, Sops and Activities

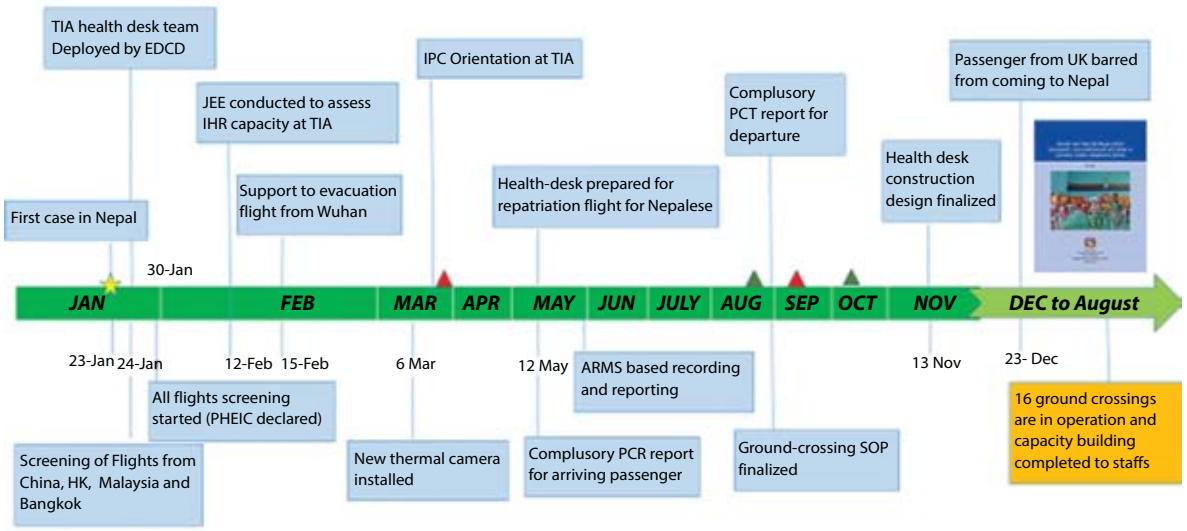




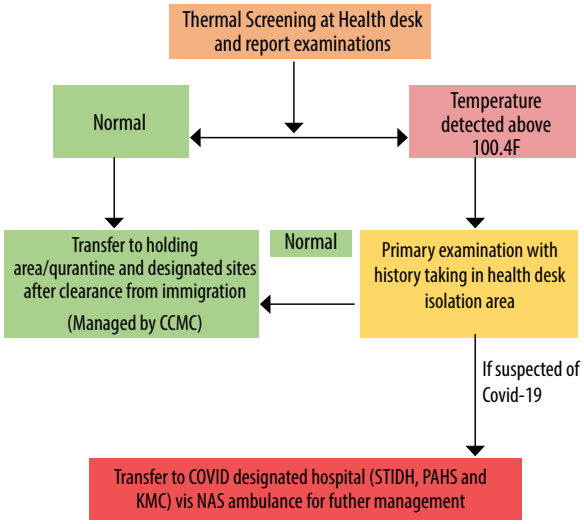


Note: Number signifies the total no. of designated COVID-19 laboratories in the respective month

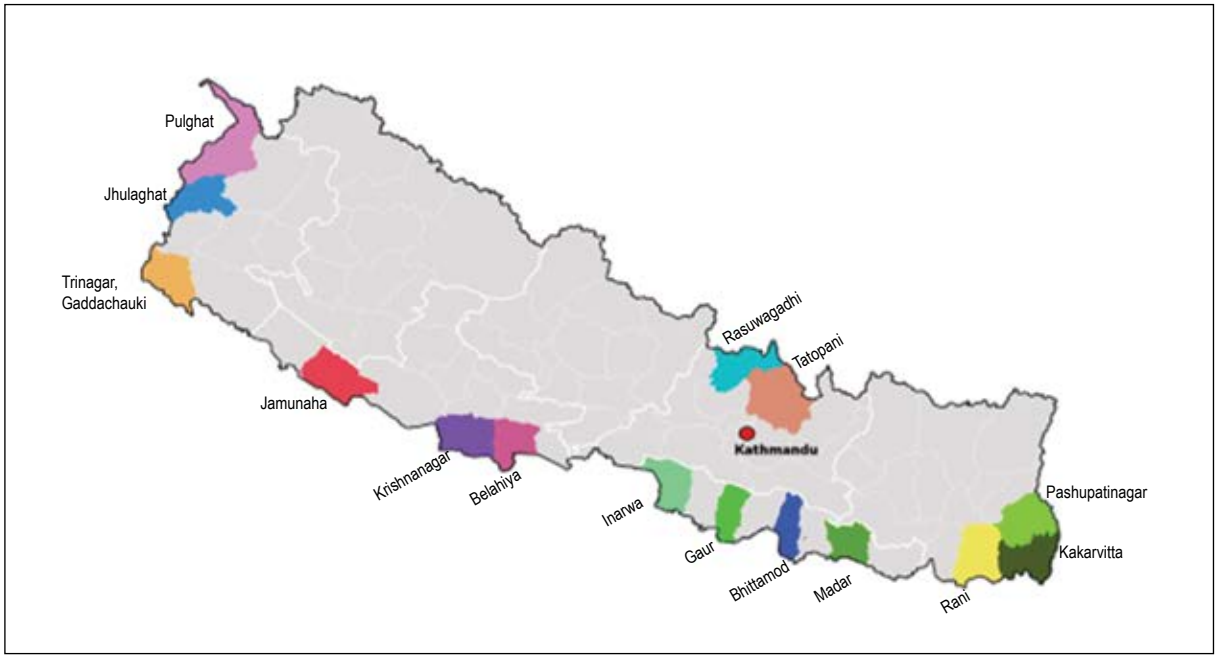
Major event undertaken at health desl for COVID-19



Screening of travelers (at POE)



Health Desks functional at Ground Crossing



Major Activities being carried out at Health Desk

- Filling and collection of travel forms/IMU
- Thermal Screening of travelers returning and departing.
- Checking and collection of COVID-19 PCR report and vaccination ca
- Primary examination and treatment for Covid-19 suspected cases including Antigen test
- Transfer of suspected to designated Covid-19 hospital.
- IPC measures and WASH intervention at POE and ground-crossings
- Daily reporting of activities to Local government, province, EDCD, HEOC and MOHP.
- Management of PPE and regular inventory and human resources & risk communication
- Co-ordination with cross-border authority.

Screening and Testing at Health Desks- at a Glance

(Data since Chaitra 06, 2077 to Ashadh 31

Name of POE	Screening (#)	AG Tests (#)	AG Positive (#)
Belahoiya	29,595	5,467	126
Bhittamod	2,023	0	0
Gaddachauki	36,776	15,611	550
Gaur	5,585	602	48
Inarwa	12,981	3,628	196
Jamunaha	132,378	9,642	274
Jhulaghat	1,820	1,799	16
Kakarbhitta	24,135	2,864	158
Krishnanagar	19,572	946	63
Pashupatinagar	1,528	75	1
Pulghot	973	466	2
Rani	2,450	5,347	87
Trinagar	66,927	27,817	2,468

Total Screened	334,543
Total Antigen Tests	74,264
Total Antigen Positives	3,969

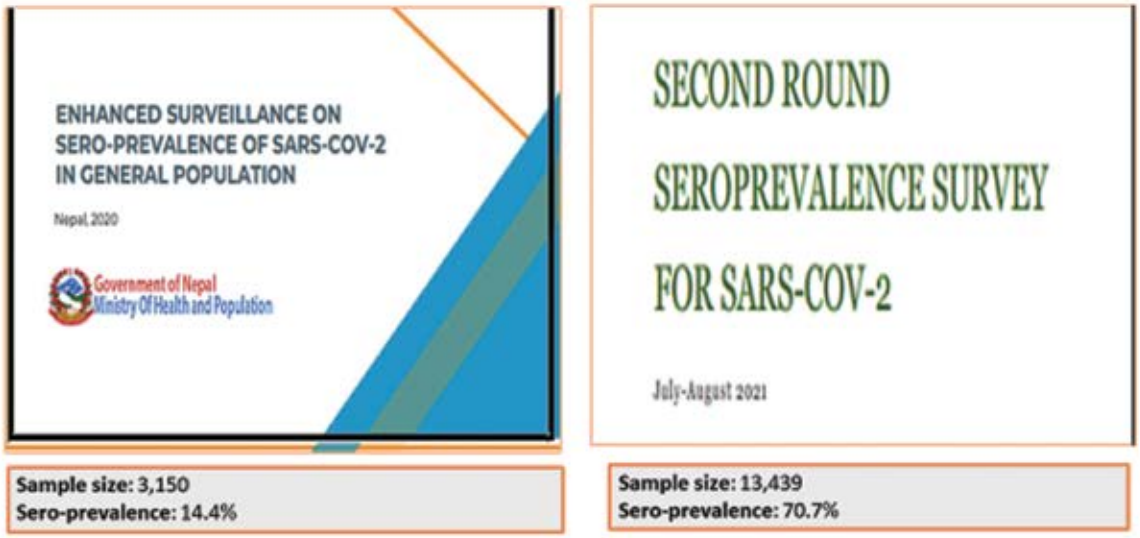
Other activities conducted by Epidemiology and Outbreak Management Section

Development of guidelines protocols and SOPS:

- 1st and 2nd edition of pocketbook of clinical management of COVID-19
- 1st edition of pocketbook of IPC for COVID-19, 2nd edition drafted
- 1st and 2nd version of National Testing Guideline
- Patient profile for COVID-19 patients admitted in hospitals
- Guideline on repositioning of existing health facilities into COVID-19 isolation ward- approved
- Home isolation follow up form for COVID-19 positive patients
- IPC assessment of EDCD, DG Office and Health Insurance Office done using standard checklist
- Defined COVID-19 death defining criteria
- Protocol for community antigen testing
- Protocol for CICT during community transmission

- Pocket book for cases staying in Home Isolation
- Risk communication and community engagement guideline
- Criteria for imposing and uplifting lockdown
- SOP for POE

Research and study:



5.7.3 Lessons learnt:

- Community participation is a key.
- Controlling Pandemic requires whole of the government (all three tiers) and whole of the society approach.
- Surveillance, testing, isolation, tracing and treatment remain the key components of national response
- Sharing of resources and best practices among nations is crucial
- New variants will keep emerging and but PHSM remains key to tackle the emerging variants
- Vaccines are crucial to prevent hospitalization and death.
- New treatments backed up by research needs exploring constantly based on country's needs.
- Health workers are backbone and need constant motivation

5.7.4 Road ahead

- Strengthen co-ordination across different tiers of government
- Strengthen surveillance including laboratory component (for early detection and prompt action)
- HR capacity needs to be strengthened
- Information management
- Effective logistic system and supply chain
- Improve health financing mechanism
- International community support and private sector involvement
- Risk communication and community engagement
- Support livelihood (social, political and economic determinants)

5.8 SURVEILLANCE AND RESEARCH

Background

This section was established on August 2013 and reformed on 2018 according to federal structure of Department of Health Services with the purpose of surveillance and research related activities for communicable diseases control as well as emergency management at national level. Beside this, it also performs the surveillance and monitoring of drinking water.

5.8.1 Early Warning and Reporting System (EWARS)

Early Warning and Reporting System (EWARS) is hospital-based sentinel surveillance system for outbreak prone infectious diseases where the registered 118 sentinel sites on EWARS report notifiable vector borne (Malaria, Kala azar, Dengue), Water borne (Cholera, Acute Gastroenteritis) and Epidemic prone diseases (Severe Acute Respiratory Infections) immediately and weekly basis. Other outbreak prone communicable diseases such as Influenza like Illness (ILI), Scrub Typhus are also reported in EWARS whenever the number of cases exceeds the expected level.

Table 5.8.1.1 List of sentinel sites that report on EWARS

S.No.	Province 1	S.No.	Madhesh Province
1	District Hospital, Panchthar	1	District Hospital, Bara
2	District Hospital, Sankhuwasabha	2	District Hospital, Rautahat
3	District Hospital, Taplejung	3	District Hospital, Siraha
4	AMDA Hospital, Damak, Jhapa	4	Jaleshwor Hospital, Mahottari, Jaleshwor
5	B. P. Koirala Institute of Health Sciences, Dharan, Sunsari	5	Janaki Medical College, Janakpur, Dhanusha
6	District Hospital, Illam	6	Janakpur Provincial Hospital, Dhanusha
7	District Hospital, Sunsari	7	Malangwa District Hospital, Sarlahi
8	District Hospital, Khotang	8	Narayani Hospital, Parsa
9	District Hospital, Bhojpur	9	National Medical College, Birgunj, Parsa
10	District Hospital, Udaypur	10	Ramkumar Uma Sankar Hospital, Lahan, Siraha
11	Koshi Hospital, Biratnagar, Morang	11	Sagarmatha Hospital, Saptari
12	District Hospital, Terathum		**Gandaki Province**
13	District Hospital, Dhankuta	1	Dhaulagiri Hospital, Baglung
14	District Hospital, Solukhumbu	2	District Hospital, Gorkha
15	Mechi Hospital, Jhapa	3	District Hospital, Manang
16	Nobel Medical College, Biratnagar	4	District Hospital, Mustang
17	Rumjatar Hospital, Okhaldhunga	5	District Hospital, Myagdi
18	United Mission to Nepal, Okhaldhunga	6	District Hospital, Parbat
Bagamati Province		**7**	District Hospital, Syangja
1	Armed Police Force (APF) Hospital, Balambu, Kathmandu	8	District Hospital, Tanahun
2	Bharatpur Hospital, Chitwan	9	Gandaki Medical College, Pokhara, Kaski
3	Birendra Army Hospital, Chhauni, Kathmandu	10	Lamjung Community Hospital, Lamjung
4	Charikot PHC, Dolakha	11	Madhya Bindu District Hospital, Nawalparasi East

5	Chitwan Medical College, Bharatpur, Chitwan	12	Manipal Teaching Hospital, Kaski
6	Civil Service Hospital, Minbhawan, Kathmandu	13	Pokhara Academy of Health Sciences, Kaski
7	CIWEC Hospital, Lazimpat, Kathmandu	**S.No.**	**Karnali Province**
8	College of Medical Science, Bharatpur, Chitwan	1	Chaurjahari Hospital, Rukum
9	Dhulikhel Hospital, Kavre	2	District Hospital, Dailekh
10	District Hospital, Bhaktapur	3	District Hospital, Dolpa
11	District Hospital, Chautara, Sindhupalchowk	4	District Hospital, Humla
12	District Hospital, Dhading	5	District Hospital, Jajarkot
13	District Hospital, Makwanpur	6	District Hospital, Kalikot
14	District Hospital, Ramechhap	7	District Hospital, Mugu
15	District Hospital, Rasuwa	8	District Hospital, Rukum
16	District Hospital, Sindhuli	9	District Hospital, Salyan
17	Grande International Hospital, Tokha, Kathmandu	10	Karnali Academy of Health Sciences, Jumla
18	HAMS Hospital, Dhumbarahi, Kathmandu	11	Provincial Hospital, Surkhet
19	Jiri District Hospital, Dolakha	**S.No.**	**Sudurpaschim Province**
20	Kanti Children Hospital, Kathmandu	1	Bayalpata Hospital (Nyaya Health), Accham
21	Kathmandu Medical College, Sinamangal, Kathmandu	2	Dadeldhura Hospital, Dadeldhura
22	Kathmandu Model Hospital, Bagbazar, Kathmandu	3	District Hospital, Accham
23	Kist Medical College, Lalitpur	4	District Hospital, Baitadi
24	Manmohan Memorial Community Hospital, Thamel, Kathmandu	5	District Hospital, Bajhang
25	National Academy of Medical Sciences (Bir Hospital), Kathmandu	6	District Hospital, Bajura
26	Nepal Medical College, Jorpati, Kathmandu	7	District Hospital, Darchula
27	Nepal Mediciti Hospital, Lalitpur	8	District Hospital, Doti
28	Nepal Police Hospital, Maharajgunj, Kathmandu	9	Mahakali Hospital, Kanchanpur
29	Norvic International Hospital, Thapathali, Kathmandu	10	Seti Hospital, Kailali
30	Om Hospital and Research Center, Chabahil, Kathmandu	11	Tikapur Hospital, Kailali
31	Patan Academy of Health Sciences, Lalitpur		
32	SukraRaj Tropical and Infectious Disease Hospital, Teku		
33	Sumeru Hospital, Lalitpur		
34	Tribhuvan University Teaching Hospital, Kathmandu		
35	Trishuli Hospital, Nuwakot		
36	Vayodha Hospital, Balkhu, Kathmandu		

	Lumbini Province		
1	AMDA Hospital, Butwal, Rupandehi	10	District Hospital, Rukum East
2	Bheri Hospital, Banke	11	Kapilbastu Hospital, Kapilvastu
3	Crimson Hospital, Manigram, Rupandehi	12	Lumbini Medical College, Prabhash, Palpa
4	Devdaha Medical College, Devdaha, Rupandehi	13	Lumbini Provincial Hospital, Nawalparasi
5	District Hospital, Argakhanchi	14	Nepalgunj Medical College Teaching Hospital, Kohalpur
6	District Hospital, Bardiya	15	Prithvi Chandra Hospital, Nawalparasi, Rupandehi
7	District Hospital, Gulmi	16	Rapti Academy of Health Sciences, Dang
8	District Hospital, Pyuthan	17	United Mission Hospital, Palpa
9	District Hospital, Rolpa	18	Universal College of Medical Science (UCMS), Bhairahawa

Source: EDCD, DoHS

Figure 5.8.1.1 Sentinel sites

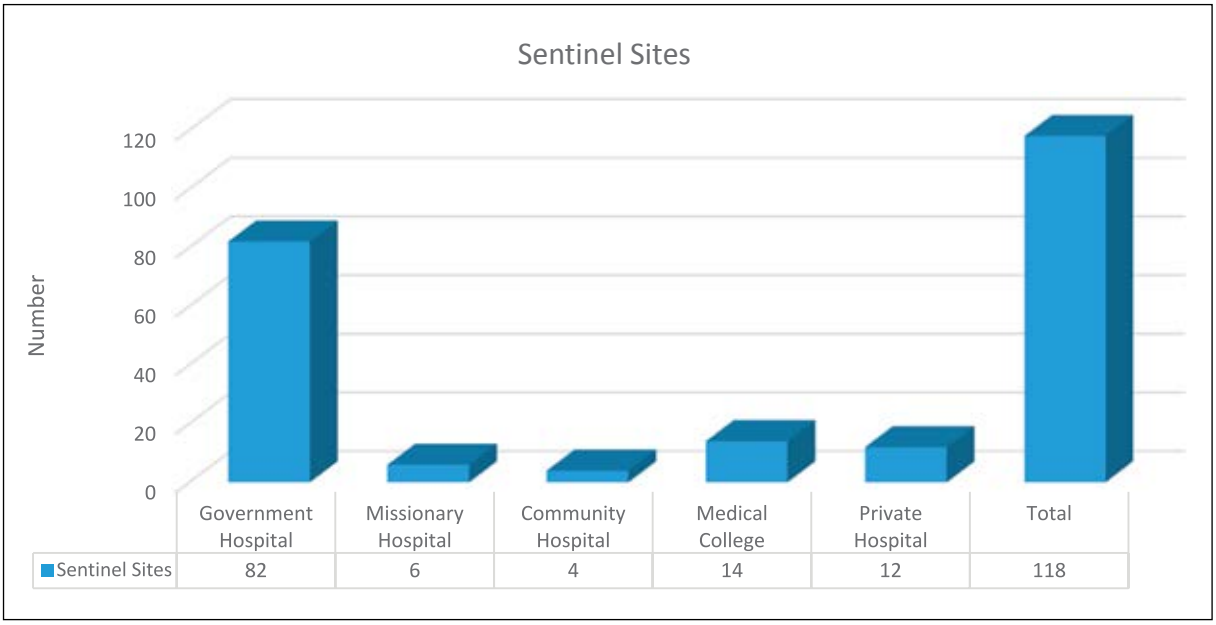


Table 5.8.1.2 Reported cases of the prioritized infectious diseases on EWARS for the period of 2019 - 2021

Disease / Period	2019	2020	2021	Total
COVID-19	2	18870	17633	36505
Influenza Like Illness	135	3636	2899	6670
SARI	5543	7586	9354	22483
AGE	6963	8229	7829	23021
Dengue	10921	533	521	11975
Kala azar	91	220	269	580
Malaria Falciparum	32	19	17	68
Malaria Vivax	93	61	25	179

Disease / Period	2019	2020	2021	Total
Cholera	1		19	20
Diphtheria	1		1	2
Encephalitis	39	39	12	90
Enteric Fever	2213	2525	1578	6316
Scrub Typhus	1610	1754	2001	5365
Hepatitis-Acute Jaundice	122	258	136	516
Leptospirosis	17	10	17	44
Meningococcal Meningitis	34	47	32	113
Pneumonic Plague	1	5	94	100
Suspected Measles Like Illness	2	10	4	16
Viral Haemorrhagic Fever	49	5	1	55
Whooping Cough	5	2		7
Other	332	1707	650	2689
N/A	45	77	45	167
Total	28251	45593	43137	116981

Source: EDCD, DoHS

By the table above, one can conclude that among the reported cases of the prioritized infectious diseases on EWARS for the period of 2019 – 2021, is slightly increasing trend in2020 with comparing in 2019 and a little decreasing trend in 2021.SARI and Kalazar are in increasing trend and dengue in decreasing trend. Among, three years there is one case in 2019 and 19 in 2021 and there is zero case in 2020.

Table 5.8.1.3 Prioritized infectious diseases reported in provinces at 2021

Organisation unit	Province 1	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudur-paschim Province	Total
Disease / Period	**2021**	**2021**	**2021**	**2021**	**2021**	**2021**	**2021**	
COVID-19	2060	36	10449	710	3477	442	459	17633
Influenza Like Illness	80	1	45		40	2586	147	2899
SARI	2890	195	2174	86	2178	1013	818	9354
AGE	1530	1428	1292	427	1672	575	905	7829
Dengue	107	8	126	94	98	2	86	521
Kala azar	38	15	36		50	75	55	269
Malaria Falciparum			4		2	1	10	17
Malaria Vivax			1	2	4	2	16	25
Cholera		2			17			19
Diphtheria				1				1
Encephalitis	6	2	2		2			12
Enteric Fever	188	556	260	45	307	22	200	1578
Scrub Typhus	194	47	298	60	641	23	738	2001
Hepatitis-Acute Jaundice	16		22		97		1	136
Leptospirosis			2		15			17

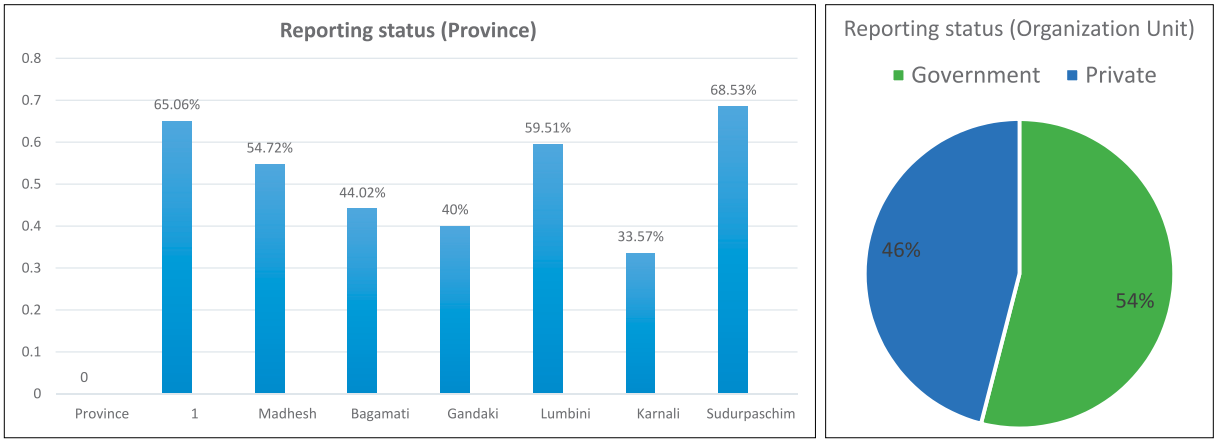
Organisation unit	Province 1	Madhesh Province	Bagmati Province	Gandaki Province	Lumbini Province	Karnali Province	Sudur-paschim Province	Total
Disease / Period	**2021**	**2021**	**2021**	**2021**	**2021**	**2021**	**2021**	
Meningococcal Meningitis	5	5			21		1	32
Pneumonic Plague		1	1		91		1	94
Suspected Measles Like Illness	1			2		1		4
Viral Haemorrhagic Fever							1	1
Other	17		35	7		435	156	650
N/A	7	5	13	2	9		9	45
Total	**7139**	**2301**	**14760**	**1436**	**8721**	**5177**	**3603**	**43137**

Source: EWARS, EDCD

By the table above, highest case burden of dengue is seen in Bagmati Province (126) and least in Madhesh Province. Similarly, Kalazar is found highest in number in Karnali Province and nil in Gandaki province. There is no case of cholera in Province 1, Bagmati Province, Gandaki Province, Karnali and Sudurpaschim Province where there are 2 and 17 in Madhesh and Lumbini Provinces.

Besides, the overall case load is highest in Bagmati province and least in Gandaki province in 2021.

Figure 5.8.1.2 Reporting Status of the Sentinel Site



LIST OF SENTINEL SITES THAT REPORTED 52 EPIDEMIOLOGICAL WEEKS ON 2021

1. District Hospital Illam, Illam, Province 1
2. Koshi Hospital, Morang, Province 1
3. Janakpur Provincial Hospital, Dhanusha, Madhesh Province
4. Kanti Children Hospital, Kathmandu, Bagamati Province
5. Sukraraj Tropical and Infectious Hospital, Kathmandu, Bagamati Province
6. Nepal Mediciti Hospital, Kathmandu, Bagamati Province
7. Om Hospital and Research Centre Pvt. Ltd., Kathmandu, Bagamati Province
8. Patan Academy of Health Sciences, Lalitpur, Bagamati Province

9. Lamjung Community Hospital, Lamjung, Gandaki Province
10. Rapti Academy of Health Sciences, Dang, Lumbini Province
11. United Mission Hospital, Palpa, Lumbini Province
12. District Hospital Bajhang, Bajhang, Sudurpaschim Province
13. Seti Provincial Hospital, Kailali, Sudurpaschim Province

5.8.2 Drinking Water Quality Surveillance

The revised National Drinking Water Quality Surveillance Guideline, 2076 envisages surveillance of drinking water quality at central, provincial and local level through Ministry of Health and Population and underlying institutions. EDCD, being secretariat of the Drinking Water Quality Surveillance Committee, drinking water quality surveillance related activities are conducted through this section at central level. It is solely responsible for Drinking Water Quality Monitoring and Surveillance from various sources and distribution sites of central level drinking water project.

Key Activities

For dissemination of the information about the roles and responsibilities at central, provincial and local level as guided by revised National Water Quality Surveillance Guideline, 2076, national and provincial level guideline dissemination on drinking water quality surveillance was conducted at central and provincial level. During dissemination of guideline, the water quality surveillance committee was formed at Gandaki Province along with field level monitoring/inspection, collection of water sample for water quality surveillance from Water Safety Program implemented sites. Similarly, in coordination with the Department of Water Supply and Sewerage Management and WHO, Nepal, 47 samples were collected from different Drinking Water Project, where 59% of the collected samples were found to be contaminated with *Escherichia coli*.

5.8.2.1 EDCD Call Center

In 2020, immediately after spread of COVID-19 pandemic globally and made its way to Nepal, the infection exposed its monstrous form. This was a new type of infection, a vast amount of research remains to be done. Nepal, like other countries, issued a lockdown in order to bring the situation under control.

The growing number of infected people, lack of hospital beds and essential medical supplies, inconvenience of transportation due to lockdown and the epidemic of new diseases have disrupted people's lives. Similarly, it has also spread many misconceptions and myths in the community about the pandemic which in itself is very harmful.

In this situation, there was an urgent need to set up a mechanism so as to not only make efforts towards the prevention and control of the pandemic but also to provide reliable information to the general public and to promote facts over fear by addressing their curiosity, questions and confusion.

In this context, in March 2020, with financial and technical support from WHO, the Epidemiology and Disease Control Division (EDCD) established a COVID-19 call center in Kathmandu which had a specific toll-free number 1115. Callers from across the country could call for information pertaining to prevention and treatment of COVID-19. Apart from this, a 24hr Interactive Voice Response (IVR) service was also made available. The call center provided basic information regarding what COVID-19 is, how it spreads, its symptoms, measures to be taken to avoid it, what is its condition at national and international level, where and how it can be tested, whom to contact and what is immunization, along with information regarding quarantine and isolation etc.

Thousands of phones call every day with various queries and questions confirm the importance of the call center. Till date, more than 381000 calls have been received, 324000 calls have been answered and more than 114000 IVR recording have been listened.

EDCD Extension Call Center (follow up)

In December 2020, about 10 months after the launch of 1115 hotline call center, EDCD established a follow-up call center as an extension of the previously established call center with the support of WHO. The follow-up call center been set up to understand the situation of the infected people living in home isolation in the Kathmandu Valley, to address their queries, to provide them with necessary advice, to understand the risk of infection to anyone else living with them and to give necessary suggestions and provide information of symptoms. The follow-up call center also provided information about when and where to go for treatment and who to contact. The follow-up call center calls people living in home isolation in Kathmandu, Bhaktapur and Lalitpur districts, every 3 days until their isolation period is over.

It has not only helped in providing information about the importance of home isolation, but it has helped in some form of counselling people as well. So far, the follow-up call center has reached out to more than 130,000 people living in home isolation in the Kathmandu valley.

5.8.2.2 EDCD control room:

A control room is functioning regularly under disease surveillance and research section of EDCD. Main activities of control room are:

- Maintenance of quality, accuracy, timeliness and completeness of data received from EWARS sentinel sites.
- Analysis of data from EWARS sites, monitoring of disease trends and notifying concerned authorities when outbreaks are suspected or predicted.
- Publication of electronic EWARS weekly bulletin and disseminate on Sunday to all key personnel of MoHP, DoHS, provincial health authorities, all sentinel sites and other relevant stakeholders. The bulletin is also uploaded to the EDCD's website.

'A guide to Early Warning and Reporting System" was updated and disseminated in 2019 which can be accessed at EDCD website.

EDCD Extension Call Center (first call)

Prior to case investigation and contract tracing (CICT), it is important to collect the essential information and provide the necessary suggestions to the infected people as soon as their test report is positive. Therefore, it was decided that EDCD call center will do the Case Management process (first call) and get all the necessary information of positive cases across Nepal. Following the decision, another extension call center (first call) was established in May 2021 with the financial and technical support of the WHO.

The extension call center (first call) provides case management information along with the demographic information of the person living either in isolation at home, at a hospital or in an isolation center. The information also includes what symptoms have appeared, whether they have been vaccinated or not,

whether anyone else in the family has symptoms or infection and travel history of the infected to know where the infection may have come from. So far, through the extension call center, more than 6 hundred thousand people have been called for case management.

Objective

The major objectives of the call center are:

Incoming

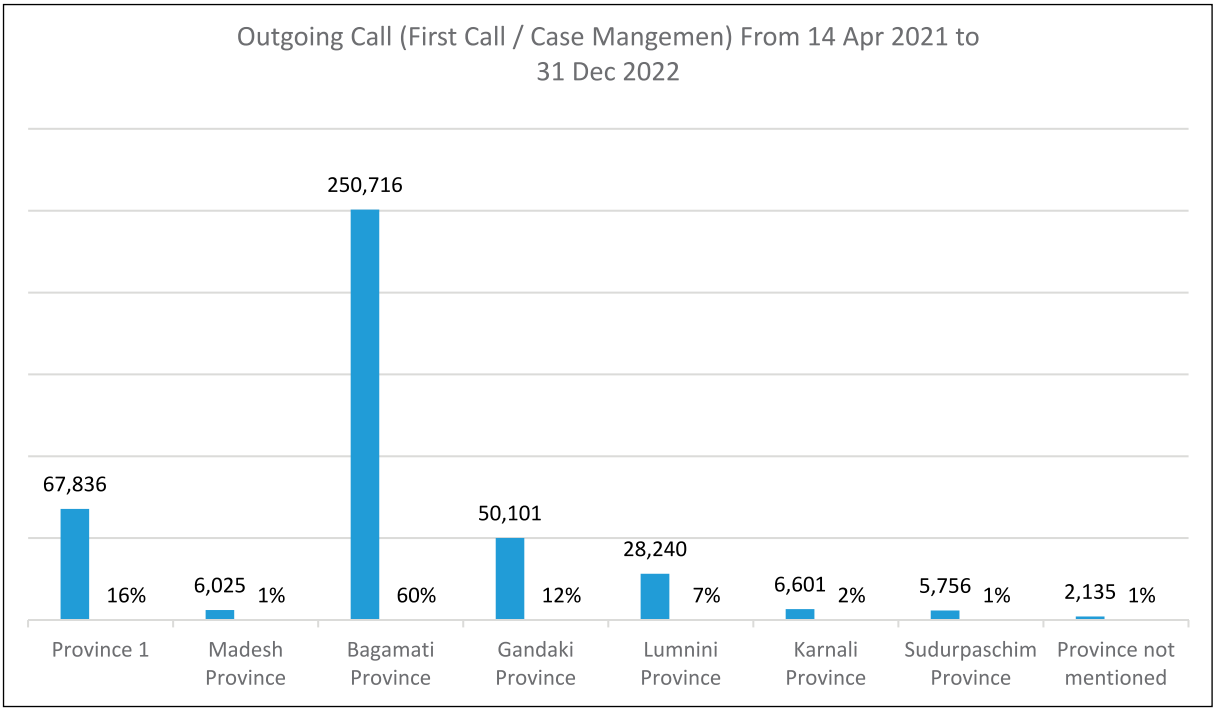
- To provide the proper and relevant information about the COVID – 19 to the community people
- To minimize the risk about the COVID – 19 through rumour tracking
- For the contact tracing and reporting of suspected cases
- To help the community people to adopt the positive and proper practices to combat the risk of COVID - 19
- To identify about what types of myth and facts that are spreading within the community
- To collect the other concerns related questions and complaints that community people have and provide relevant solutions
- To identify the trend of queries and situation of COVID – 19 and to take the appropriate method to minimize the risk
- To bridging the gaps between community people and MoHP, WHO or other service providing agencies.

Outgoing

- To gather demographic, clinical, epidemiological, travel, exposure, vaccination and isolation details of a confirmed COVID-19 case
- To conduct follow-up calls to ensure:
  - Cases are following isolation requirements
  - Monitor changes in symptom status
  - They are provided timely support should they develop any symptoms
- To identify any new infection among household contacts
- To provide psychosocial counselling during home isolation
- To identify and address the rumours, misinformation, concerns and complaints
- To provide emergency support during isolation period by referring HEOC, hospital and EDCD

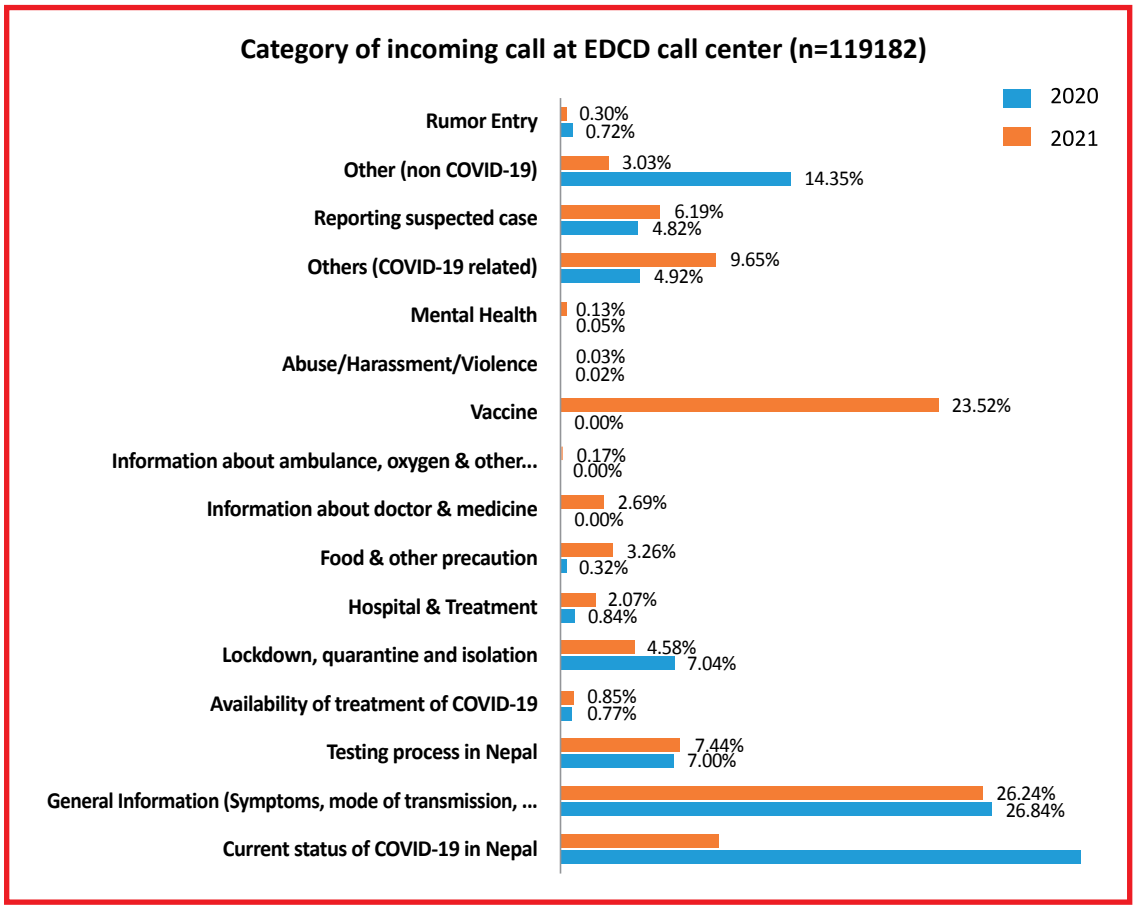
5.8.2.1 Outgoing Call (First Call / Case Management) data from 14 Apr 2021 to 31 Dec 2021

Outgoing Call (First Call / Case Management) From 14 Apr 2021 to 31 Dec 2021		
Total Call	**417,410**	**%**
Province 1	67,836	16%
Madhesh province	6,025	1%
Bagamati province	250,716	60%
Gandaki province	50,101	12%
Lumbini province	28,240	7%
Karnali province	6,601	2%
Sudurpaschim province	5,756	1%
Province not mentioned	2,135	1%



Category of incoming call at EDCD call center	2020	2021	2020	2021
Total	**%**	**%**	**56109**	**63073**
Current status of COVID-19 in Nepal	32.29%	9.84%	18117	6204
General information (symptoms, mode of transmission, preventive measures)	26.84%	26.24%	15062	16553
Testing process in Nepal	7.00%	7.44%	3927	4695
Availability of treatment of COVID-19	0.77%	0.85%	434	536
Lockdown, quarantine and isolation	7.04%	4.58%	3950	2888
Hospital & Treatment	0.84%	2.07%	472	1307
Food & other precaution	0.32%	3.26%	182	2055
Information about doctor & medicine	0.00%	2.69%	0	1698
Information about ambulance, oxygen & other emergency supplies	0.00%	0.17%	0	108
Vaccine	0.00%	23.52%	0	14833
Abuse/Harassment/Violence	0.02%	0.03%	10	16
Mental Health	0.05%	0.13%	30	85
Others (COVID-19 related)	4.92%	9.65%	2763	6088
Reporting suspected case	4.82%	6.19%	2703	3904
Other (non COVID-19)	14.35%	3.03%	8054	1913
Rumour Entry	0.72%	0.30%	405	190

Source: Call Center, EDCD



5.8.3 Climate Sensitive Disease Surveillance

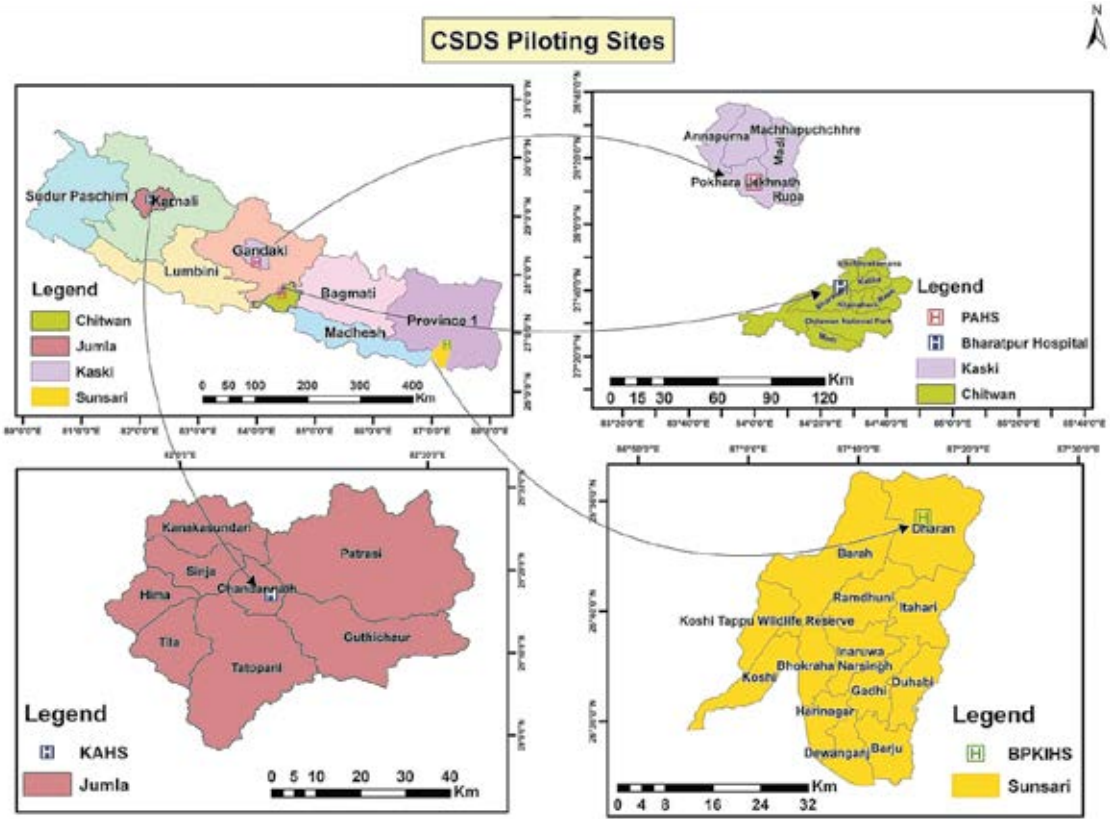
The links between climate change and health are often complex and indirect – making the attribution of climate impacts on health outcomes challenging. The need for improved capacities for climate change adaptation through a climate-resilient health system has been realized in Nepal through several national policies and strategies like Health National Adaptation Plan (H-NAP) 2018, National health policy 2019 and Climate change policy 2019 among others.

Epidemiology and Disease Control Division (EDCD) with support from WHO has been strengthening its existing diseases surveillance system from a climate change perspective. The Disease Surveillance and Research section at EDCD has initiated the Climate-sensitive disease surveillance (CSDS) program as its regular program. The CSDS program adopts measures to integrate meteorological data (temperature, precipitation, and relative humidity) and climate-sensitive diseases data (malaria, dengue, kala-azar, acute gastroenteritis, cholera, and severe acute respiratory infection) to monitor and forecast the probability of disease expansion. While strengthening climate-informed health surveillance, the program also promotes inter-sectoral collaboration among multi-sectoral data custodians and epidemiologists.

The key objective of the CSDS program is to strengthen a climate-informed disease surveillance system for developing early warning alerts and response mechanisms. Specific objectives to attain same are:

- Promote an evidence-based guided mechanism of "alert" and "response" system in EWARS
- Integrate climate and epidemiological dynamics to monitor and forecast the probability of disease expansion
- Develop a sustainable data sharing mechanism of climate & health data
- Establish a historic and prospective database of climate & health data

At the initial stage, EDCD is piloting the CSDS program in four sentinel sites across different eco-regions of Nepal i.e., *Bharatpur* hospital, Chitwan; *B.P.Koirala* Institute of Health Science, Dharan; *Karnali* Academy of Health Sciences, Jumla and *Pokhara* Academy of Health Sciences, Pokhara.



Key Issues and Recommendations

S.N.	Issues	Recommendation
1	Lack of prioritized notifiable infectious disease	Prioritization of notifiable infectious disease according to the Public Health Act, 2075 and International Health Regulation, 2005
2	Ambiguity on roles and responsibility on EWARS in federal system	Revision of Guidelines of Early Warning and Reporting System (EWARS), 2019
3	No drinking water quality surveillance information system	Development of user friendly information system for monitoring and surveillance of drinking water quality
4	Continuity of the call center	Incorporate call center for event based surveillance of epidemic/outbreak prone disease regardless of COVID 19
5	Limited human resources	Provision of epidemiologist and information technologist.

5.9 HEALTH SECTOR RESPONSE OF COVID 19 PANDEMIC

5.9.1 Background

In December 2019, a cluster of patients with pneumonia of unknown aetiology was linked to a seafood wholesale market in Wuhan, China[1]. After three weeks of the reported cases in China, Nepal also reported its first case of coronavirus infection on 23 January 2020[2]. After a pause of two months, infection cases were increasing in Nepal. The Emergency Committee on the Novel Coronavirus (2019-nCoV) under the International Health Regulations (IHR, 2005) was reconvened on 30 January 2020. WHO declared the outbreak to be a Public Health Emergency of International Concern[3]. After the World Health Organization declared COVID-19 a pandemic on March 11, 2020, many countries, including Nepal, began various preventive and control measures.

As a precautionary measure, a countrywide lockdown went into effect on March 24, 2020, with school closures, border closures, suspension of all international flights, quarantines imposed on those returning to Nepal from abroad, and general population lockdowns. The nationwide lockdown will end on July 21, 2020. However, following a surge in infections and rising deaths from COVID-19, provincial, district, and local governments continued to impose lockdowns at the provincial/district/local level. Recently, physical public spaces such as schools and colleges have opened, and general restrictions on movement have been lifted. In the global context, there are countries where COVID-19 cases are increasing, and the risk of resurgence of COVID-19 cases is even higher. As a result, the MoHP continues to disseminate public awareness messages and promote the use of public health measures.

To respond to the rising number of illnesses, the GoN has established a Corona Crisis Management Centre (CCMC) under the supervision of the Deputy Prime Minister, and the Incident Command System has been activated and mobilized at the MoHP. Tripartite participation, Risk Communication and Engagement, Surveillance, Rapid Response Team and Case Investigation, Points of Entry Strengthening, International Travel and Transportation The key strategy used to reduce COVID-19 cases was the expansion of laboratories for COVID-19 testing, vaccine and logistics supply, and the development and updating of COVID-19 protocols/ guidelines.

Major Progress

- With WHO assistance, the Ministry of Health and Population conducted two rounds of national sero-prevalence surveys to determine the possibility of COVID-19 infection. In August 2021, the second round of sero-surveillance was completed. According to preliminary findings from the second round of the survey, the general population's sero-prevalence was 70%.MoHP carried out development and operation of IMU application at the Integrated Health Information Management System (IHIMS) section of MD.
- MoHP also developed “Hamro Swasthya” mobile app for self-assessment of symptoms for COVID-19.
- EPI-DASHBOARD has been created, which includes a detailed trend of cases and deaths from the district and municipal levels, as well as other supporting data.
- Initiation of laboratory-based influenza surveillance system strengthening has been started with an inception meeting with clinical-EPI personnel at select sentinel centers across the country.

1 Brief Report: A Novel Coronavirus from Patients with Pneumonia in China, 2019. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7092803/

2 Ministry of Health and Population Nepal. SitRep#1_28-01-2020 - Google Drive. https://drive.google.com/drive/folders/1SQz5zoNNwYGi_wBeHxnU6sYs261fg1Tx

3 World Health Organization. Novel Coronavirus (2019-nCoV) Situation Report – 11 https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200131-sitrep-11-ncov.pdf?sfvrsn=de7c0f7_4

- Health Desks have been established at 13 land border POEs and one at Kathmandu's international airport. These health desks are used for screening, triaging, testing, and isolating suspects.
- IMU has been working on the establishment of a national COVID-19 vaccination database.
- he Standard Operating Procedure (SOP) for Case Investigation and Contact Tracing (CICT) was revised.
- About 200 CICT facilitators were hired and placed with the federal and provincial units, designated hospitals, and laboratories to support countrywide testing, tracing, and isolation
- A toll-free national call center has been established under EDCD and operational since March. The purpose of this was for helpline functions and to strengthen surveillance for early detection of COVID-19 cases and contacts, enhance risk communication, and follow-up of home isolated cases.
- MoHP also developed COVID-19 vaccine registration and digital vaccine certification system.
- Undertook enhancing lab capacity across the country for conducting RT-PCR tests (numbering 100).
- Collaboration with Institute of Genomics and Integrative Biology (IGIB), New Delhi and Public Health England (PHE), UK has been done for SARS-CoV-2 genomic surveillance in detecting SARS-CoV-2 variants.
- Establishment of a National Pathogen Genetic Sequencing Consortium for supporting in-country genetic sequencing facility and operationalization of the consortium. It has sequenced 60+ SARS-CoV-2 genomes in 2021.
- Standardization for the RT-PCR assay for RSV and detecting the RSV done.
- Carried out lab confirmation of cholera outbreak in provinces 2 and 4.
- Assessment of 35 hospitals in Kathmandu and 21 hospitals at province 1 and 2 for critical care inventory
- Production of "Clinical Management of COVID-19 in healthcare setting, "Handbook for people in home isolation", "Pocketbook for Infection Prevention and Control Measures for COVID-19 in the Healthcare Setting"
- A Communication Strategy for COVID-19 was developed
- Health Emergency Operation Center (HEOC) has been established at federal level and is fully functional. Similarly, all the seven provinces have functioning provincial HEOCs.
- Instalment of telemedicine ICT equipment has been done at the designated telemedicine centers in the seven provinces and central levels.
- Training on Emergency Medical Deployment Team carried out for doctors, nurses and paramedics carried out.
- MoHP is conducting documentation of health sector preparedness, response and lessons learnt on COVID-19 in Nepal is ongoing with UKaid/NHSSP support to inform the decision-making process ahead.
- Different development partners including WHO have been supporting the MoHP and other concerned agencies in responding against COVID-19.

Major Trainings conducted

- Three-day training on COVID-19 Preparedness and Reponses and Essential Critical Care was held for 170 Doctors, Nurses, and paramedics.
- Two-day training on Essential Critical Care Management Training (only ECCT) for 31 Doctors and Nurses
- Five-day training on Pediatric Essential Critical Care Training carried out.
- Other several virtual trainings and orientations were carried out at federal and provincial level on COVID-19 related knowledge and skill development.
- Hospital Capacity enhancement
- Mapping of hospitals with Pressure Swing Adsorption (PSA) plants and liquid oxygen storage tank along with their capacity was done.

- Assessment of 35 hospitals in Kathmandu and 21 hospitals at Province 1 and Province 2 were carried out for critical care inventory.
- Published “Handbook for people in home isolation”, “Pocketbook for Infection Prevention and Control Measures for COVID-19 in the Healthcare Setting” and “Clinical Management of COVID-19 in healthcare setting,
- Briefing to parliamentarians in Nepal's seven provincial legislatures on the strategic role of parliamentarians in risk communication and community engagement in the context of COVID-19.
- More than 800 media representatives, 100 audio content producers, and approximately 100 members of professional medical and health associations such as Nepal Medial Association, Nursing Association of Nepal, Pharmacist Association of Nepal, and others were briefed on the science behind COVID 19, as well as risk communication.
- Set up of video (1000 plus original content); audio (400 plus original content) and image (2000+ high quality) bank has been shared with partners for nation-wide dissemination across platforms.
- Debunking of rumors and myths done through active and passive listening through the Call Centers.

5.9.2 COVID 19 Vaccination

The Government of Nepal intends to reduce COVID-19-related morbidity and mortality by vaccinating its inhabitants when vaccines become available, in phases, starting with the highest-risk groups. On January 27, 2021, Nepal began administering COVID-19 vaccines. India provided 1 million Oxford-AstraZeneca vaccines as a grant, while Nepal bought 2 million doses from the Serum Institute of India (SII) and was one of the first to receive COVID-19 vaccines. The first million doses were delivered on February 21. The decision by India to prohibit vaccine exports in March 2021 raised concerns about Nepal's ability to continue vaccinations. SII had only provided half of the 2 million doses for which Nepal had paid in full by April 2021.

On February 15, Nepal approved the Sinopharm BIBP vaccine (BBIBP-CorV) from China for emergency use. On March 29, the first consignment arrived in Nepal. China had provided 1.8 million doses of the Sinopharm BIBP vaccine as grant assistance by July and had committed to providing another 1.6 million doses. Separately, the government purchased 4 million doses in June for delivery in a few days, and another 6 million doses were expected to be purchased in July 2021.

The status of COVID 19 vaccination status as of the end of FY 2077/78 is shown in Table 5.8.1. In all seven provinces, the first dose of a total of 1,828,484 COVISHIELD and 851,327 Vero Cell vaccine had been administered. The second doses were administered to 1,112,166 people who had received the first doses of both vaccines.

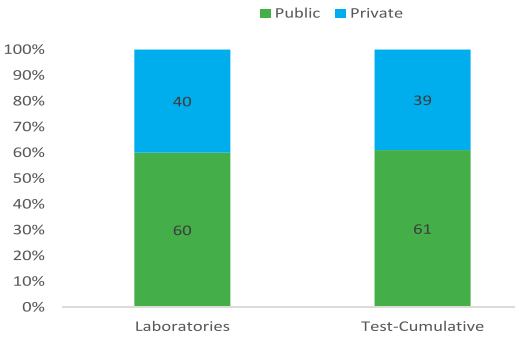
Table 5.8.1: COVID 19 vaccination status

Vaccine	COVISHIELD		Vero Cell		Total	
Province	1st Dose	2nd Dose	1st Dose	2nd Dose	1st Dose	2nd Dose
Province 1	307,186	52,855	70,263	50,060	377,449	102,915
Madesh	320,532	46,358	72,985	37,394	393,517	83,752
Bagmati	421,482	160,490	528,270	441,046	949,752	601,536
Gandaki	187,974	49,611	41,007	21,298	228,981	70,909
Lumbini	278,476	84,363	74,305	57,122	352,781	141,485
Karnali	107,328	29,151	23,009	15,234	130,337	44,385
Sudurpaschim	205,506	37,906	41,488	29,278	246,994	67,184
Total	**1,828,484**	**460,734**	**851,327**	**651,432**	**2,679,811**	**1,112,166**
Source: IHIMS/IMU, as 15th July 2021, of 2:00pm						

5.9.3 Laboratory testing

A total of 96 RT-PCR laboratories have been established covering all provinces. Of which 60% are public and 40% are private. As of 31st Asar 2078, a total of 3,446,586 RT-PCR (298,829 in FY 2076/77 and 3,147,757 in FY 2077/78) and 252,054 antigen testing has been performed while the antigen test was started in Chaitra 2077. Half of the laboratories are functional in Bagmati province. Sudurpaschim and Karnali province do not have any private laboratories.

Figure 5.8.1: COVID 19 Lab and test



	Public	Private	Total
Laboratories	58	38	96
Cumulative Test	2,108,357	1,338,229	3,446,586

Table 5.8.2: Province wise COVID 19 Lab

Province	RT-PCR Testing Laboratories					
	Public		Private		Total	
	N	%	N	%	N	%
Province 1	4	44.4	5	55.6	9	8.8
Madesh	7	70	3	30	10	9.8
Bagmati	25	46.3	29	53.7	54	52.9
Gandaki	4	66.7	2	33.3	6	5.9
Lumbini	8	66.7	4	33.3	12	11.8
Karnali	4	100	0	0	4	3.9
Sudurpaschim	7	100	0	0	7	6.9
Total	59	57.8	43	42.2	102	100

5.8.4 COVID 19 Infections

At the end of fiscal year 2077/78, Nepal had total 709,437 (17,177 in FY 2076/77 and 692,260 in FY 2077/78) COVID-19 positive cases. As of Asar 31, 2078, Nepal had a total of 26,639 active Covid-19 cases.The total number of single-day infections from both the RT-PCR and antigen tests was 2,676 cases. The case fatality rate was 1.2 percent, with a 94.2 percent recovery rate.

Figure5.8.3 depicts a district-by-district breakdown of the prevalence of COVID 19 infection based on CBS's provisional census population. The majority of districts fall below the 10 per 1000 population threshold.In 18 districts, the prevalence ranged from 20 to 231 per thousand.

Figure 5.8.2: COVID-19 New Cases (as of 31 Asar 2078)

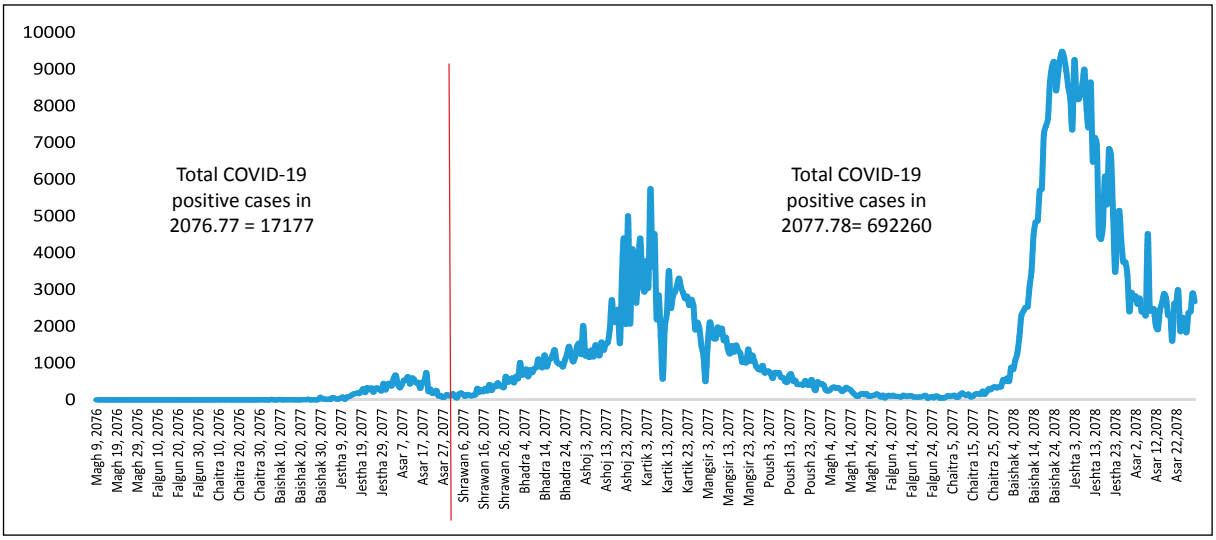
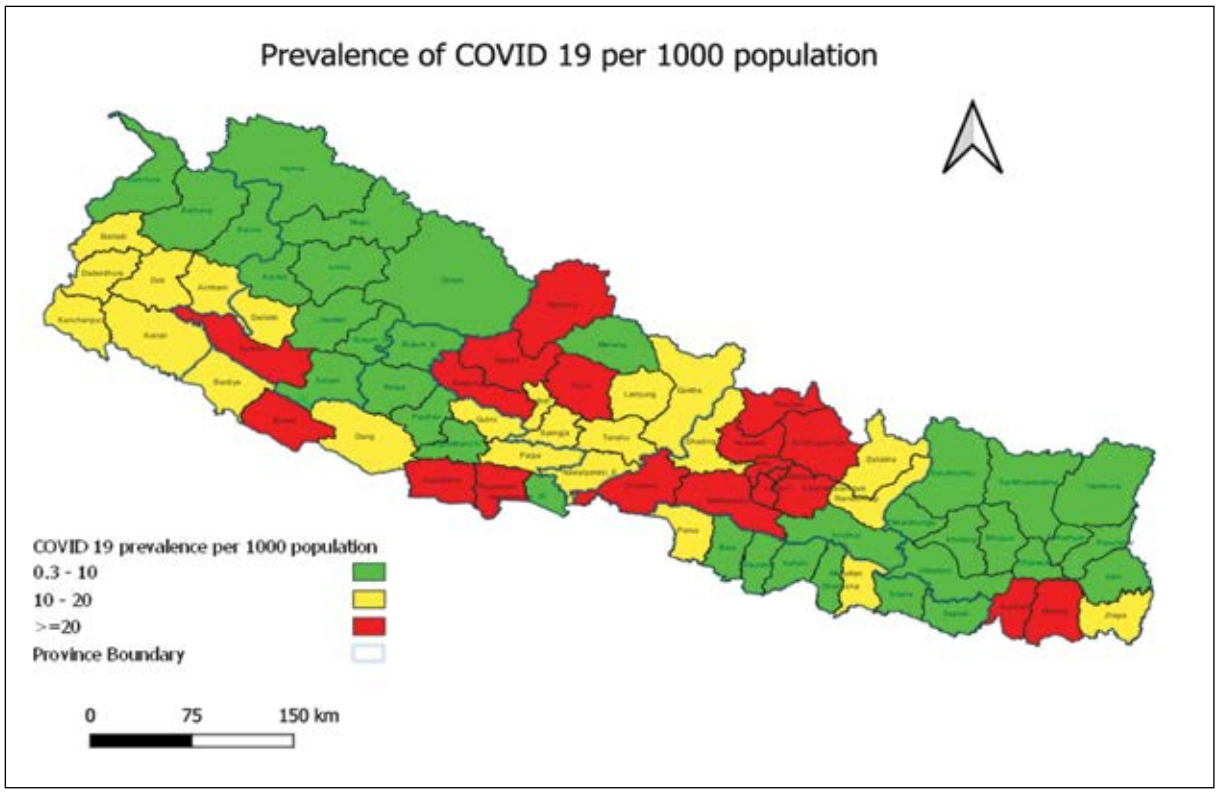


Figure 5.8.3: Prevalence of COVID 19



5.9.5 COVID-19 Mortality

As of Asar 31, 2078, a total 9,463 COVID-19 related deaths had registered into the system. Total 39 deaths were in FY 2076/77 and 9,424 deaths was in FY 2077/78. Higher number of death was in Bagmati and male deaths were more than female. The prevalence of COVID 19 was higher in males aged 60 and up, with a prevalence of 265 per 100,000 population. Whereas in the age group 0-17, both sexes had an equal prevalence of (0.7 per 100,000 population).

Figure 5.9.4: COVID-19 Deaths by Sex and Provinces [N=9,463]

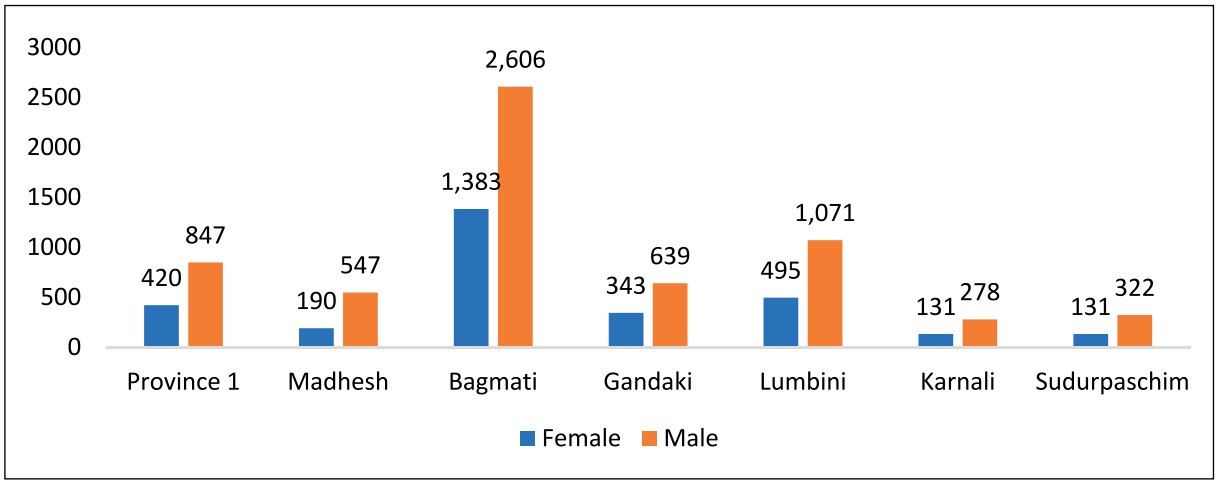
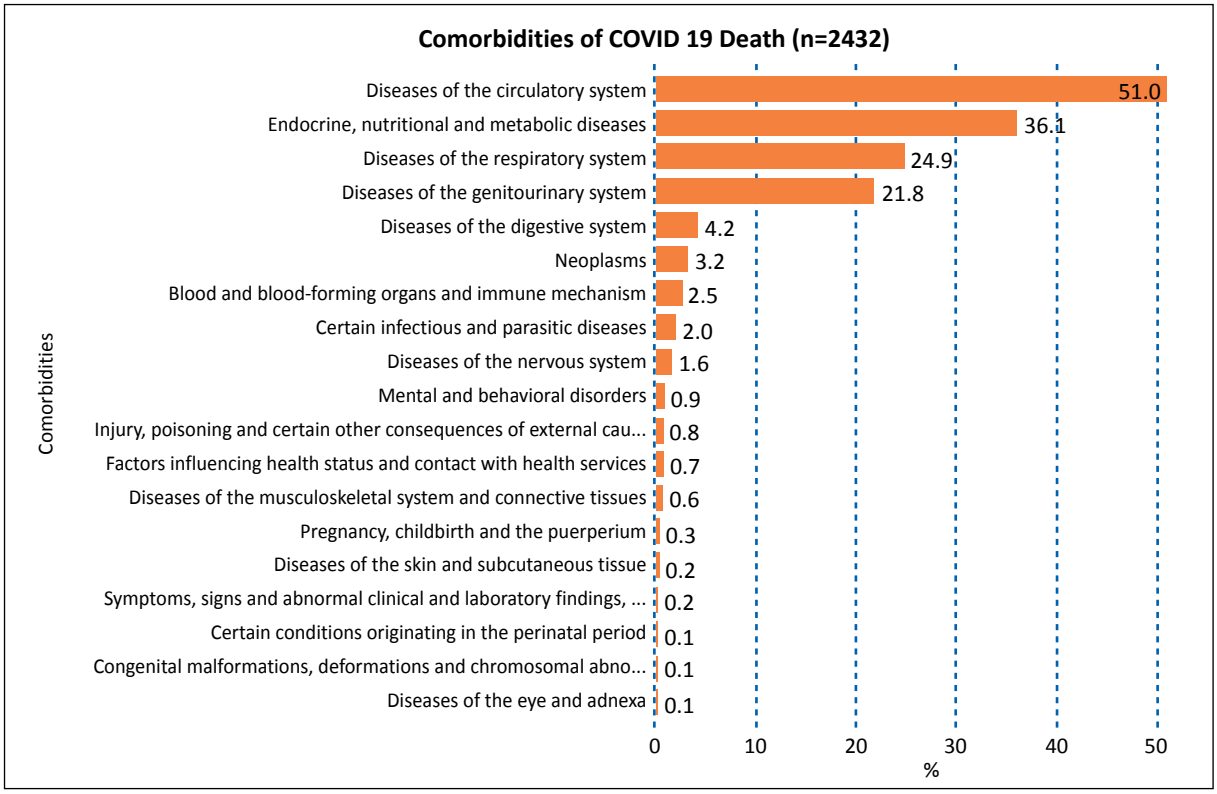


Figure 5.8.4 depicts the provincial distribution of COVID 19 death by gender. Male mortality is higher than female mortality in all provinces. The Bagmati Province has the highest number of deaths (n=4,039), followed by Lumbini (n-1,566). The province with the fewest deaths (n=409) was Karnali.

Figure 5.9.5: Comorbidities of COVID 19 Death



Comorbidity classification is based on ICD 10, which is the tenth revision of the International Statistical Classification of Disease and Related Health Problems (ICD-10), a World Health Organization medical classification list. This analysis provides insights into mortality statistics by prioritizing specific categories, consolidating conditions, and systematically selecting a single cause of death from a reported sequence of conditions.

As of Asar 2078, circulatory system disease was found to be the leading comorbidity of COVID 19 death (51%) followed by endocrine, nutritional, and metabolic disease (36.1%). Diseases of the respiratory and genitourinary systems were also major comorbidities, accounting for 24.9 percent and 21.8 percent of those who died from COVID 19 infection, respectively.

5.9.6 Information Management Unit

On 13 April 2021, the MoHP took step to establish the Information Management Unit (IMU) under ICS through secretary level decision as envisioned in emergency response plan. IMU was assigned the responsibility of coordinating with relevant stakeholder for data generation and analysis particularly on following domains:

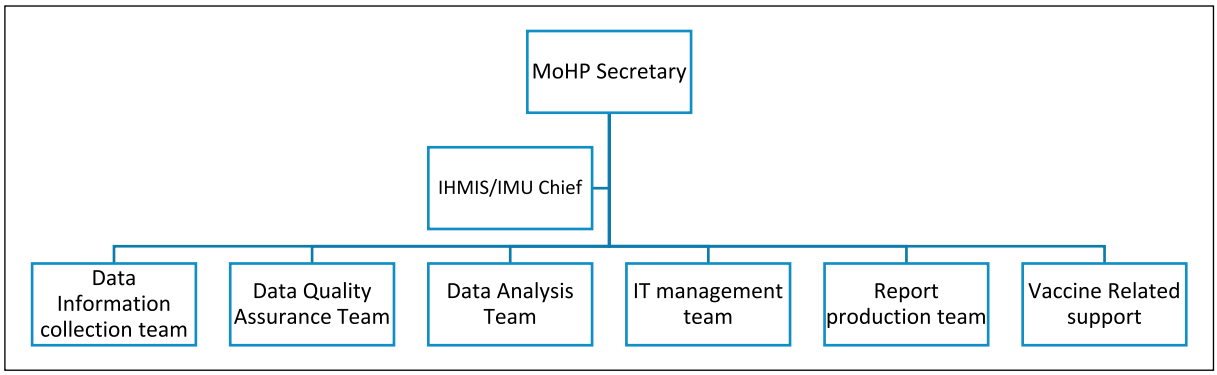
- Logistics (in coordination with Logistic Management Division)
- Case investigation, contact tracing, surveillance, and health desks (in coordination with EDCD)
- Human resource (HR) (in coordination with administration division and the team working in HR mobilization plan)

- Laboratory (in coordination with laboratories), clinical management (in coordination with hospitals
- Quarantine (in coordination with NEOC and Provinces
- Policy, Plans and Guidelines (in coordination with HEOC)
- Provincial and Local level activities (through provincial reports, HEOC and HDC)
- Continuation of regular services (in coordination with IHIMS, MD)
- Health Cluster (in coordination with HEOC) and
- Immunization (COVID-19 vaccination and QR certification (in coordination with FWD)

There are six teams, namely information management unit coordination team, data/information collection team, data quality assurance team, data analysis team, report preparation team, and information technology (IT) management team. Different teams in IMU provided data to facilitate evidence-informed decision making through ICS. IMU software with different modules as per MoHP need was initially developed by IMU with technical assistance of Aamako Maya from National Invention Centre and later by WHO supported IT experts and series of training was conducted as per need on all modules e.g. Community test Model (Antigen), Laboratory Model (PCR test), Hospital Model (Patient tracking), POE Model (Monitoring Point of entries), CICT (Case investigation and Contact Tracing) Model, Vaccination Model including pre-registration and QR certification and aggregate reporting in HMIS on DHIS2 platform.

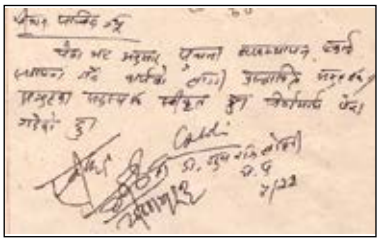
The IMU was decided from secretary level as well as CCMC level as only one mandatory source for covid-19 related data management and getting reimbursement of cases payments (cabinet decision) managed by isolation centers and hospitals.

Figure 5.9.6: Governance structure of IMU:

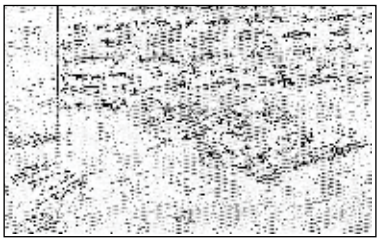


Each of the unit had a separate term of reference and composition. Altogether 15 human resources; six from government and nine from the external development partners are utilized in all team. The roles of each team are interconnected with no role duplication. The information, statistics, and monitoring committee under ICS lead by Shiv Lal Sharma (Statistical Officer, IHIMS) and supported by the team of Nepal Health Sector Support Program (NHSSP) also facilitated evidence-informed decision making through regular sharing of the analyzed daily time series updated reports and briefing notes with the ICS as per ICS commander's (Health Secretary) instruction. These reports were based on the latest epidemiological data in Nepal using IMU as well as HEOC situation reports updated in MoHP website. Additionally, health cluster and sub-cluster meetings also offered an opportunity to regularly discuss the results of assessments carried out by partners in different areas covering service delivery and utilization, including availability of essential commodities, service utilization, quality of laboratories, and other operational issues at provincial and local levels.

Box 5.9.1: Policy level decision on management of COVID 19 data through IMU



A



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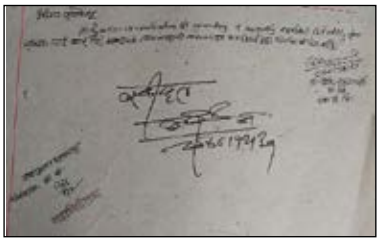

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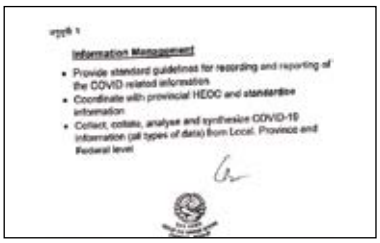


F2

S.N	Decisions
A	Establishment of IMU under ICS/HEOC & management of necessary Resources to operationalize (Secretary level dec ision:2077-2-27
B	Formation of Different Teams with dedicated members and their TOR to operationalize different functions of IMU as per concept note (Secretary level decision:2077-5-23
C	Shifting IMU to IHIMS assigning the chief of IHIMS as Chief of IMU too: additional scope of work to manage Covid vaccination reports (Secretary level decision:2077-12-31
D	MoHP& CCMC decision: one door COVID-19 data management through IMU
E	MoHP& CCMC decision: one door COVID-19 data management through IMU
F1 & F2	Decision (ICS level) to form information, statistics and monitoring team with clear ToR of CoVID-19 data analysis (2077-1-25) and sharing to higher authority in daily basis using template as instructed by the secretary.

5.9.7 Issues and Action taken for response

Although responsibility for oversight and governance of the response ultimately lay with the High-Level Coordination Committee for the Prevention and Control of COVID-19 (HLCC) and COVID-19 Crisis Management Center (CCMC), governance and coordination structures underwent constant changes from early 2020 onwards based on the reflections and lessons learnt in previous review periods. The Health Emergency Operation Center (HEOC) under the Health Emergency and Disaster Management Unit (HEDMU) of MoHP steered the response during the early pandemic phase and remained as a core body for the COVID-19 response within MoHP.

The MoHP, in collaboration with other partners, rolled out a series of communication activities to spread awareness of COVID-19 and help increase adherence to preventive measures. These included radio and television placements, SMS messaging, and use of web-based tools. More than 500 radio stations and 22 television channels throughout the country disseminated COVID-19 related information in multiple languages.

Delivery of laboratory testing was a success story for the response in Nepal, given resource constraints. At the beginning of the pandemic, the National Public Health Laboratory (NPHL) was the only RT-PCR capable

laboratory, but over the course of pandemic the capacity was rapidly expanded in all seven provinces. From Chaitra 2077, introduction of antigen-based rapid testing helped to expand the testing capacity throughout the country. The MoHP placed high emphasis on contact tracing and community isolation systems in Nepal over the course of the pandemic. However, the performance was constrained by some operational challenges such asthe lack of human resources at local level.

Currently, COVID-19 deaths that occur at community level are required to be reported to the administration. However, some of the deaths occurring at community level may have been missed. An area for improvement could be to use home isolation feature of IMU to capture community death and use IMU software as mandatory to capture overall COVID-19 related data and provide right data to right person on right time through one-door policy as per secretary level decision and promote API to make interoperable among IMU and other existing sources and strengthen the mortality surveillance enabling it to capture the deaths occurring in the community

The information, statistics and monitoring committee under ICS facilitated evidence-informed decision making through regular sharing of the analyzed daily time series updated reports and briefing notes with the ICS as per ICS commander's (Health Secretary) instruction.

Regarding the routine information management, MoHP has well established IHIMs under DoHS. COVID-19 information management Unit as new structure for CoVID -19 related data management was established and made mandatory online reporting as a one-door system. However, multiple reporting practices with manual reporting system based on calls, email, google sheets existed. IMU needs to be better institutionalized in IHIMS for reporting and analyzing data as per one-door policy in such pandemic situation for timely, evidence based better management and planning in future.

With the relatively new federal structure, there are challenges associated with lack of coordination between federal, provincial and local governments. Monitoring of service delivery, mobilization of human resources, and reporting of the services were impacted. The clear demarcation of responsibilities among three tiers of governments and dedicated recording and reporting structures with skilled and ICT supported man powers in federal, provincial and local level government could improve the pandemic response in future.

Despite initial challenges, Nepal has been able to roll out vaccine quite efficiently. As health workers were vaccinated as the first priority, restoring service delivery became relatively easier in second phase. However, maintaining preventive measures like social distancing in vaccination sites emerged as an issue in some facilities.

Annex Table 5.9.1: District wise details of COVID-19 confirmed cases from RT PCR test as of Asar 31, 2078

Province	District	Total RT PCR Positive*	Recovered*	Death	Active*
Province 1	Teplejung	820	702	9	109
	Sankhuwasabha	1247	1115	16	116
	Solukhumbu	468	417	24	27
	Okhaldhunga	1300	1192	24	84
	Khotang	1004	867	22	115
	Bhojpur	473	372	24	77
	Dhankuta	1470	1280	41	149
	Terhathum	566	470	20	76
	Panchthar	696	598	25	73
	Ilam	1058	913	44	101

Province	District	Total RT PCR Positive*	Recovered*	Death	Active*
	Jhapa	17193	15524	327	1342
	Morang	30891	29220	319	1352
	Sunsari	19526	18127	331	1068
	Udayapur	1592	1406	50	136
	Sub-total province 1	78304	72203	1276	4825
Madhesh	Saptari	4375	4040	97	238
	Siraha	4287	4012	82	193
	Dhanusha	9135	8808	85	242
	Mahottari	4779	4599	53	127
	Sarlahi	4724	4480	103	141
	Rautahat	4521	4342	71	108
	Bara	4788	4424	108	256
	Parsha	7476	7144	138	194
	Sub-total Madhesh	44085	41849	737	1499
Bagmati	Dolakha	2508	2273	73	162
	Sindhuplanchowk	5640	5234	93	313
	Rasuwa	1003	880	10	113
	Dhading	6353	5891	94	368
	Nuwakot	6457	5930	93	434
	Kathmandu	209389	202010	1921	5458
	Bhaktapur	22999	21565	372	1062
	Lalitpur	38858	37122	563	1173
	Kavreplanchowk	11357	10736	243	378
	Ramechhap	2332	2151	81	100
	Sindhuli	2752	2459	73	220
	Makawanpur	10295	9684	193	418
	Chitwan	18359	16978	230	1151
	Sub-total Bagmati	338302	322913	4039	11350
Gandaki	Gorkha	4969	4665	72	232
	Manang	156	98	3	55
	Mustang	132	105	15	12
	Myadgi	1774	1550	27	197
	Kaski	24830	22885	379	1566
	Lamjung	2861	2594	56	211
	Tanahu	4693	4294	122	277
	Nawalparasi East	7014	6495	99	420
	Syngja	3420	3018	110	292
	Parbat	1970	1724	39	207
	Baglung	5496	5039	70	387
	Sub total Gandaki	57315	52467	992	3856

Province	District	Total RT PCR Positive*	Recovered*	Death	Active*
Lumbini	Rukum East	194	171	14	9
	Rolpa	1347	1225	28	94
	Pyuthan	1476	1319	63	94
	Gulimi	3222	2951	64	207
	Arghakhanchi	2327	2126	55	146
	Palpa	6218	5779	87	352
	Nawalparasi West	3838	3524	98	216
	Rupandehi	29309	28334	498	477
	Kapilvastu	4526	4290	73	163
	Dang	12699	12155	267	277
	Banke	17720	17286	206	228
	Bardiya	5935	5512	115	308
	Sub-total Lumbini	88811	84672	1568	2571
Karnali	Dolpa	113	94	8	11
	Mugu	93	68	6	19
	Humla	96	81	5	10
	Jumla	1129	900	11	218
	Kalikot	726	651	17	58
	Dailekh	3115	2901	54	160
	Jajarkot	801	717	11	73
	Rukum West	940	792	41	107
	Salyan	1956	1754	80	122
	Surkhet	10700	10016	177	507
	Sub-total Karnali	19669	17974	410	1285
Sudurpaschim	Bajura	791	770	10	11
	Bajhang	1163	1134	9	20
	Darchula	942	863	16	63
	Baitadi	2546	2443	16	87
	Dadeldhura	2027	1894	11	122
	Doti	2686	2514	14	158
	Aacham	3903	3795	15	93
	Kailali	16433	15779	218	436
	Kanchanpur	5593	5198	132	263
	Sub-total Sudurpaschim	36084	34390	441	1253
	Grand total	**662570**	**626468**	**9463**	**26639**

**Note: Positive cases from Antigen is not included in this figure.*

NURSING AND SOCIAL SECURITY

Background

The Nursing and Social Security Division was established in 2075 B.S and is responsible for delivery quality health services through capacity development of nurses and midwives, including planning, co-ordination, supervision, monitoring and facilitation for various aspect of nursing (school health and nursing services and community health nursing services) and midwifery; the evaluation of geriatric and gender based violence programme; along with treatment and management facilities for selected diseases to impoverished Nepalese citizens at listed hospitals. This division is also responsible for development and revision of FCHV and other health related volunteer's policy, strategy, standard, protocol and guideline.

Organizational Structure

The Nursing and social security Division had three sections, (Box 6.1). The specific functions of three section are given subsequently in three sub- heading:

Box: 6.1: Sections under Nursing and social Security Division
• Nursing capacity development Section
• Geriatric and Gender Based Violence Management Section
• Social Health security section

6.1 NURSING CAPACITY DEVELOPMENT SECTION

6.1.1 Background

The main responsibility of this section is to facilitate in the process of development of plans, policies, strategies and programmes for strengthening various specialities of Nursing and Midwifery Services. This section is also a focal point for national nursing and midwifery service and school Health Programme, community health nursing programme. The specific functions of this section:

- Co-ordinate, collaborate and facilitate the concerned agencies for the development and implementation of policy, strategy, standard, protocol and guideline to maintain quality in nursing service.
- Co-ordinate and facilitate the concerned agencies for the development of law, standard, protocol and guideline to produce, deploy and mobilize qualified and competent human resources in nursing profession.
- Develop capacity of nurses working in field of alternative medicine by developing standard of practice for quality in nursing service;
- Co-ordinate and collaborate to develop policy, regulation, and guideline regarding Specialization in nursing care;
- Assist and help the concerned agencies in developing national health related policies, strategies, standards, protocols and guidelines etc.;
- Conduct research related activities to develop quality in nursing education and nursing services including specialized nursing educations and care services;

- Co-ordinate and facilitate in the various study, research aimed for the enhancement of quality of community and midwifery educations and care services;
- Co-ordinate, communicate, collaborate and facilitate the concerned agencies for the development and promotion of new field /scope of nursing services like school health nurse.
- Co-ordinate and facilitate the concerned agencies for the development and promotion of community nursing care services;
- Co-ordinate and facilitate the concerned agencies for the development and promotion of midwifery education and it's care services;
- Co- ordinate and Collaborate with the concerned agencies in developing nursing and midwifery human resource planning, capacity building, development, management;
- Develop the protocol of public health nursing and midwifery nursing care services.

6.1.2 Major Activities and Achievements in the Fiscal Year 2077/78

A. School Health and Nursing Service Programme

In the year 2077/78, as per the essence of National Health Policy 2076, 15th five-year plan, Public Health Act 2075 and National Education Policy 2076, guideline of school health and nursing service has been developed. Based on the guideline, the programme was implemented in twenty-two (22) local levels where two hundred four (204) school nurses are deployed in one hundred twenty (120) schools in five provinces (Madhesh, Gandaki, Lumbini, Karnali and Sudurpaschim province). Details are given in the table 6.1.1 below.

Table 6.1.1 Number of schools covered in this programme:

S.N.	Province	Number of school covered
1	Madhesh province	38
2	Gandaki province	30
3	Lumbini province	36
4	Karnali province	80
5	Sudurpaschim province	20
Total		**204**

Induction training package for school health nurses has been developed and implemented. Software for school health programme was developed to keep record of provided services by the school health nurses.

B. Development of Continuous Professional Development (CPD) Educational Module

In fiscal year 2077/078, as a part of capacity building of nurses, additional five (5) CPD modules were developed. This section has developed total 19 CPD modules for nurses. Conditional grant was given to Sukraraj, Tropical hospital, Bharatpur hospital and Koshi hospital for implementing CPD modules.

C. Development of Clinical Nursing Protocol

In fiscal year 2077/078, additional three (3) clinical nursing protocols were developed and distributed in all the public and private hospitals. Protocols were developed in three common procedures done in hospitals: 1) Blood transfusion, 2) Ostomy care and 3) Peripheral IV access. This section has developed total 6 clinical protocols on common procedures to provide quality health services.

D. Implementation of training on Infection Prevention and Control based on blended learning approach

Infection Prevention and Control is a practical and evidence-based approach to prevent the patients and health workers from harms caused by increasing healthcare associated Infections (HCAIs) and the results of antimicrobial resistance. In order to expedite and monitor the Infection Prevention and Control activities in hospitals and health facility canters, this training was conducted in coordination with National Health Training Centre and participants were certified as Infection Prevention and Control Nurse. The training has three months duration (6 weeks of self-paced online modules and 6 weeks of clinical posting based on face to face training). Total 17 nurses were trained from public and private hospitals.

E. Leadership and management training for health professionals

In order to improve leadership in nurses, in fiscal year 2077/078, Professional Course on Management and Development (PCMD) training for nursing officers (30 days), Advance Course on Management and Development (ACMD) training for 9^{th} and 10^{th} level health professionals (35 days) and Senior Executive Development Programme for 11^{th} level health professionals (6 month) were done in the coordination with Nepal Administrative Staff College. Total 25 nursing staffs, 25, 9^{th} /10^{th} level health professionals and 25, 11^{th} level health professionals were trained.

F. Development of e-based leadership and management training package and Implementation

In fiscal year 2077/78, e-based leadership and management training package was developed and implemented. The training package is in blended modality (24 days self-paced online module and 6 days' workshop). Total 52 nurses were trained from public and private hospitals as well as academic institutions in two batches. The first batch was trained virtually due to COVID-19 pandemic.

G. Midwifery services

As per the essence of National Health Policy, 2076, 15th five-year plan, Public Health Act 2075, a proficient, qualified and efficiently deployed specialized human resources like midwives is crucial to improve quality health services and to achieve health related sustainable development goals (SDGs) eg, reduction of maternal and neonatal mortality and morbidity. In fiscal year 2077/78, ten (10) midwives were recruited in two hospitals (eight in Paropakar maternity and women's hospital and two in Karnali academy of health science) to improve the midwifery services.

Issues and Challenges

Issues and Challenges	Recommendations
Limited Human resource	Ned to full fill vacant post
Co-ordination, co-operation between intra and inter section of DoHS	Proper co-ordination and co-operation with intra and inter sector of DoHS.

6.2 GERIATRIC AND GENDER BASED VIOLENCE

6.2.1 Background

Geriatric and gender-based violence is working to develop policies, strategies, guideline and programmes for the easy access of quality health services to senior citizens, women, men and children of the targeted groups poor, ultra-poor, helpless, people with disabilities who are victims of gender-based violence. The specific functions of this section are as follows:

- Co-ordinate, collaborate and facilitate the concerned agencies for the development of policy, strategy, standard, protocol and guideline of home-based nursing and other care;
- Co-ordinate and facilitate the concerned agencies for the development and promotion of nursing care services in the field of geriatrics and other new field of heath care services;
- Co-ordinate and facilitate for delivery of quality health services to people affected from gender-based violence;
- Develop the standard, protocol and guidelines for the treatment and management of gender-based violence;
- Monitor and facilitate while needed to establish one stop crisis management canters (OCMCs).
- Co-ordinate with all concerned agencies, stakeholder's organizations that work in the field of geriatrics and gender-based violence;
- Develop protocol, Information education and communication (IEC) materials for the delivery of quality health services with emphasis on geriatric friendly services from all type of health institutions; like public, private, profit, non-profit etc.
- Provide technical support and guidance for promoting capacity of health care workers in geriatric health care and management of gender-based violence.

A. Geriatric Services:

The constitution of Nepal has ensured the right of public to free Basic health care service and emergency services. It has also ensured that the elderly people will be entitled to special protection from nation and are entitled to right to social security. So, to ensure the accessibility and utilisation of health services by older people, the ministry of Health and Population is extending the geriatric health care services to hospitals with more than 100 beds in every fiscal year. The ministry of health and Population has started the concept of separate geriatric ward from FY 2070/71 to provide easy health services and free medical treatment to elderly persons extend the services in the hospitals having more than 100-bed capacity and now the service has been extended to 24 hospitals across the country in this fiscal year.

Major Activities and Achievements in the Fiscal Year 2077/78

- The geriatric services along with establishment of separate geriatric ward have been expanded to 8 new hospitals in this fiscal year.
- Geriatric care centre implementation guideline and standard has been developed in which older people with the many chronic health problems who need nursing care are the major service consumers. This guideline regulates the care homes and centres which provide long term care for the older persons.
- Policy dialogue program related to geriatric health was conducted in Province 1, Madhesh Province, Bagmati Province, Gandaki Province and Sudurpaschim Province in FY 2077/078 in order to address changing health needs due to demographic transition (population is greying), existing gaps in policies, systems and services, foster age friendly environments, combat ageism, and fulfil needs of elder persons.
- This section trained 60 Primary Health Care Professionals (Health assistants and staff nurse) related to Integrated care for elderly people.

Issues and challenges:

Issues and Challenges	Recommendations
➢ Limited Resources (limited bed capacity, limited space availability to adjust supportive geriatric equipment)	➢ Expansion of geriatric services to other wards/ department in hospitals including mandatory geriatric services in private and teaching hospitals.
➢ High demand of geriatric services	➢ Revision of age criteria for geriatric services should be considered.
➢ Inadequate specialized health care providers	➢ Development of human resources: geriatric medicine/nursing by MCs, NCs, NPHCs, training by NHTC and specialised training by university is a must.

B. Gender Based Violence (OCMC Program)

Gender-based Violence (GBV) is a grave human rights issue and public health concern which impacts the physical and mental health of the individual survivor and his/her children, and carries a social and economic cost to society. It is inextricably linked to the gender norms and unequal power relations between genders in society. Violence against Women and Girls (VAWG) is one of the manifestations of this gender inequality.

GBV cuts across caste-ethnicity, religion and socioeconomic status and is prevalent in all geographical settings, though in different forms and magnitude, making prevention and response crucial nationwide. The Nepal Demographic and Health Survey (NDHS, 2016) found that 22 percent of women aged 15–49 years had experienced physical violence at some point since age 15, while 7 percent had experienced sexual violence. The main perpetrator of physical or sexual violence was their husband or intimate partner. Reporting violence or seeking help is not common as survivors are reluctant to report incidents to the authorities for fear of stigmatisation and further incidences of violence and lack of support services. Two-thirds of women who have experienced any physical or sexual violence have not informed anyone or sought help.

The Government of Nepal (GoN) has taken significant steps in reforming laws and policies to combat GBV in the country. However, a deeply established social norms that excuses Violence against Women and Girls (VAWG) persists. The Ministry of Health and Population (MoHP) was tasked with Clause 3 of the National Action Plan against GBV (2010), to provide integrated services to survivors of GBV by establishing hospital based One-stop Crisis Management Centres (OCMCs).

MoHP initiated the establishment of OCMCs in 2011. By the end of 2077/78, 80 OCMCs had been established in 77 districts.

OCMCs are mandated to provide seven services to GBV survivors (see Box below). Information regarding the available services in the centre is also explained to the individual survivors of GBV.

According to the Operational Guideline of OCMC, 2077 following seven kinds of services are provided from OCMC through multi-faceted coordination with other agencies:

- Health services – Immediate and free treatment of physical and mental health needs of GBV survivors with OCMCs having to stock the equipment and the free health service medicines to provide these services.
- Medico-legal examination and reporting.
- Psycho-social counselling to survivors and perpetrators.
- Legal service- counselling and support to survivors through district attorneys and legal counsellors.
- Safe homes — by directing survivors to safe shelter homes.
- Security – by working with the police and district administration offices to provide security to survivors in hospitals, safe houses, and in their communities.
- Rehabilitation – by providing further counselling, education, vocational skills training and another livelihoods support.

Major Achievements in fiscal year 2077/78

1. OCMC service utilisation

The numbers of OCMCs have increased from 7 in 2011/12 to 80 by the end of FY 2077/078. The numbers of clients receiving health service from the OCMC site have also been increased from 187 to 8699 from 52 hospitals regularly reporting the data. (see table 1)

Table 1: Total number of Clients by year and number of reporting hospitals

Year	Total clients	hospitals reported data
2011/12	187	7
2012/13	545	12
2013/14	1,049	14
2014/15	1,730	15
2015/16	2,004	17
2016/17	2,924	22
2017/18	4,372	37
2018/19	6,992	45
2019/20	8,342	64
2020/21	8,699	52

Source: GESI/MoHP

Women make up the overwhelming majority of OCMC clients, representing over 90 percent of clients. The average number of clients served per OCMC has increased over time (Table 1). This reflects increasing capacity of OCMCs with the introduction of the GBV Clinical Protocol in 2015, revision of the OCMC Operational Manual in 2016 and the introduction of psychosocial counselling training in 2012/13 and medico-legal training in 2018/19.

2. Types of violence recorded for all OCMC cases in FY 2077/078

S.N.	Types of violence in patient	Number
1.	Rape	1522
2.	Sexual assault	1499
3.	Physical violence	3137
4.	Forceful/ child marriage	363
5.	Deprival from opportunities rights and resources	233
6.	Psychological emotional violence	1387
7.	Traditional harmful practices	46
8.	Others	291

3. Enabling Factors

The performance of different OCMCs has been varied. Experiences show that the following good practices enable the successful operation of OCMCs:

- Hospital leadership commitment to OCMCs is a key enabling factor for their success. Supportive leaders provide resources to OCMCs, generate commitment to GBV across the hospital, motivate staff and improve the quality of care.

- Co-ordination — Good coordination between Police administration and hospital centres leading to the effective referral of GBV cases to OCMCs, and between concerned personnel and agencies (hospital departments, counsellors, safe homes, police offices, legal aid committees, public lawyers, NGOs and rehabilitation centres).
- Quality of care — the orientation and training of stakeholders and staff; the provision of 24 hours service; the maintenance of client confidentiality and security.
- Widespread dissemination of information about OCMC services and GBV issues through FM radio, brochures and other media.
- Awareness raising —running of sensitisation campaigns against GBV in local communities and school.

4. Issues and Constraints

Issues and Constraints	Way Forward
➢ Leadership and Governance	➢ Mechanism is required to enable all local governments within the scope of OCMCs to participate in governance functions.
➢ Decreased Funding of safe homes and rehabilitation service	➢ Increase the funding and support by using central, provincial level and local levels and also the relevant stakeholders
➢ Inadequate trained human resource	➢ Organize the orientation on clinical protocols , and training on medico legal and psychological counselling for medical officers and staffs
➢ Inadequate dedicated space for OCMCs	➢ As per the OCMC establishment and operation guideline, health centres must mandatory arrange for the separate room for Medico legal examination and counselling room for survivors of GBV.

D. Social Service Unit (SSU)

Social Service Unit was established in fiscal year 2065/66 in central, regional, sub-regional and zonal hospitals. The objective of the SSU is to effectively facilitate and coordinate with hospital staff to provide free and partially free health care services to the target group (poor and ultra, helpless, people with disabilities, GBV survivors, emergency patient (poor),people affected by disasters and natural calamities, marginalized and endangered tribal and tribes, female community health volunteers, malnourished children , sick prisoners brought by police, martyrs family , target people reorganized by local government) on a daily basis, and to manage their palace of access to such services. Till FY 2077/78, Social Service Units have been established in 43 public hospitals.

Issues and challenges

Issues and Challenges	Recommendations
➢ Limited Resources	➢ Provision of availability of resources
➢ Gap in clarity about their job responsibility	➢ Orientation related to their job responsibility is required.
➢ Poor Recording and Reporting	➢ Recording and Reporting mechanism should be established
➢ Poor supervision and monitoring	➢ Integrated supervision and monitoring of SSU with proper use of checklist in regular basis

6.3 SOCIAL HEALTH SECURITY

Background

The social health security Section was established in 2075 B.S. and is responsible for free treatment and management facilities for eight selected diseases to impoverished Nepalese citizens at listed hospitals under scheme. The section also answerable for development and revision of FCHVs and other health related volunteer's policy, standard, protocol and guideline. The specific functions of this section (Box 6.3.1) are given below

Box: 6.3.1 Social Health Security Section
• Develop the policy, strategy, standard, protocol and guideline etc. regarding easy access and provision of hospital-based services to the target population. • Overall management of "Bipanna Nagarik Aausadhi Upachar programme" • Develop, revise and update the policy, standard for FCHVs and other health related volunteers.

6.3.1 Bipanna Nagarik Aushadhi Upchar Programme

6.3.1.1 Background

The goal and objective of this section (Box 6.3.1.1) are given below:

Box 6.3.1.1: Goal and objectives of the Programme
Goal — Managed the provision of free treatment to impoverished citizens. Objectives — i) List the hospitals for free medication and treatment services of impoverished Nepalese citizen under "Bipanna Nagarik Aushadhi Programme". ii) Develop, revise and update the policy, standard, guideline and protocol for "Bipanna Nagarik Aushadhi Programme".

Major ongoing activities

The Impoverished Citizens Service Scheme of Social Health Security Section provides the following funding for impoverished Nepalese citizens to treat serious health conditions:

- Free treatment up to NPR 100,000 per patient via listed hospitals for severe diseases including cancer, heart disease, traumatic head injuries, traumatic spinal injuries, Alzheimer disease, Parkinson's and sickle cell anaemia diseases once in life time.
- Pre-transplant (HLA & cross match) test support up to NPR 50,000;
- Renal transplantation costs up to NPR 400,000 per patient;
- Medication costs up to NPR 100,000 for post-renal transplant cases;
- Free haemodialysis and peritoneal dialysis services; and
- Free medical treatment for acute kidney infections up to NPR 100,000.

The following activities were conducted on a regular or ad-hoc basis in FY 2077/078 alongside the above-mentioned regular functions.

- Twenty-nine thousand three hundred and thirty-eight (29338) number of patients were managed in the provision of free treatment to impoverished citizen's services scheme. Top most number of patients from Cancer (15187), followed by Kidney (5787), heart disease (4418), Sickle Cell Anaemia (1140), Traumatic Spinal Injury (881), Traumatic Head Injury (606) and from Parkinson's diseases (93) and these disease rank 2nd, 3rd, 4th, 5th and 6th in number of patients subsequently, whereas number of patients from Alzheimer diseases were 32 which was lowest in number under the provision of free treatment to impoverished citizens services scheme. Details are in (Table 6.3.1.1).
- Number of patients received post kidney transplant medications support were 146.

Table 6.3.1.1: Total number of impoverished patients (both new and old) provided with treatment support for serious diseases, 2077/078

S.N.	Name of Hospitals/ particular	Kidney		CAPD	Medicine	Kidney Transplant	Cancer	Heart	Head Injury	Traumatic Spinal In jury	Parkinsons	Alzeimers	Sickle Cell Anaemia	Total
		Kidney Hemodialysis	Seropositive Dialysis											
1	National academy of health sciences, Bir hospital, Kathmandu	135	3	0	62	0	629	0	5	10	2	0	0	**846**
2	Tribhuwan university, teaching hospital Maharajgunj	126	0	12	50	76	210	0	20	124	5	1	0	**624**
3	B.P. Koirala institute of health science, Dharan	261	0	16	2	0	255	510	0	95	39	18	0	**1196**
4	Patan academy of health science, patan hospital	168	0	0	209	0	702	59	1	21	9	12	2	**1176**
5	Nobel Medical College Teaching Hospital,Biratnagar	264	0	5	0	0	0	481	200	17	33	0	0	**1000**
6	Paropakar Maternity Womens Hospital, Thapathali	0	0	0	0	0	3	0	0	0	0	0	0	**3**
7	Sahid Gangalal N. Heart centre, Bansbari	0	0	0	0	0	0	1917	0	0	0	0	0	**1917**
8	Civil service Hospital, Minbhawan	0	0	0	0	0	539	0	0	0	0	0	22	**561**
9	Manmohan Cardio Thoracic , Vascular &TC	0	0	0	0	0	23	588	0	0	0	0	0	**611**
10	B.P. KoiralaMemoriyal Cancer Hospital, Bharatpur	0	0	0	0	0	5660	0	0	0	0	0	0	**5660**
11	Sahid Dharma Bhakta Transplant Centre, Bhaktapur	168	26	0	6	45	0	6	0	0	0	0	0	**251**
12	Pokhara Academy of Health Science, Pokhara	141	0	0	0	0	0	0	0	0	0	0	0	**141**
13	Narayani hospital, Birgunj	48	0	0	0	0	0	0	0	0	0	0	0	**48**

S.N.	Name of Hospitals/ particular	Kidney		CAPD	Medicine	Kidney Transplant	Cancer	Heart	Head Injury	Traumatic Spinal In jury	Parkinsons	Alzeimers	Sickle Cell Anaemia	Total
		Kidney Hemodialysis	Seropositive Dialysis											
14	Rapti Academy of Health Science, Dang	33	0	0	0	0	0	0	0	0	0	0	104	**137**
15	Mechi Hospital, Bhadrapur, Jhapa	55	0	0	0	0	0	0	0	0	0	0	0	**55**
16	Koshi Hospital, Morang	53	0	0	0	0	87	0	0	0	0	0	0	**140**
17	Janakpur Hospital, Janakpur	63	0	0	0	0	0	0	0	0	0	0	0	**63**
18	BheriHosppital, Banke	37	0	0	0	0	0	22	1	19	0	0	290	**369**
19	Seti Zonal hospital, kailali	117	0	0	0	0	0	0	0	0	0	0	440	**557**
20	Nepal Medical College Jorpati	131	0	18	0	0	1	0	0	0	0	0	0	**150**
21	Gandaki Medical College, Pokhara	81	0	0	0	0	125	0	9	3	0	0	0	**218**
22	Universal Collegeof Medical Sciences, Bhairahawa	82	0	0	0	0	0	0	0	0	0	0	0	**82**
23	Chitwan Medical College Teaching Hospital, Chitwan	87	0	0	0	0	26	288	57	16	0	1	0	**475**
24	College Of Medical Sciences, Chitwan	112	0	0	0	0	0	33	7	16	5	0	0	**173**
25	Nepalgunj Medical College, Banke	174	19	0	0	0	0	0	0	0	0	0	0	**193**
26	Manipal Medical college, Teaching Hopsitalpokhara	36	0	23	0	0	115	146	13	10	0	0	0	**343**
27	Bhaktapur Cancer Hospital, Bhaktapur	0	0	0	0	0	2921	0	0	0	0	0	0	**2921**
28	National Kidney Centre, Banasthali	584	89	0	0	0	0	0	0	0	0	0	0	**673**
29	Golden Hospital pvt. Ltd, Biratnagar	87	0	0	0	0	0	0	30	0	0	0	0	**117**
30	B&B Hospital, Gwarko	27	0	0	0	0	72	0	0	0	0	0	0	**99**
31	Aarogya health pratisthan, Pulchowk	244	0	99	0	0	0	00	0	0	0	0	0	**343**
32	Manmohan Memorial Medical College and Teaching Hospital, Swoyambhu, Kathmandu	92	0	0	0	0	0	0	0	0	0	0	0	**92**
33	Cancer care nepal, Jawalakhel	0	0	0	0	0	257	0	0	0	0	0	0	**257**
34	Siddharatha City Hospital Pvt, Butwal	59	0	0	0	0	0	0	0	0	0	0	0	**59**
35	Alka Hospital Pvt, Jawalakhel	63	0	0	0	0	0	0	0	0	0	0	0	**63**

S.N.	Name of Hospitals/ particular	Kidney		CAPD	Medicine	Kidney Transplant	Cancer	Heart	Head Injury	Traumatic Spinal In jury	Parkinsons	Alzeimers	Sickle Cell Anaemia	Total
		Kidney Hemodialysis	Seropositive Dialysis											
36	Gautam Buddha Samudayek Heart Hospital, Butwal, Rupandehi	579	0	0	0	0	0	240	0	0	0	0	0	**819**
37	CharakMemoriyal Hospital Pvt, Kaskipokhara	65	0	0	25	0	0	0	0	0	0	0	0	**90**
38	HimalHopsitalPvt, Gyaneswar, Ktm	31	0	0	0	0	0	0	0	0	0	0	0	**31**
39	Vayoda Hospital Pvt, Balkhu	46	0	0	0	0	0	12	0	0	0	0	0	**58**
40	Kathmandu Cancer Center, Tathali, Bhaktapur	0	0	0	0	0	457	0	0	0	0	0	0	**457**
41	Venus hospital pvt. ltd, Baneshwor, Kathmandu	57	0	0	0	0	0	0	0	0	0	0	0	**57**
42	National Trauma Center, Mahabauddha, Ktm	0	0	0	0	0	44	0	150	344	0	0	0	**538**
43	Nepal Cancer Hospital & rearch center, Lalitpur	0	0	0	0	0	1373	0	0	0	0	0	0	**1373**
44	Grande International Hospital Pvt, Dhapasi	51	0	0	0	0	0	0	0	0	0	0	0	**51**
45	Crimson Hospital , ManigramRupandehi	51	0	0	0	0	0	49	1	0	0	0	0	**101**
46	Greencity Hospital pvt. Ltd, Dhapasi, Kathmandu	47	0	0	0	0	0	0	0	0	0	0	0	**47**
47	OM hospital and Research Center	64	0	0	0	0	69	0	0	0	0	0	0	**133**
48	Neuro Cardio Multispeciality Hospital, Biratnagar	0	0	0	0	0	0	29	103	5	0	0	0	**137**
49	Purna Tung Birta city Hospital, Jhapa	48	0	0	0	0	0	0	0	0	0	0	0	**48**
50	Janaki Health Care and Research Center Pvt.Ltd	76	0	0	0	0	0	0	0	0	0	0	0	**76**
51	Dhulikhel Hospital, Kavre	13	0	0	0	0	38	5	5	64	0	0	0	**125**
52	Om Sai Pathivara Hospital, Jhapa	109	0	0	0	0	0	0	0	0	0	0	0	**109**
53	Kist Medical College, Teaching Hospital, Lalitpur	69	0	0	0	0	0	0	0	0	0	0	0	**69**
54	Lake city and critical care Hospital, Pokhara	66	0	0	0	0	0	0	0	0	0	0	0	**66**
55	Spinal Injury Rehabilitation Centre	0	0	0	0	0	0	0	0	106	0	0	0	**106**

S.N.	Name of Hospitals/ particular	Kidney		CAPD	Medicine	Kidney Transplant	Cancer	Heart	Head Injury	Traumatic Spinal In jury	Parkinsons	Alzeimers	Sickle Cell Anaemia	Total
		Kidney Hemodialysis	Seropositive Dialysis											
56	Bharatpur Hospital, Bharatpur	124	0	0	0	0	0	0	0	24	0	0	0	**148**
57	Blue Cross Hospital Pvt. Ltd.	49	0	0	0	0	0	0	0	0	0	0	0	**49**
58	Shree Birendra Hospital, Chhauni , kathmandu	159	0	0	0	0	0	0	0	0	0	0	0	**159**
59	National City Hospital Pvt.Ltd., Bharatpur	0	0	0	0	0	38	0	0	0	0	0	0	**38**
60	Nepal Police Hospital, Ktm	53	0	0	0	0	0	0	0	0	0	0	0	**53**
61	Ghodagodhi Hospital Pvt. Ltd.	0	0	0	0	0	0	0	0	0	0	0	263	**263**
62	Kanti Children Hospital, Ktm	0	0	0	113	0	291	0	0	0	0	0	0	**404**
63	Sumeru Community Hospital Pvt. Ltd.	15	0	0	294	0	0	0	0	3	0	0	0	**312**
64	Rapti Hospital, Tulsipur	23	0	0	0	0	0	0	0	0	0	0	0	**23**
65	Dhaulagiri Hospital, Baglung	20	0	0	0	0	0	0	0	0	0	0	0	**20**
66	Surkhet Provincial Hospital, Surkhet	47	0	0	0	0	0	0	0	0	0	0	0	**47**
67	National Medical College, Birgunj	184	0	0	0	0	0	0	0	0	0	0	0	**184**
68	SushilKoirala Cancer Hospital, Banke	0	0	0	0	0	284	0	0	0	0	0	0	**284**
69	Gajendra Narayan Singh Hospital, Rajbiraj	22	0	0	0	0	0	0	0	0	0	0	0	**22**
70	Birgunj Health Care Hospital, Birgunj, Parsa	46	0	0	0	0	0	3	1	1	0	0	0	**51**
71	Lumbini Provincial Hospital, Butwal	60	0	0	0	0	0	0	0	0	0	0	0	**60**
72	Bardiya Hospital, Gulariya	0	0	0	0	0	0	0	0	0	0	0	11	**11**
73	Mahakali Hospital, Mahendranagar	0	0	0	0	0	0	0	0	0	0	0	8	**8**
74	Biratnagar Hospital	45	0	0	0	0	0	0	1	2	0	0	0	**48**
75	Beni Hospital	13	0	0	0	0	0	0	0	0	0	0	0	**13**
76	Parbat Hospital	13	0	0	0	0	0	0	0	0	0	0	0	**13**
77	Syanga Hospital	9	0	0	0	0	0	0	0	0	0	0	0	**9**
78	Purbanchal Cancer Hospital	0	0	0	0	0	880	0	0	0	0	0	0	**880**
79	Siddhababa Hospital & research Center , Butwal	22	0	0	0	0	0	0	0	0	0	0	0	**22**

S.N.	Name of Hospitals/ particular	Kidney		CAPD	Medicine	Kidney Transplant	Cancer	Heart	Head Injury	Traumatic Spinal In jury	Parkinsons	Alzeimers	Sickle Cell Anaemia	Total
		Kidney Hemodialysis	Seropositive Dialysis											
80	Aswins Medical Collage and Hospital	0	0	0	0	0	88	30	0	0	0	0	0	**118**
81	Karnali Academy of Health Science	0	0	0	0	0	0	0	2	0	0	0	0	**2**
82	Nepal Arthopedic Hospital, Jorpati	0	0	0	0	0	0	0	1	0	0	0	0	**1**
Total		**5797**	**137**	**198**	**736**	**121**	**15187**	**4418**	**606**	**881**	**93**	**32**	**1140**	**29346**

Source: NSSD, DoHS

Table 6.3.1.2: Issues, challenges and recommendations — Bipanna Nagrik Aaushadi Upchar Programme

Issues and challenges	General recommendations
Insufficient budget/fund for impoverished Nepalese citizens to treat serious health conditions.	Identification of poor patients through a scientific basis Revision of policy to deliver specialized services for more than one time through the scheme Integration of Bipanna program to Health Insurance Board
The monitoring of public and private health facilities.	Establish a task force that supervise regularly to the public and private health facilities. Promotion of self-evaluation system by service delivery sites Frequent monitoring of service delivery sites in coordination with the experts
Over the time period increase in the number of non-communicable major diseases.	Government should plan more fund and programme on prevention of non-communicable diseases. Increase awareness on prevention and early detection of non-communicable diseases to the community
Limited human resources, technical and trained manpower. High turnover of trained manpower	Allocation of equitable resources, extension and expansion of specialized services to district level to cover all geographical level as per feasibility of program
Lack of indicators to determine impoverished citizen	Government should identify impoverished citizen and provide identity card.
Minimal intervention on preventive and promotive services	More focused programme on health promotion and prevention of non communicable diseases
Inadequate coverage on treatment support by government in major diseases like cancer heart diseases, head injury and spinal injury	Integration of *Bipanna* program to Health Insurance Board Policies are revised to increase fund (risk-pooling) through insurance system

6.3.2 National Female Community Health Volunteer Programme

6.3.2.1 Background

Government of Nepal initiated the Female Community Health Volunteer (FCHV) Programme in 2045/46 (1988/1989) in 27 districts and expanded it to all 77 districts thereafter. Initially one FCHV was appointed per ward and followed by a population-based approach that was introduced in 28 districts in 2050 (1993/94). Out of the total of 51,423 FCHVs recruited a total of 49,605 (as reported in HMIS) FCHVs are actively working in Nepal. The goal and objectives of the programme are listed in Box 6.3.2.1

Box 6.3.2.1: Goal and objectives of the FCHV Programme

Goal — Improve the health of local community peoples by promoting public health. This includes imparting knowledge and skills for empowering women, increasing awareness on health related issues and involving local institutions in promoting health care.

Objectives

i) Mobilise a pool of motivated volunteers to connect health programmes with communities and to provide community-based health services,
ii) Activate women to tackle common health problems by imparting relevant knowledge and skills;
iii) Increase community participation in improving health,
iv) Develop FCHVs as health motivators and
v) Increase the demand of health care services among community people.

FCHVs are selected by health mothers' groups. FCHVs were provided with 18 days (9 +9 days) and from FY 2077/078, 10 days basic training package has been developed and in the process of roll out. For old FCHV 4 days refresher training following which they receive medicine kit boxes, manuals, flipcharts, ward registers, IEC materials, and FCHV bag, signboard and identity card. Family planning devices (pills and condoms only), iron tablets, vitamin A capsules, and oral rehydration solution (ORS) are supplied to them through health facilities.

The major role of FCHVs is to advocate healthy behaviour among mothers and community people to promote safe motherhood, child health, for family planning and other community-based health issues and service delivery. FCHVs distribute condoms and pills, ORS packets and vitamin A capsules, treat pneumonia cases (only in the selected remote area where referral is not possible), refer serious cases to health facilities and motivate and educate local people on healthy behaviour related activities. They also distribute iron tablets to pregnant women.

FCHVs' role had been highly acknowledged by the Government of Nepal in achieving milestones of Millenium Development Goal 4 and 5 and expected the same in the era of Sustainable Development Goal by 2030 through contextual modification. Nepal government is committed to increase the morale and participation of FCHVs for community health. Policies, strategies and guidelines have been developed and updated accordingly to strengthen the programme. The first FCHV programme strategy was developed in 2047 (1990 sept) and was continuously revised. In 2067 (2010), FCHV programme strategy was rewritten to promote and strengthen national health programme which underwent first or the latest amendment on 2076. This amended strategy highlights the context specific revision like change in FCHV selection criteria, institutional arrangement to support FCHV program.

The government is committed to increase the morale and participation of FCHVs for community health. Policies, strategies and guidelines have been developed and updated accordingly to strengthen the programme. The FCHV programme strategy was revised in 2067 (2010) to promote a strengthened national programme. In fiscal year 2064/65 MoHP established FCHV funds of NPR 50,000 in each VDC mainly to

promote income generation activities. FCHVs are recognised for having played a major role in reducing maternal and child mortality and general fertility through community-based health programmes.

Facilities for FCHVs

- A total of NPR. 10,000/- is provided to each FCHV as dress allowance every year.
- A travel allowance of NPR. 3,000/- increased to NPR. 6,000/- is provided to each FCHV as transportation cost every year.
- Since 2071/72 the government has allocated budget of NPR 20,000/- to each FCHVs as an appreciation for their contribution during the farewell to FCHVs over 60 years of age as recommended by health mothers' groups.
- Government of Nepal bears the 50% of premium of health insurance for individual FCHVs and also they are one of the target groups to receive service through Social Service Unit of Health Facilities.

6.3.2.2 Major activities in 2077/78

- FCHV Basic training package was revised after 10 years.
- A modular orientation package was also revised to align with revised FCHV Basic Training Package.
- Basic and Refresher training to old and new FCHVs was done respectively.
- Orientation and mobilization of FCHVs for national health programmes was conducted as per the programmes.
- Biannual FCHV review meeting was held at the local level and FCHV Day celebrated on 5th December by every local levels.
- Dress allowance, appreciation amount during farewell and travel allowance was distributed as in previous years.
- FCHV App was developed in DHIS2 in coordination with IHMI Section, Management Division.
- Health Mothers' Group Meeting Register and its orientation package has been revised.

6.3.2.3 Major achievements in 2077/78

1. Trend of services provided by FCHVs

In fiscal year 2077/78, the number of mothers participating in health mother's group meetings was increased whereas FCHVs distributed fewer pills, in comparisons to fiscal year 2076/77. (Table 6.3.2.1 and Figure 6.3.2.1)

Table 6.3.2.1: Trend of services provided by FCHVs

S.N.	Services	2073/074	2074/075	2075/2076	2076/77	2077/78
1.	Pills distribution (no. cycles)	808138	697852	692,010	600,509	579,834
2.	Condom distribution (pieces)	9983378.5	9006248.5	8,759,624	7,890,131	7828,175
3.	Iron tablet distribution	717267	684191	718,285	593,080	555,777
4.	Health mother's group meetings	506923	517285	520,101	483,192	493,197

Source: IHMIS/DoHS

2. Support provided by FCHVs for home deliveries

Even though government of Nepal has the policy of mandatory institutional deliveries because of various reasons women cannot reach up to health centres for delivery, so in case of any home deliveries in their locality FCHVs provide support and care to the postpartum women and new born. In 2077/78 they initiated baby to mother skin-to-skin contact after delivery in 58385 cases, applied chlorhexidine to the umbilicus after delivery for 47721 cases and ensured the taking of misoprostol for prevent post-partum haemorrhage (PPH) in 8613 cases (Table 6.3.2.2).

Table 6.3.2.2: Support provided by FCHVs for home deliveries, 2077/078

S.N.	Province	Initiating skin-to-skin contact after birth	Chlorhexidine applied on umbilicus	Ensured misoprostol tablets taken
1.	Province 1	9051	8107	2533
2.	Madesh provience	30878	21923	2122
3.	Bagmati Province	4831	5757	1091
4.	Gandaki Province	1748	1660	180
5.	Lumbini Province	5746	4754	978
6.	Karnali Province	3927	3542	625
7.	Sudurpashchim Province	2204	1978	1084
	National	58385	47721	8613

Source: IHMIS/DoHS

3. Postnatal visits and support to postpartum mothers

Apart from providing care and support during home deliveries, FCHVs provide care and health teaching in postpartum mothers and encourage them for postpartum visits to institutions as per the national protocol. In 2077/78 (Table 6.3.2.3), FCHVs visit to support 52911 new born & Postpartum Mothers within 24 hours of Birth, to 55944 new-born and postpartum mothers on 3rd day of Birth and to 53372 new born and postpartum mothers on 7th day of Birth. During their visit they provide counselling on breast feeding, danger signs of mother and new-born, care of new-born and mother.

Table 6.3.2.3:FCHVs support for home deliveries

S.N.	Name of Province	Home Delivery-visit-new born& PP Mothers- ≤24 hours of Birth	Home Delivery-visit-new born& PP Mothers- 3rd day of Birth	Home Delivery-visit-new born& PP Mothers-7th day of Birth
1.	Province 1	7525	8350	8291
2.	Madesh Provience	28030	26692	25789
3.	Bagmati Province	4089	4023	4200
4.	GandakiProvince	1562	2230	2176
5.	Lumbini Province	5806	7717	7000
6.	Karnali Province	3650	4288	3402
7.	Sudurpashchim Province	2243	2644	2514
	National	52911	55944	53372

Source: IHMIS/DoHS

4. Nutrition services provided by FCHVs at the Household level

FCHVs also play major role in reducing malnutrition among children and women of reproductive age groups. They help in initiating breast feeding within 1 hour of birth and immediately provide Vitamin A capsule to postpartum mothers as well. Nutrition services were provided by FCHVs in FY 2077/78 are as mentioned in Table 6.3.2.4.

Table 6.3.2.4: Nutrition service provided by FCHVs at the Household level

S.N.	Province	Breast Feeding<1 hour of Birth	Distribution of Vitamin A capsule to Postpartum mother
1.	Province 1	9726	26039
2.	Madesh province	31929	50884
3.	Bagmati Province	5646	16741
4.	Gandaki Province	1793	6629
5.	Lumbini Province	8199	13177
6.	Karnali Province	4359	4289
7.	Sudurpashchim Province	2803	10399
	Nepal	66455	128158

Source: HMIS/DoHS

5. IMAM services provided by FCHVs at the Household level

Along with these services, FCHVs also assess the children under 5 years of age for acute malnutrition and then refer for further management as per their severity by measuring the Mid-Upper Arm Circumference (MUAC) of the children. FCHVs provided the screening service of acute malnutrition and IMAM services provided by FCHVs in 2077/78 are as seen in table no. 6.3.2.5. Screening of children through MUAC and categorize their nutritional status as follows 4554 are SAM, 50573 are MAM while 289 screened as oedema whereas 2514382 are normal children as well by FCHVs.

Table 6.3.2.5: IMAM Service provided by FCHVs at the Household level

S.N.	Province	MUAC-Screening-Red-SAM	MUAC-Screening-Yellow-MAM	MUAC-Screening-Oedema	MUAC-Screening-Green-Normal
1.	Province 1	564	4044	9	250627
2.	Madesh Province	1387	14289	151	492470
3.	Bagmati Province	391	3885	37	644293
4.	Gandaki Province	107	1100	0	138422
5.	Lumbini Province	805	7853	38	285425
6.	Karnali Province	317	4931	42	125671
7.	Sudurpashchim Province	983	14469	12	577474
	Nepal	4554	50573	289	2514382

Source: HMIS/DoH

6.3.2.4. Issues and constraints

Table 6.3.2.6: Issues and constraints — FCHVs

Issues and constraints	Recommendations	Responsibility
Low utilization of FCHV Fund	Strictly implement guidelines and audit FCHV fund every year	NSSD, DHOs, HFs, all of local level, rural municipalities, municipalities, sub-metro and metro municipalities
FCHV are not interested in farewell programmes	Rethink the farewell package Implement revised FCHV strategy (1st amendment_2076)	NSSD, DHOs, Health Section of local level, rural, municipalities, sub-metro and metro municipalities
Decreasing work performance of FCHV	Motivate FCHV through FCHV Review meeting and orientation for FCHV on related program	NSSD, DHOs, HFs, Health Section of local level, rural, municipalities, sub-metro and metro municipalities
Work performance of FCHV are not being assessed timely	Supportive supervision from HF	

CURATIVE SERVICE

7.1 CURATIVE SERVICES

7.1.1 Introduction

Curative Service Division (CSD) is one of five divisions under Department of Health Services (DoHS). After the restructuring and institutional reform of Ministry of Health and Population supporting institutionalizing federal system within ministry, it has developed Terms of Reference (ToR) of different Institution to facilitate the process. In this context since the beginning of fiscal year 2075/76 Curative Service Division was established within Department of Health Services. Previously, Curative Service Division was under Ministry, but now in the changing context that dissolved and established as CSD under DoHS.

According to the institutional framework of the DoHS and MoHP, the Basic Health service Center (from an institutional perspective) is the first contact point for curative services. Each level above the HP is a referral point in a network from Basic Health service center (Health Post) to Basic Hospitals, on to District, provincial hospitals and finally to specialized tertiary hospitals. This referral hierarchy has been designed to ensure that the majority of population will receive minor to specialized treatment in places accessible to them and at a price they can afford. Inversely, the system works as a supporting mechanism for lower levels by providing logistic, financial, supervisory and technical support from the center to the periphery.

The overall purpose of this Division is to look after Curative Health Service activities through its three different sections, namely

1. Hospital Services Monitoring and Strengthening Section
2. Basic Health and Emergency Management Section and
3. Eye, ENT and oral Health Section.

The major responsibility of CSD is to provide the basic health service free of cost guaranteed by Constitution of Nepal (article 35). CSD regulates and co-ordinates to establish, operate and upgrade of specialized tertiary hospitals. CSD also co-ordinate and provide eye, ENT and oral health services.

7.2 Section under Curative Service Division and their key functions

7.2.1. Hospital Service Monitoring and Strengthening Section

- To assist MoHP by law, policy, guidance, quality standard, protocol formulation regarding hospital strengthen,
- To assist MoHP for Development of co-operation between private and public health institution for effective health care service by formulating law, policy, strategy and criteria,
- To facilitate the registration, renewal and regulation of the specialized and tertiary level hospitals,
- To assist MoHP for development of national policy, strategies and guidelines regarding registration upgrade and monitoring of private and non-governmental hospitals, nursing homes, clinics, polyclinics,
- Continuous supervision and monitoring of the hospitals for optimum quality service,
- Management of radiation used in health care sector as per national and international standard,

- To facilitate for the development and institutionalization of the telemedicine service system,
- To assist MoHP for the development of health tourism by formulating law, policy, strategies, criteria, protocols,
- To co-ordinate for development and management of national level study, research and training centre,
- Formulate standard treatment protocol (STP),
- Develop a drug list and revise according to need,
- Studying and monitoring of drugs used in different hospital pharmacy and health facilities,
- Formulation of standard on anti-microbial resistance and
- Preparation of training materials of rational use of drug and conduct training for health workers of various levels.

7.2.2. Basic Health and Emergency Management Section

- Define and effective management of Basic Health Services according to constitutional system and provide it at free of cost,
- Determining the scope and criteria of basic health services,
- Supervision, monitoring and evaluation of the quality of basic health services,
- Evaluation of the effectiveness of basic health services and co-ordinate to all levels of federal structure for continuous improvement by providing feedback,
- Modification and extension of basic health care services based on the emergence of diseases, availability of financial resources and local needs,
- Conduct study and research about basic health service,
- To facilitate for formation of laws, policy, rules, criteria, protocols and guidelines to make emergency health care service effective,
- To facilitate for formation of laws, policy, rules, criteria, protocols and guidelines regarding referral system and
- To assist MoHP for the implementation, monitoring and regulation of emergency service and referral service.

7.2.3. Eye, ENT and Oral Health Section

- To facilitate for formulation of national policy, rules, standard, protocols and guidelines related to Eye health,
- To facilitate for formulation of national policy, rules, standard, protocols and guidelines related to ENT services,
- To facilitate for formulation of national policy, rules, standard, protocols and guidelines related to oral health services,
- Evaluation of the effectiveness of Eye, ENT and oral health and co-ordinate to all levels of federal structure for continuous improvement by providing feedback,
- Facilitation and Co-ordination for integration with eye health, ENT and oral health services to national health service system and
- Study, research related to eye, ENT and oral health services.

7.2.3 Minimum Service Standards for Hospitals and Health Facilities

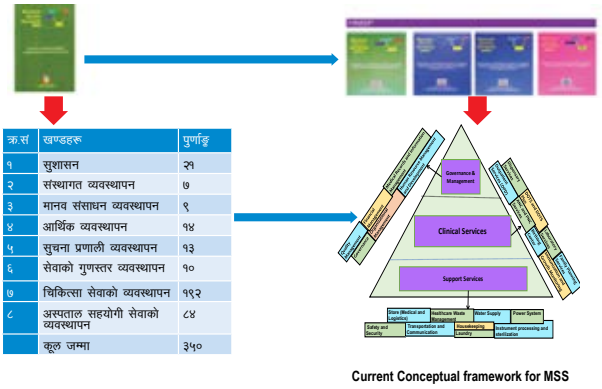
A Program that facilitates hospitals' attainment of quality-of-care standards

Ministry of Health and Population (MoHP) in collaboration with Nick Simons Institute started Hospital Management Strengthening Program (HMSP) in district and district level hospitals (DH) since FY 2071/72 (2014). It began as piloting of Hospital Management Training (HMT) in 4-hospitals in 2013, partnership between National Health Training Center (NHTC) and Nick Simons Institute (NSI) to support district hospitals. Considering its modality and coverage, the HMT training has converted into HMSP program in 2014.

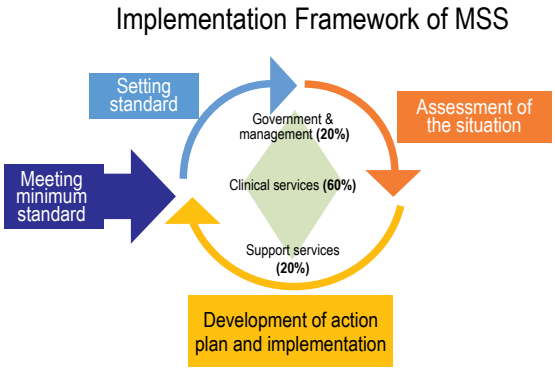
This program is basically designed to identify existing gaps on readiness towards the quality improvement of hospital services through self and joint assessment using Minimum Service Standards (MSS) tool and develop action plan scientifically. With the aiming for the optimal preparation of the minimum set of standards for hospitals to provide services that they intend and claim to provide. This program was designed in phase wise expansion in all levels of hospitals and health facilities.

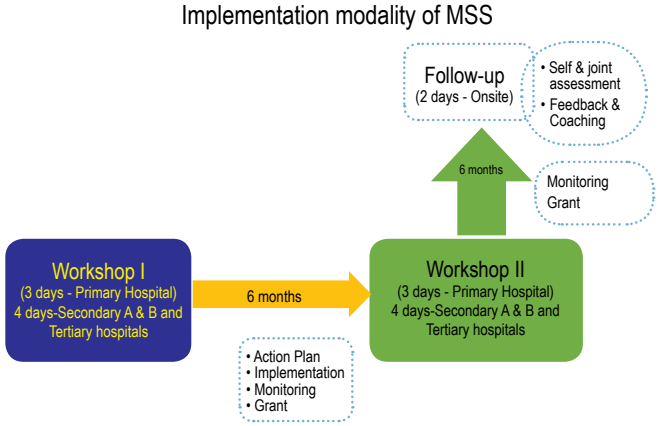
After implementation of DH MSS for 4 years, the district hospital MSS tool has revised in 2018 with the named as MSS for Primary hospital and new MSS tools for all level of hospitals and health facility has developed. Which include 4 categories of MSS for hospitals (Primary, Secondary A, Secondary B, Tertiary level Hospitals) and Health Post as well. The eight sections of District hospital -MSS has framed as the three broad areas are as follows:

- **Management and Governance,**
- **Clinical Services and**
- **Hospital Support Services**.

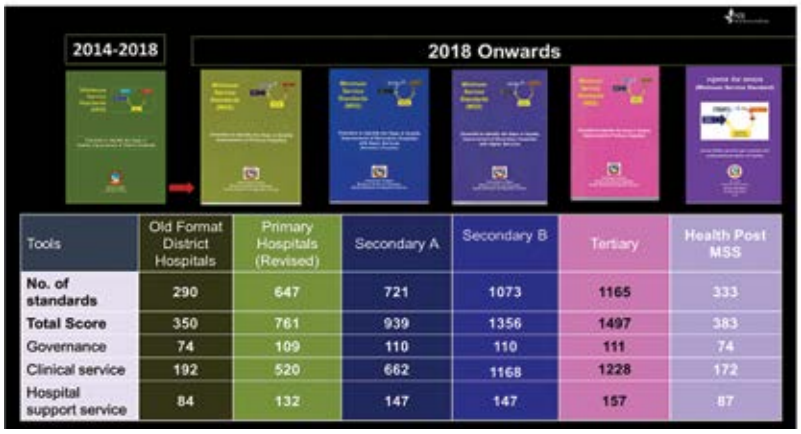


Current Conceptual framework for MSS





- There are all together 5 sets of MSS Tools including Health Post MSS (Basic Health Care Centre), Primary Hospital MSS (5,10,15 Beds Hospital, Secondary A Level (25-50 Bed General Hospital), Secondary B Level (100-300 Bed General Hospital) and Tertiary Level (Specialized Hospital). Each MSS tool has three major sections: Governance and Management, Clinical Service Management and Hospital Support Service Management. The total standards and Score that is used to measure the Service Standard varies according to the respective tools.



Tools	Old Format District Hospitals	Primary Hospitals (Revised)	Secondary A	Secondary B	Tertiary	Health Post MSS
No. of standards	290	647	721	1073	1165	333
Total Score	350	761	939	1356	1497	383
Governance	74	109	110	110	111	74
Clinical service	192	520	662	1168	1228	172
Hospital support service	84	132	147	147	157	87

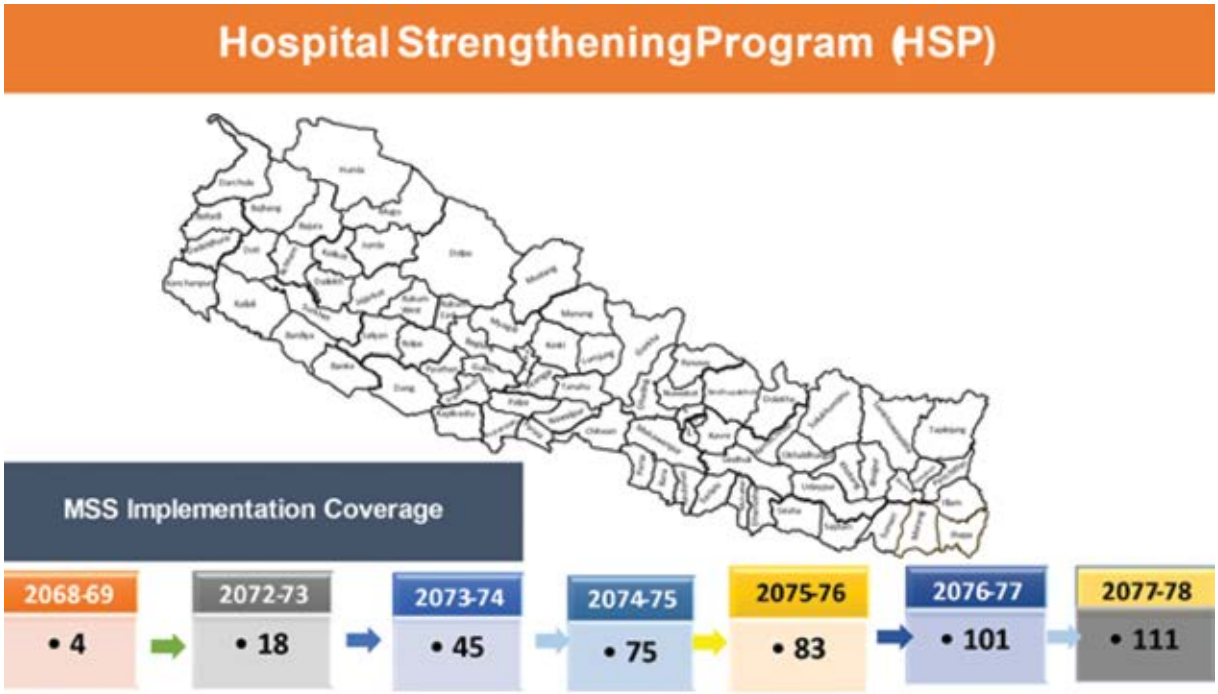
- This MSS Score for hospitals measure the existing situation and enables to identify the gap areas that are to be addressed through the development of the actions plan that demands both technical and financial inputs and managerial commitments. The overall process is guided by its implementation guideline that describes on sequences of self-assessment and follow up workshops and gap identification for action plan development and striving for optimal MSS Score.
- Ministry of Health and Population strives to implement MSS in Health Facilities for establishing enabling environment at service delivery point through preparedness and availability for quality service provision to the users. Not being an exhaustive list of facilities and services, hospitals are encouraged to strive for betterment and go beyond the defined set of minimum standards whenever their resources support.
- Minimum Service Standards (MSS) for hospitals and health facilities were previously lead by Curative Service Division, Ministry of Health and Population. Now in changing context, as per ToR this Program is lead by Quality Standard and Regulation Division, Ministry of Health and Population and the implementation is done by Curative Service Division, DoHS.

Phase wise MSS implementation in all district level hospitals

1. **FY 2071/72 (2014/15)**: MSS implementation workshop phase begins from 18 district hospitals.
2. **FY 2072/73 (2015/16)**: Workshop phase begins in 27 district hospitals.
3. **FY 2073/74 (2016/17)**: MSS implementation workshop in 30 district hospitals.
4. **FY 2074/75 (2017/18)**: MSS implementation workshop cycle completed in 75 district Hospitals and Workshop phase begins in 8 upgraded hospitals. Process started for the revision of district level MSS.
5. **FY 2075/76 (2018/19)**: MSS implementation workshop cycle completed in 83 district level Hospitals. Revision of district level MSS and develop 4 MSS for hospital and health post. Proceed for MSS approval and MSS data entry sheet development
6. **FY 2076/77 (2019/20)**: Approval and implementation of MSS in 101various level of hospitals and health post.
7. **FY 2077/78 (2020/21):** Implementation of MSS in 111 various levels of hospitals. Approval of MSS implementation guideline. Development of MSS software.

Figure 1

Nationwide coverage of HSP/ MSS implementation program in Primary, Secondary A, Secondary B and Tertiary Level Hospitals.



MSS has implemented in 111 hospitals all over the country including 10 new hospitals enrolled in MSS this fiscal year (Madhyabindu, Bisnu Devi, Lamjung, Rukum (East), Mechi, Surkhet, Manikhel, Dodhara Chadani, Nayanpur and Lamahi Hospitals). All MSS implementation workshops and follow up were conducted jointly with MoHP- DoHS /MoSD-PHD. MSS orientation program was organized for recently upgraded 8 Secondary A hospitals (Dhading, Jaleswor, Bhim, Arghakhanchi, Pyuthan, Palpa, Kapilvastu and Rukum east hospitals).

Impact of the Program in Hospital level:

Governance and management- Hospital service quality is in high priority of Federal, Provincial and Local government, allocating budget linked with MSS gaps. HMC is taking ownership in overall service improvement and expansion of hospital services. Most of the HMC chairperson and Me Su considered MSS as a guiding document for quality health services.

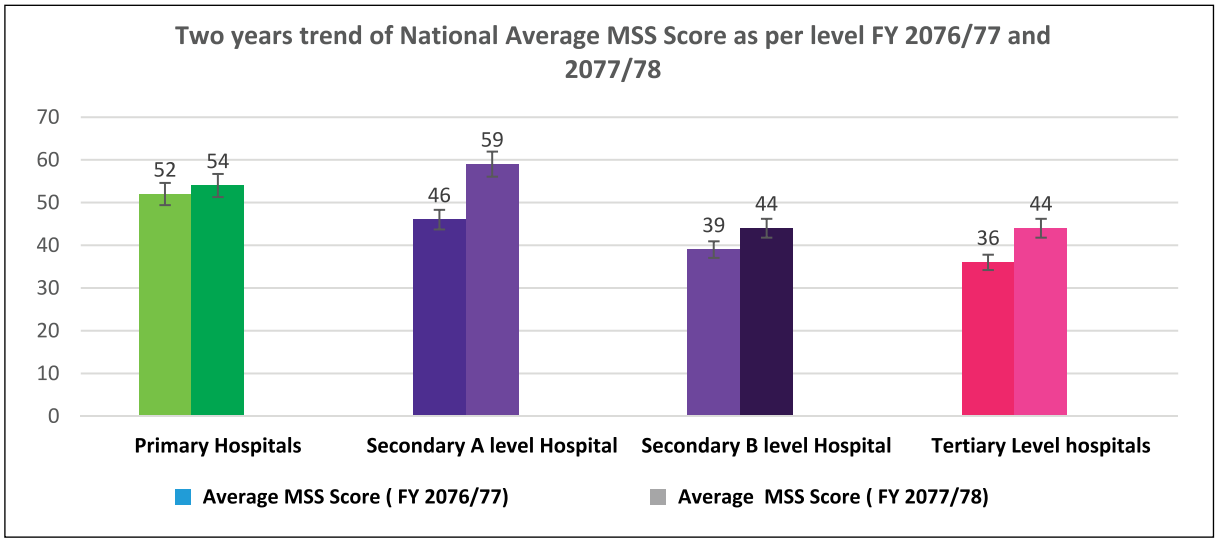
Clinical Service Management: Considerable improvement in Diagnostic services- like Digital X-ray service, improvement in laboratory services with auto and semi auto analysers and expansion of its range of test up to culture, T3, T4, TSH, HbA1c and others. Some hospitals have started surgeries with new setup of operation theatre and few have upgraded its range of major surgeries.

Hospital Support Service Management: Establishment and upgrading of separate laundry, CSSD, housekeeping services, autoclaving of contaminated waste, are the novel achievements of primary and secondary A level hospitals.

Besides the routine services advocated by MSS, hospitals are motivated to establish additional services as reported by the managers of hospitals during assessments. Remarkable milestones have been reached with regards to additional services like, intensive care unit (ICU) with ventilator, special new-born care unit (SNCU), crisis management centres, extended hospital services (EHS) with specialized
Doctors, EHR (Electronic Health Record) services at some of these hospitals.

Grading of Hospitals with using MSS Scores:

Trend of average MSS Score of hospitals as per level in the FY 2076/77 and 2077/78

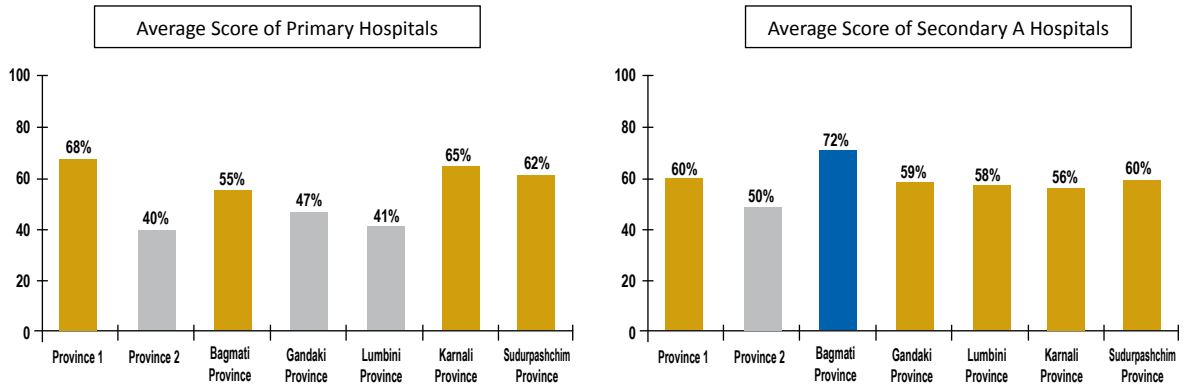


As of now (FY 2077/78), national average score of MSS in different level of hospitals are as follows:

- Primary Hospital - 54%,
- Secondary A Hospital – 59.3%,
- Secondary B Hospital – 44.5% and
- Tertiary hospital – 44%.

Above figure shows that, average MSS score trend is increased in all levels of hospitals highest being 13% in secondary A, followed by 8% in Tertiary and 5% in Secondary B level hospitals and minimum of 2% in Primary level in the FY 2077/78 than FY 2076/77**.**

Province wise Average MSS Score - Primary, Secondary level Hospitals with latest assessment.



There are four provinces which obtained above **national average of 54%,** in which highest scored of Province-1 (68%) followed by Karnali Province (65%), Sudur Paschim Province (62%) and Bagmati Province (55%). The lowest average score secured by Province 2 (40%) in primary level hospital.

Whereas, in Secondary A hospitals three provinces scored above national average of 59%, Bagmati Province scored highest (72%) followed with 605 by Sudur Paschim and Province-1. The lowest average score is secured by Province 2 (50%).

Top five Primary Hospitals (Based on Latest MSS Score FY 2077 / 78)

SN	Hospital Name	Province	Total Score
1	District Hospital Taplejung	Province 1	89 %
2	District Hospital Bajhang	Sudurpashchim	88 %
3	District Hospital Dhankuta	Province 1	83 %
4	Dailekh District Hospital	Karnali	82 %
5	District Hospital Bhojpur	Province 1	82 %

Top five Secondary A Hospitals (Based on Latest MSS Score FY 2077 / 78)

SN	Hospital Name	Province	Total MSS Score
1	Trishuli Hospital	Bagmati	89 %
2	Bhaktapur Hospital	Bagmati	83 %
3	Dhading Hospital	Bagmati	73 %
4	Bardiya Hospital	Lumbini	72 %
5	District Hospital Sankhuwasabha	Province 1	71 %

Secondary B Hospitals (Based on Latest MSS Score FY 2077 / 78)

SN	Hospital Name	Province	Total MSS Score
1	Lumbini Provincial Hospital	Lumbini	48 %
2	Seti Provincial Hospital	Sudur Paschim	46 %
3	Province Hospital Karnali	Karnali	45 %
4	Provincial Hospital Janakpur	Province 2	39 %

Progress Status of the Secondary A Hospitals based on comparison of Latest MSS Score (Based on Latest MSS Score FY 2077 / 78)

SN	Hospital	Baseline Score	Latest Score	Progress
1	Bhaktapur Hospital	37%	83%	46%
2	Trishuli Hospital	60%	89%	29%
3	Mahakali Hospital	35%	63%	28%
4	Rapti Provincial Hospital	43%	67%	24%
5	Gorkha District Hospital	38%	62%	24%
6	Udayapur Hospital	45%	66%	21%
7	Jajarkot District Hospital	38%	58%	20%
8	Siraha Hospital	40%	59%	19%
9	Gaur Hospital	18%	35%	17%
10	Mehalkuna Hospital	43%	55%	12%
11	Bardiya Hospital	61%	72%	11%
12	Dhaulagiri Hospital	56%	66%	10%
13	Lahan Hospital	40%	49%	9%
14	Prithvi Chandra Hospital,	54%	62%	8%
15	District Hospital Sankhuwasabha	64%	71%	7%
16	Sindhuli Hospital	59%	65%	6%
17	Tikapur Hospital	52%	57%	5%
18	Inaruwa Hospital	38%	42%	4%

SN	Hospital	Baseline Score	Latest Score	Progress
19	Pyuthan Hospital	54%	58%	4%
20	Rampur Hospital	37%	40%	3%
21	Gulmi Hospital	62%	65%	3%
22	Arghakhanchi Hospital	74%	74%	0%
23	Dhading Hospital	73%	73%	0%
24	Kapilvastu Hospital	70%	70%	0%
25	Mechi Hospital	44%	44%	0%
26	Palpa Hospital	44%	44%	0%
27	Jaleshwor Hospital	54%	54%	0%
28	Bhim Hospital	52%	52%	0%
29	Kalaiya Hospital	38%	38%	0%
30	Malangawa Hospital	34%	34%	0%
31	Rukum (East) Hospital	22%	22%	0%
32	Beni Hospital	51%	50%	-1%
33	District Hospital Ilam	64%	63%	-1%
34	Hetauda Hospital	53%	50%	-3%

Note: *Similar score in baseline and latest assessment indicate only one time implementation of Secondary A levelMSS*

Secondary A level MSS tools were implemented in 34 hospitals in FY 2077/78. Among them 2 hospitals succeed to obtained higher score of > 80% and 5 hospitals secured 70%- 80%. Likewise, 9 hospitals have scored between 60%-70 %, other 9 are in 50-60%, and another 9 hospitals are limited in< 50 % MSS score, which need more attention and support. The highest MSS score 89% of Trisuli hospital, followed by Bhaktapur - 83%, Arghkhachi- 74% Dhading -73%, Bardiya -72%. The lowest MSS score being 22% of Rukum east in secondary A level.

The progress in latest MSS score with baseline score is varies from maximum of 46 % to lowest of (-3%). Among 34 secondary A level hospitals the highest progress 46% made by Bhaktpur hospital, followed by Trisuli hospital (29%) and Mahakali hospital (28%).

Progress Status of the Primary Hospitals based on comparison of Latest MSS Score (till Asar 2078) with Baseline score:

S.No	Hospital	Baseline	Latest Score	Progress
1	Parbat District Hospital	47%	77%	30%
2	District Hospital Bajhang	59%	88%	29%
3	District Hospital Dhankuta	62%	83%	21%
4	District Hospital Khotang	55%	76%	21%
5	Mustang District Hospital	44%	60%	16%
6	Rangeli Hospital	47%	63%	16%
7	Bhardaha Hospital	36%	52%	16%
8	District Hospital Bhojpur	67%	82%	15%
9	Damak Hospital	66%	81%	15%
10	District Hospital Okhaldhunga	42%	57%	15%
11	District Hospital Panchthar	50%	64%	14%
12	District Hospital Taplejung	75%	89%	14%
13	District Hospital Phaplu	45%	59%	14%
14	District Hospital Terhathum	66%	79%	13%
15	Sundar Bazar Hospital	28%	41%	13%
16	Damauli Hospital	65%	77%	12%

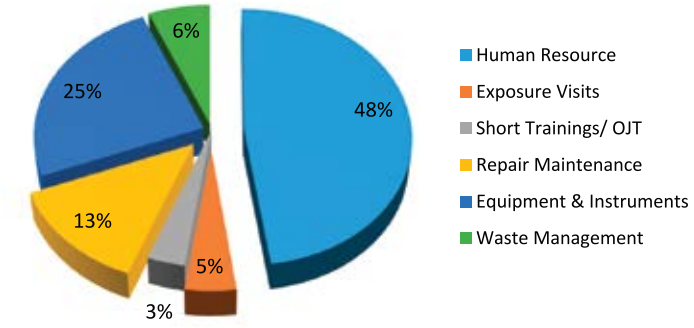
S.No	Hospital	Baseline	Latest Score	Progress
17	Baghauda Hospital	46%	57%	11%
18	Ramechhap Hospital	60%	71%	11%
19	Matrishishu Miteri Hospital	45%	56%	11%
20	District Hospital Bajura	56%	65%	9%
21	Lamahi Hospital	28%	36%	8%
22	Shishuwa Hospital	41%	48%	7%
23	Bakulahar Ratnanagar Hospital	70%	77%	7%
24	Pipara Hospital	36%	42%	6%
25	Chapakot Hospital	28%	34%	6%
26	Dailekh District Hospital	77%	82%	5%
27	Rolpa District Hospital	62%	67%	5%
28	Rukum (West) District Hospital	60%	65%	5%
29	District Hospital Achham	72%	75%	3%
30	Pokhariya Hospital	55%	56%	1%
31	Kalikot District Hospital	57%	57%	0%
32	Humla District Hospital	54%	54%	0%
33	Syangja Hospital	72%	72%	0%
34	Chisapani Hospital	40%	40%	0%
35	Mugu District Hospital	39%	39%	0%
36	Madhyabindu Hospital	34%	34%	0%
37	Malakheti Hospital	29%	29%	0%
38	Nayanpur PHC	19%	19%	0%
39	Darbang Primary Health Center	19%	19%	0%
40	Manikhel Healthpost	15%	15%	0%
41	Lalmatiya Health Post	15%	15%	0%
42	Chapagaun Hospital	27%	27%	0%
43	Dodhara Primary Healthcare	24%	24%	0%
44	Palpa Hospital	47%	47%	0%
45	Dolpa District Hospital	43%	43%	0%
46	Bishnu Devi hospital	14%	14%	0%
47	District Hospital Baitadi	65%	64%	-1%
48	District Hospital Doti	78%	75%	-3%
49	District Hospital Darchula	65%	62%	-3%
50	Dullu Hospital	56%	52%	-4%
51	Salyan District Hospital	66%	61%	-5%
52	Bardibas Hospital	27%	22%	-5%
53	Methinkot Hospital	57%	51%	-6%
54	Mangalbare Hospital	56%	50%	-6%
55	Manang District Hospital	37%	27%	-10%
56	Jiri Hospital	66%	54%	-12%
57	Rasuwa Hospital	69%	56%	-13%
58	Jogbuda Hospital	62%	48%	-14%
59	Shibaraj Hospital	59%	44%	-15%
60	Chandranigahpur Hospital	45%	29%	-16%
61	Chautara Hospital	74%	57%	-17%
62	Bandipur Hospital	50%	32%	-18%
63	Gokuleshwor Hospital	67%	48%	-19%
64	Katari Hospital	60%	33%	-27%

Note: *Similar score in baseline and latest assessment indicate only one time implementation of Primary level MSS*

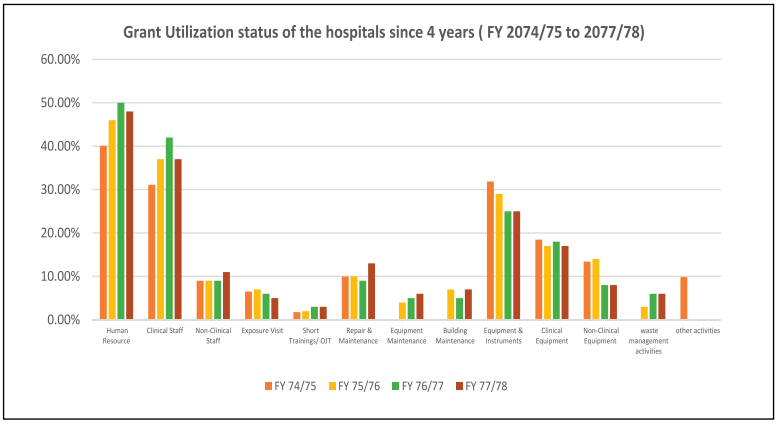
A total of 64 hospitals in which Primary level MSS has implemented FY 2077/78, six (6) succeed to obtained higher score of > 80% and 9 hospitals secured 70%- 80%. Likewise, 9 hospitals have 60%-70%, other 13 have score range of 50-60%, and 27 hospitals are limited with < 50 % MSS score, which need more attention and support. The lowest MSS score is being 15% of Lalmatia/ Manikhel and highest being 89% of Taplejung Hospital. The top five highest MSS scorer 89% of Taplejung Hospital followed by Bajhang - 88%, Dhankuta - 83%, Bhojpur and Dailekh- 82%.

Besides this, the progress in latest MSS score with baseline score is varies from maximum of 30 % to lowest of (-27) %. Among 64 primary level hospitals, the highest progress 30% by Parbat hospital, followed by 29% Bajhang hospital, 21% Dhankuta / Khotang Hospital, 16% progress made by Bhardaha, Mustang and Rangeli Hospital.

Hospital Strengthening Grant - Grant utilization status FY 2077-78:



To facilitated MSS implementation, a complementary flexible grant of NPR 400,000:00 per hospital per year was provided to Primary and Secondary A level hospitals. Total of 90 hospitals has received grant in the year 2077/78. The total amount was NPR 36,000,000.00. Grant utilization rate shows most of the hospitals are suffering from a scarcity of human resources with 48% of total grants being used for HR expenses in which they hire clinical and non- clinical staffs to run pharmacy, laundry, central sterile services department (CSSD), diagnostic, laboratory, nursing staffs for impatient (IPD) services. 25% grant has been used for equipment and instruments.



Grant utilization trend of past four years shows most of the hospitals are suffering from scarcity of human resources, almost 40% to 50% of total grants is being used to cover HR expenses each year in which they hire clinical and non- clinical staffs to run pharmacy, laundry, CSSD, diagnostic, laboratory, nursing staffs for IPD services. 31% to 25% grant has been using for equipment and instruments, which are essential to provide day to day health care services. The specifics of the utilization of these grants will be useful for planning and budgeting of hospitals.

Following is the progress data regarding Minimum Service Standards (MSS) score of hospitals of F/Y 2077/78.

Province-1

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
1	1	District Hospital Ilam	60%	72%	75%	55%	59%	61%	73%	72%	85%	88%	64%		63%		
2	1	District Hospital Panchthar	47%	62%	72%	57%	59%	60%	68%	79%	75%	64%	51%		64%		
3	1	District Hospital Taplejung	36%	53%	69%	51%	75%	75%	75%	72%	63%	83%	75%		89%		
4	1	District Hospital Bhojpur	48%	55%	84%	60%	63%	66%	68%				66%		82%		
5	1	District Hospital Sankhuwasabha	52%	65%	78%	68%	70%	81%	77%				63%		71%		
6	1	District Hospital Terhathum	42%	61%	61%	77%	72%	74%	75%				66%		79%		
7	1	Udayapur Hospital	57%	72%	85%	65%	62%	76%	67%				45%		66%		
8	1	Katari Hospital	40%	60%	67%	53%	73%	73%	86%				61%		33%		
9	1	District Hospital Khotang	40%	75%	87%	60%	63%	70%	75%				56%		76%		
10	1	District Hospital, Phaplu,Solukhumbu	60%	66%	82%	75%	72%						45%		59%		
11	1	District Hospital Okhaldhunga,Rumjatar	48%	64%	75%	80%	78%						42%		57%		
12	1	District Hospital Dhankuta	76%	89%	94%	90%	84%						62%		83%		
13	1	Inaruwa Hospital	40%	59%	69%	51%	45%						39%		42%		
14	1	Rangeli Hospital	40%	76%	82%	61%	55%						47%		63%		
15	1	Damak Hospital	48%	60%	66%								**67%**		81%		
16	1	Mangalbare Hospital and Trauma Center	49%	67%	67%								55%		50%		
17	1	Mechi Hospital													44%		
18	1	Koshi Hospital											47%		48%		

Province- 2

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
1	2	Jaleshwor Hospital	28%	42%	45%	35%	62%	39%	47%	68%	75%		48%		54%		
2	2	Kalaiya Hospital	27%	53%	63%	65%	67%	77%	62%	64%	64%	65%	38%		38%		
3	2	Gaur Hospital	27%	34%	47%	46%	51%	45%	44%	48%	45%		18%		36%		
4	2	Malangwa Hospital	29%	27%	43%	26%	32%	30%	51%	51%	40%		34%		34%		
5	2	Bardibas Hospital	34%	59%	71%	52%	47%	45%	38%				27%		22%		
6	2	Chandranigapur Hospital	31%	61%	77%	41%	67%	65%					37%		29%		
7	2	Pokhariya Hospital	47%	40%	62%	62%	48%	55%	57%	78%			55%		56%		
8	2	Bhardaha Hospital	42%	60%	69%	57%	58%						37%		52%		
9	2	Lahan Hospital	59%	69%	81%	68%	65%						41%		40%		
10	2	Siraha Hospital	41%	76%	81%	51%	69%						41%		59%		
11	2	Provincial Hospital,Janakpur											30%		39%		
12	2	Narayani Hospital											26%		33%		
13	2	Gajendra Narayan Singh Sagarmatha Hospital											39%		28%		
14	2	Nayanpur Hospital													19%		

Bagmati Province

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
1	Bagmati	Sindhuli Hospital	62%	81%	85%	80%	82%	96%	96%				59%		65%		
2	Bagmati	Ramechhap Hospital	54%	69%	73%	66%	77%	71%	73%				60%		71%	68%	

3	Bagmati	Jiri Hospital	75%	86%	90%	79%	88%	81%	84%				65%	69%	54%		
4	Bagmati	Dhading Hospital	69%	87%	93%	89%	86%						81%		73%		
5	Bagmati	Rasuwa Hospital	37%	54%	70%	68%	74%						42%	69%	56%		
6	Bagmati	Trishuli Hospital	72%	77%	79%	68%	74%						61%	63%	89%		
7	Bagmati	Baghauda Hospital	41%	57%	65%	50%	53%						46%		57%		
8	Bagmati	Bakulahar Ratnanagar Hospital	52%	55%	71%	76%	80%						70%		77%		
9	Bagmati	Madam Bhandari Academy of health science,Hetauda Hospital	49%	70%	72%	67%	57%						53%		50%		
10	Bagmati	Chautara Hospital	45%	76%	82%	66%	69%						74%	75%	57%		
11	Bagmati	Methinkot Hospital	61%	63%	73%	61%	56%						57%	59%	51%		
12	Bagmati	Bajrabarahi Chapagaun hospital											27%				
13	Bagmati	Bhaktapur Hospital											38%		83%		
14	Bagmati	Manikhel Hospital													15%		
15	Bagmati	Bishnu Devi Hospital													14%		
16	Bagmati	National Academy of medical Sciences,Bir Hospital											41%				
17	Bagmati	Bharatpur Hospital											50%		52%		
18	Bagmati	Tokha Chandeswori Hospital															
19	Bagmati	Charikot Hospital															
20	Bagmati	Badegau PHC															

Gandaki Province

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
1	Gandaki	Mustang District hospital	58%	64%	72%	52%	58%	61%	66%				43%		60%		
2	Gandaki	Beni Hospital	75%	89%	91%	85%	82%	84%	87%				51%	56%	51%	50%	
3	Gandaki	Parbat Hospital	53%	84%	91%	59%	56%	64%	69%	72%			47%		34%		
4	Gandaki	Bandipur Hospital	45%	52%	55%	66%	69%	72%	69%				50%	64%	50%	32%	
5	Gandaki	Damauli Hospital	44%	78%	69%	71%	72%	75%	68%				65%		65%	77%	
6	Gandaki	Gorkha District Hospital	71%	75%	78%	80%	77%						38%		65%	40%	
7	Gandaki	Manang District Hospital	39%	57%	65%	62%	55%						37%		28%	32%	
8	Gandaki	Syangja District Hospital	59%	74%	78%	75%	77%	87%					63%		72%	60%	
9	Gandaki	Chapakot Hospital	29%	42%	63%								28%		34%		
10	Gandaki	Matri Shishu Miteri Hospital	69%	90%	90%								52%		45%	56%	
11	Gandaki	Shishuwa Hospital	41%	65%	70%								42%		48%		
12	Gandaki	Sundar Bazar Hospital	38%	63%	60%								29%	27%	41%		
13	Gandaki	Dhaulagiri Hospital											57%		66%	73%	
14	Gandaki	Pokhara Academy of Health Science											46%				
15	Gandaki	Darbang Primary Health Center													19%		
16	Gandaki	Madhyabindu hospital													34%		
17	Gandaki	Lamjung District community Hospital													49%		
18	Gandaki	Burtibang PHCC															
19	Gandaki	Rumja Deurali HP															

Lumbini Province

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
1	Lumbini	Pyuthan Hospital	48%	61%	69%	64%	59%	76%	72%	64%	81%		50%	54%	58%		
2	Lumbini	Rolpa District Hospital	43%	59%	63%	67%	67%	66%	73%	70%	67%		62%		68%		

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
3	Lumbini	Gulariya District Hospital, Bardiya	58%	81%	85%	76%	73%	80%	88%	90%			62%		73%		
4	Lumbini	Lamahi Hospital	42%	40%	45%								28%		36%		
5	Lumbini	Argakhanchi Hospital	58%	76%	85%	76%	59%	59%	68%	72%			55%		74%		
6	Lumbini	Bhim Hospital,(Bhairawa)	59%	69%	63%	59%	60%	76%	78%	73%			64%		52%		
7	Lumbini	Gulmi Hospital	57%	72%	78%	69%	73%	69%	71%	75%			62%		65%		
8	Lumbini	Kapilbastu Hospital	46%	57%	74%	53%	57%	76%	78%	74%	72%		55%	66%	70%		
9	Lumbini	Pipara Hospital	50%	51%	55%	54%	41%						36%		46%		
10	Lumbini	Prithivi Chandra Hospital, NawalParasi	61%	57%	74%	60%	77%						54%		62%	67%	
11	Lumbini	Shivaraj Hospital	52%	60%	75%	79%	74%						58%		43%		
12	Lumbini	Palpa Hospital	47%	65%	71%	60%	50%						47%		44%		
13	Lumbini	Rampur Hospital	59%	73%	68%	73%	60%						38%		40%		
14	Lumbini	Chisapani Hospital	38%	52%	66%								40%		40%		
15	Lumbini	Rapti Provincial hospital											42%		66%	67%	
16	Lumbini	Lumbini Provincial Hospital											36%		48%		
17	Lumbini	Rapti Academy of Health Science											36%				
18	Lumbini	Bheri Hospital,Nepalgunj											35%		62%		
19	Lumbini	Lalmatiya Hospital													15%		
20	Lumbini	Rukum (East) Hospital													22%		

Karnali Province

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
1	Karnali	Rukum (West) Distrct Hospital	56%	52%	75%	43%	50%	32%	57%	71%	80%		60%		65%		
2	Karnali	Salyan District Hospital	49%	72%	78%	57%	64%	67%	78%	75%	75%		66%		61%		
3	Karnali	Dailekh District Hospital	60%	73%	71%	69%	82%	87%	91%	92%			78%		82%		
4	Karnali	Dullu Hospital	38%	42%	65%	69%	72%	58%	65%	66%			57%		52%		
5	Karnali	Mehelkuna Hospital	36%	47%	55%	59%	48%	62%	76%	77%			43%		55%		
6	Karnali	Kalikot District Hospital	35%	71%	89%	80%	65%	67%	70%	70%			57%				
7	Karnali	Mugu District Hospital	24%	40%	75%	59%	47%	50%	55%				38%				
8	Karnali	Dolpa District Hospital	69%	59%	59%	73%	69%						43%				
9	Karnali	Humla District Hospital	39%	52%	52%	65%	67%	76%					55%				
10	Karnali	Jajarkot District Hospital	38%	48%	68%	58%	71%						37%		58%		
11	Karnali	Provincial Hospital Karnali													45%		

Sudur Paschim Province

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
1	SudurPaschim	District Hospital Acham	45%	60%	75%	72%	70%	88%	90%	89%	89%		71%		75%		
2	SudurPaschim	District Hospital Bajura	47%	45%	70%	56%	53%	67%	65%	67%	68%		55%		65%		
3	SudurPaschim	District Hospital Doti	45%	75%	76%	53%	47%	59%	68%	73%	89%		77%		75%		
4	SudurPaschim	District Hospital Baitadi	48%	72%	74%	70%	61%	65%					65%		64%		
5	SudurPaschim	District Hospital Bajhang	53%	77%	83%	87%	84%	81%	80%	77%			60%		88%		
6	SudurPaschim	District Hospital Darchula	35%	57%	67%	73%	75%	75%	82%	76%			64%		61%		
7	SudurPaschim	Gokuleshwor Hospital	39%	59%	68%	70%	58%	66%	82%				67%		48%		
8	SudurPaschim	Jogbuda Hospital (Dadeldhura)	50%	73%	77%	82%	82%						63%		48%	65%	
9	SudurPaschim	Malakheti Hospital	28%	39%	51%	49%	50%						29%		39%		
10	SudurPaschim	Tikapur Hospital	48%	84%	88%	82%	84%						55%		57%		
11	SudurPaschim	Mahakali Provincial Hospital											35%		63%		

SN	Province	Name of Hospital	MSS Score on District level MSS										Revised & New MSS				Remarks
			FY 2071/72 to FY 2075/76										FY 2076/77		FY 2077/78		
			WS 1	WS 2	WS 3	FU 1	FU 2	FU 3	FU 4	FU 5	FU 6	FU 7	MSS-1	MSS-2	MSS-1	MSS-2	
12	SudurPaschim	Seti Provincial Hospital											42%		45%		
13	SudurPaschim	Dadeldhura Hospital											30%				
14	SudurPaschim	Dodhara Primary Health Care Center													19%		

A Study Report: "MSS Scores and COVID Preparedness of Nepal's Government Hospitals":

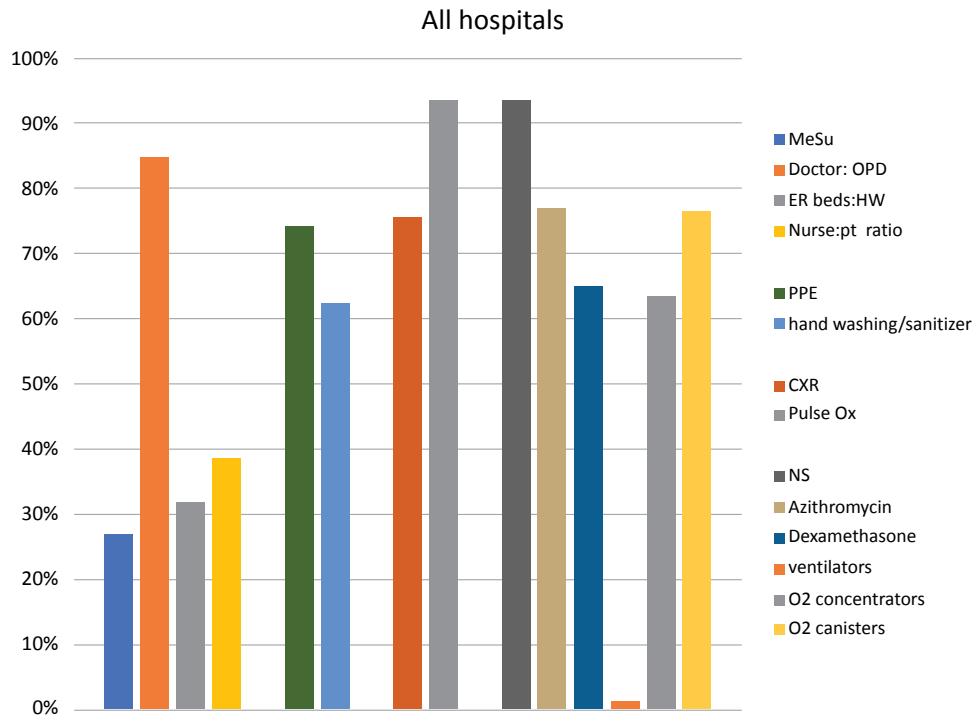
Title: COVID Preparedness of Nepal's Government Hospitals and Association with Hospital Quality Standards Scores

Since January 2020, the novel coronavirus (COVID-19) pandemic has affected the lives and livelihoods of people across continents, irrespective of GDP, border policies or health system capabilities. Even high- and middle-income countries like the USA, Italy and China have been severely impacted. As the pandemic continues to worsen, there is growing concern of its impact on low and lower-middle income countries (LLMICs) like Nepal. We utilized data from the MSS to assess the preparedness of Nepal's government hospitals to tackle COVID. We sought to answer two main questions:

1. *How prepared were Nepal's government hospitals to tackle COVID-19 with regards to availability of i) healthcare personnel ii) PPE and other infection control measures iii) diagnostics like pulse oximetry and iv) basic treatments like oxygen and steroids?*
2. *Were government hospitals that had higher scores on a quality assurance tool for hospital services (the Minimum Service Standards or MSS) better prepared to tackle COVID-19?*

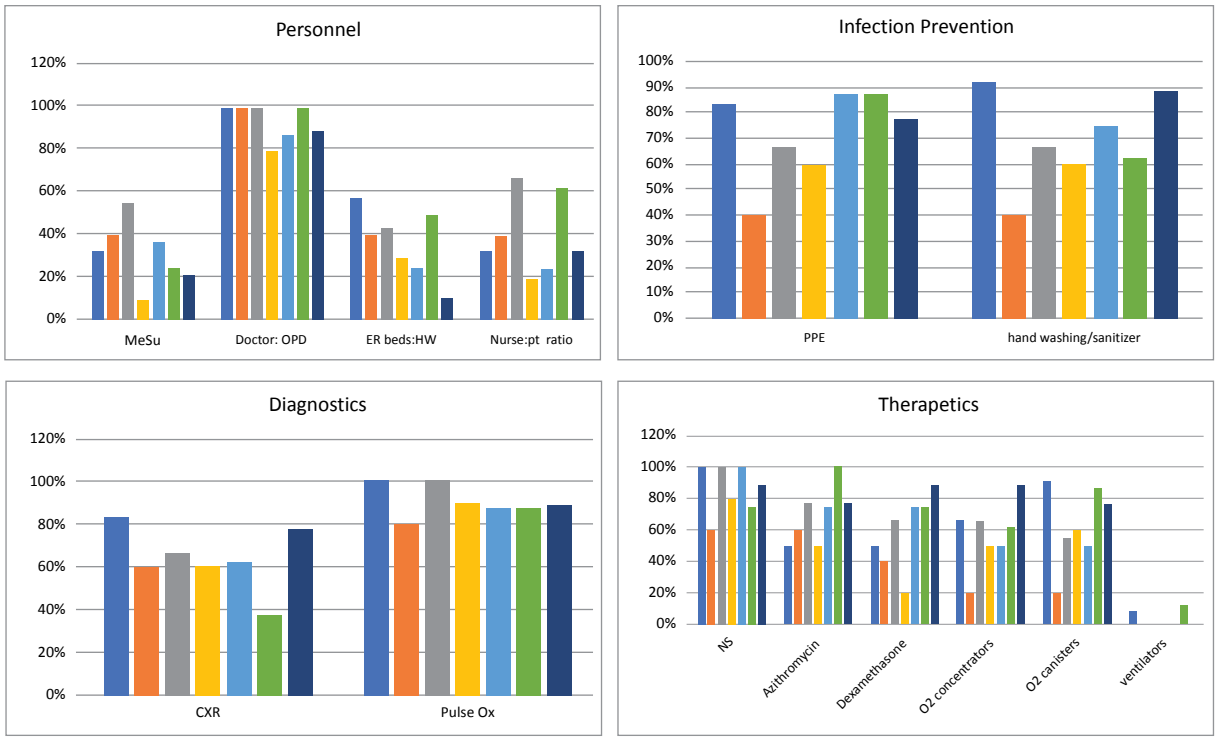
The full study and results can be found at https://docs.google.com/document/d/1fguWxciUXQtH8rVnZfDS-I8fhtywdgJvN_jlBFrCBwc/edit. We provide below the highlights.

Figure 1: National aggregated data. MeSu: Medical superintendent; PPE: personal protective equipment including caps, mask, gown; CXR: chest x-ray; NS: Normal saline



In figure 1, we see the aggregated data of all 86 hospitals including primary and secondary A hospitals and their personnel, infection prevention, diagnostics, and therapeutics availability as it relates to Covid-19. First and foremost, personnel able to take care of normal workflow as represented by the minimum standard expected of 1 nurse to 6 patients in a general ward or 5 ER beds to 1 healthcare worker is not reached in at least 60% of the hospitals in our database. The organizational leader of each of these government hospitals, the medical superintendent (physician-in-charge), is unavailable in 70% of the hospitals. As for PPE required to prevent acquiring or transmitting coronavirus infections, 73% of the hospitals do have the minimum amount during the time of assessment. Sixty two percent of hospitals have adequate facilities for hand washing or sanitizing. Diagnostic mediums, as defined by chest x-ray and pulse oximeter appear to be available in 75% and 94% of the hospitals, respectively. And as for supportive therapeutic measures including normal saline and more importantly oxygen, approximately 70% of hospitals have the capacity to provide oxygen to patients during normal work flow demands.

Figure 2: Provincial differences in availability among Primary hospitals. Colors correspond to provinces from province 1 on the left (blue) to province 7 at the end (dark blue).

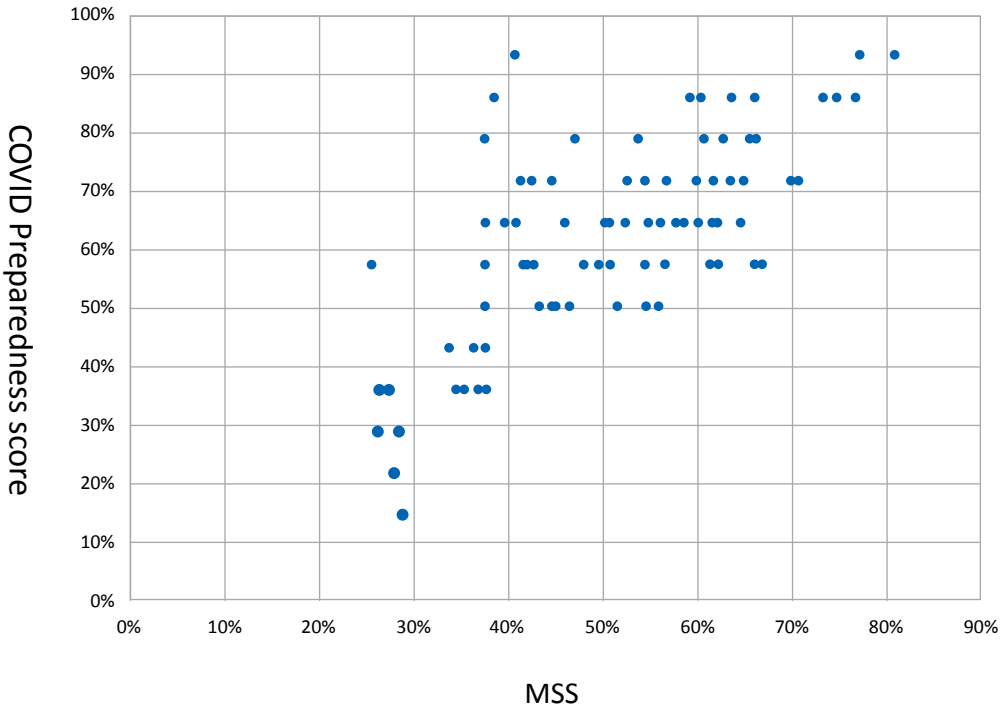


The data in figure 1 is further stratified into their hospital designations to explore differences by province. Figure 2 shows the distribution by province among primary hospitals as previously defined. Outpatient centers appear to be adequately staffed across all hospitals. Emergency rooms and inpatient general wards staffing on the other hand are variable across provinces. Less than fifty percent of all hospitals in Provinces 2-7 have adequate staffing in emergency rooms. As for general inpatient wards, provinces 3 and 6 appear to have the best staffing at approximately 60% while the rest of the provinces lag in this regard. For PPE and hand washing or sanitization facilities, the majority of the hospitals in each of the provinces appear to have adequate availability except for province 2 where only 40% claim to have adequate access. Pulse oximeter capacity is fairly uniform throughout and adequately present while chest x-ray machines are lacking in approximately 40% of hospitals across the provinces, except for province 1 and 7. As for therapeutics, oxygen canisters and concentrators availability is severely lacking in province 2 with the rest ranging from 50-80% of

the hospitals in the other 6 provinces. Dexamethasone is also in variable supply. Noninvasive ventilators are hard to come by across the primary government hospitals in Nepal with only 3 primary hospitals nationwide claiming to have one.

Finally, on the test of correlation to explore whether these COVID-19 indicators for preparedness represent overall quality of the hospital facility to provide basic care to their patients, we do see a positive correlation between their COVID-19 preparedness score and overall MSS score among primary and secondary hospitals alike, that is statistically significant with a correlation factor of 0.69 and p-value of <0.0001 (figure 4).

Figure 4: Scatter plot of MSS scores to Covid preparedness score for each of the 86 hospitals.



Our study assessed the preparedness of Nepal's government hospitals to tackle COVID-19. We found that human resources are the most critical resource shortage at baseline. Insufficient manpower at baseline means there is no personnel pool to draw from during COVID-19 hospital surges. Infection prevention supplies along with oxygen therapy, although not fully adequate, are relatively available in most government hospitals with a wide variation amongst provinces. There were also wide variations in terms of therapeutic measures like Dexamethasone in different parts of the country, highlighting the need to look not only at national level data but data stratified at the provincial level to truly understand Nepal's preparedness for COVID-19.

Finally, our results show that there appears to be a positive correlation between Minimum Service Standards scores and preparedness for COVID-19. The Minimum Service Standards Tool provided the data used in this study. The MSS is similar to the SPA survey, part of the Demographic and Health Survey Program, utilized in health facilities to collect information on the overall availability of different facility-based health services in a country and their readiness to provide these services. Despite the MSS standards being a representation of the minimum basic expectation set for each hospital, it does help to paint a picture of where government hospitals in Nepal stood at the beginning of the COVID-19 epidemic. *The positive correlation between the MSS score and the COVID-19 Preparedness score suggests that quality assurance tools like the MSS are useful in assessing the quality of hospital facilities. They provide a nice benchmark by which to assess a hospital and should be part of the quality improvement toolkit for hospitals.*

7.2 INPATIENTS/OPD SERVICES

7.2.1 Background

Curative care services are provided to a patient with the main intent of fully resolving an illness and to bringing the patient to their status of health before the illness presented itself. These services are given at outpatient, emergency and inpatient care at different level of health facilities. The government of Nepal is committed to improving the health status of people by delivering high quality health services. The increased burden of non-communicable disease and mental health problems, accidental and disaster-related health problems, existence of infectious and non-infectious diseases are the major barriers to fulfill the people's expectation on quality health services. To address the health necessity of all age groups the national policy aims to expand and established at least one BHSC in every ward of the local level, one primary hospital for basic emergency operation and primary trauma care in every local level, a secondary level hospital, provincial hospital and a highly specialized hospital under each province and at least a highly specialized hospital and academy of health science in every province under the authority of federal level.

7.2.2 Achievements in the fiscal Year 2077/78

Curative health services are expected to provide from all health facilities including outpatient, emergency and inpatient care. These services are the collective activities of all departments and all personnel of the hospital, which end-up in satisfactory patient care. For the fiscal year 2077/78, curative services were provided at all level of hospitals including private medical colleges as well.

7.2.3 Status of Hospital Reporting:

Reporting is one of the quality indicators of the HMIS system. Health service data is reported by all health facilities including private facilities as well. An overall reporting of health services data by public hospitals was 99% at a national level. The reporting rate by non-public hospitals was only 43% in the fiscal year 2077/78. Each facility is supposed to enter the complete and accurate data by the 15th of the following month but the completeness and timeliness is still a major concern in HMIS.

7.2.4 Inpatient services:

Inpatient service is one of the most important services of the health care system. Inpatient care refers to medical treatment that is provided in a health facility and requires at least one overnight stay. Inpatient services are provided and has been reported by all types of hospitals for the fiscal year 2077/78. In the HMIS system diagnosis made were captured and classified according to ICD 10 disease classification system for all discharged patients. Morbidity and Mortality statistics were collected from total number of discharges including deaths.

7.2.5 Morbidity Classification

In the Fiscal year2077/78, more than five hundred thousand major diagnoses were reported which was less than half (48.5%) of total discharge. About 23 percent of cases were related to Pregnancy, Childbirth, and Puerperium. Maximum admissions were due to pregnancy-related cases followed by Symptoms, signs, and abnormal clinical findings not elsewhere classified. The disease of the ear and mastoid process was the lowest among 22 ICD-10 disease blocks as per table 7.2.1 .

Table 7.2.1 Morbidity Classification according to ICD 10 Blocks

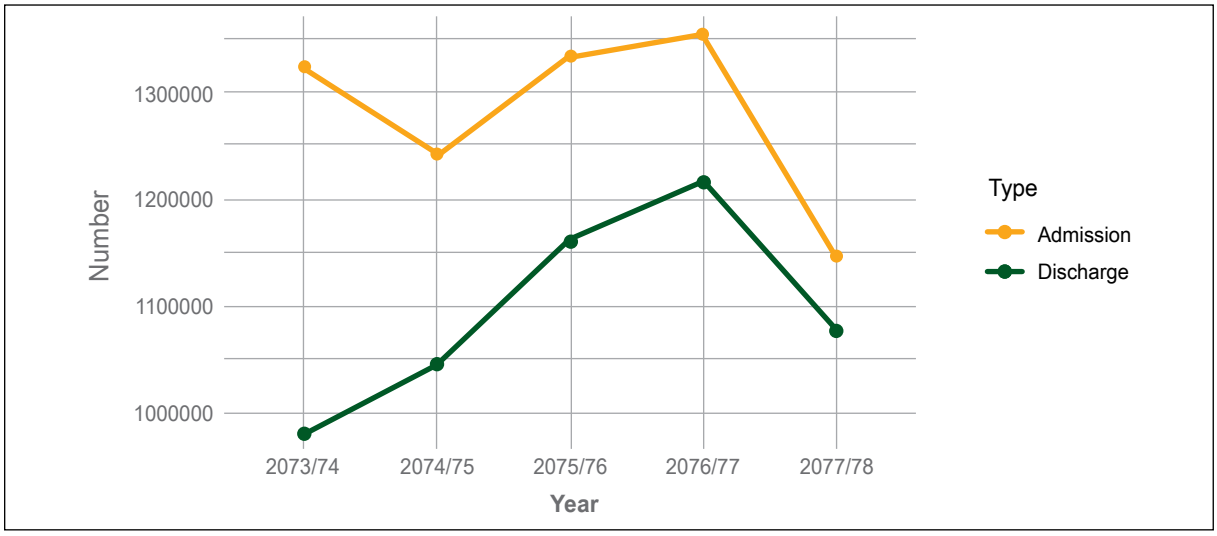
ICD 10 Block	Title	Number	In %
A00-B99	Certain Infectious and Parasitic Disease	27977	5.35
C00-D48	Neoplasms	17247	1.69
D50-D89	Disease of the blood and blood forming organs and certain disorders involving the immune mechanism	7165	1.37
E00-E90	Endocrine, nutritional and metabolic disease	11749	2.24
F00-F99	Mental and Behavioral disorders	5336	1.02
G00-G99	Disease of the Nervous System	3752	0.71
H00-H59	Disease of the eye and adnexa	39273	7.51
H60-H95	Disease of the ear and mastoid process	1015	0.19
I00-I99	Disease of the circulatory system	20877	3.99
J00-J99	Disease of the respiratory system	45273	8.66
K00-K93	Disease of the digestive system	40319	7.71
L00-L99	Disease of the skin and subcutaneous tissue	4953	0.94
M00-M99	Disease of the musculoskeletal system and connective tissue	5041	0.96
N00-N99	Disease of the Genitourinary system	38915	7.44
O00-O99	Pregnancy, Childbirth and the puerperium	121015	23.15
P00-P96	Certain conditions originating in the perinatal period	9435	1.81
Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities	1957	0.37
R00-R99	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	53464	**10.2**
S00-T98	Injury, poisoning and certain other consequences of external causes	41394	7.91
U00-U85	Codes for special purpose	4255	0.81
V01-Y98	External cause of morbidity and mortality	9739	1.86
Z00-Z99	Factors influencing health status and contact with services	12589	2.41
	Total	**522,740**	

Source: HMIS/DoHS

7.2.6 Trend in yearly Patient Admission and Discharge

In the fiscal year 2077/78, a total of 1,146,552 cases were admitted and 1,076,504 were discharged from health facilities. Overall, if we see the five-yeartrend, the hospital admission rate was decreased as compared to 2073/74. Figure 7.4.2 depicts the trend of admission and discharge during last five year. As of last fiscal year, the admission rate was decreased by 15 % for the fiscal year 2077/78. If we see the trend of

Figure 7.4.1 Five year trend on Admission and Discharge



last five years, the hospital admission rate had increased slightly. However, there was significant reduction in number in the fiscal year 2077/78 as the country was hit hard by COVID -19 pandemic.

7.2.7 Type of Discharge

A total of 1,076,504 cases were discharged from all types of hospitals. About 90% are cured and discharged Discharge on Patient Request (DoPR) and patients who leave against medical advice (LAMA) cases were also significant and accounted for four percent of the total discharged. Similarly, the death occurring during the hospital stay is called the inpatient death rate. As per data reported on HMIS during FY 2077/78, the Inpatient Death is 1.6% as per Table 7.4.2.

Table No 7.4.2: Age and Sex wise distribution by outcome of Discharged patients

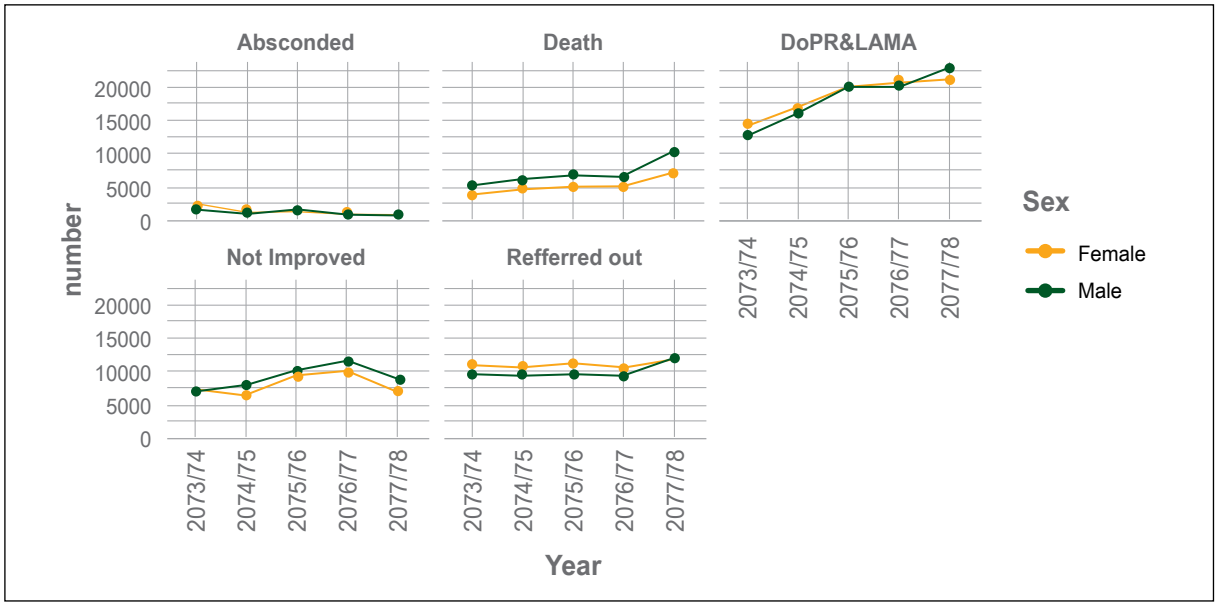
Outcome	Sex	<=28days	29 days-1year	01-04 Years	05-14 Years	15-19 Years	20-29 Years	30-39 Years	40-49 Years	50-59 Years	>=60 Years	Total
Recovered/ Cured	Female	24657	10745	16709	20234	42720	206246	93532	51529	47920	70001	584293
	Male	29689	15143	19575	28490	24194	50180	48464	48010	48655	76944	389344
Not Improved	Female	281	216	218	336	316	889	881	931	1013	2083	7164
	Male	314	330	323	480	417	980	1003	1151	1304	2521	8823
Referred Out	Female	572	311	347	479	820	2929	1600	1261	1256	2422	11997
	Male	791	483	508	650	541	1307	1437	1562	1650	3043	11972
DOR/LAMA/ DAMA	Female	1195	806	883	966	1194	4073	2755	2065	2292	5091	21320
	Male	1631	1015	1142	1144	1036	2436	2569	2781	2993	6084	22831
Absconded	Female	41	34	43	31	71	286	129	82	55	89	861
	Male	48	47	56	46	36	120	84	66	59	88	650
Deaths in <48 hours	Female	336	90	39	67	69	193	260	319	445	1265	3083
	Male	419	112	53	65	75	235	376	549	750	1727	4361
Deaths in >= 48 hours	Female	237	68	38	65	47	210	318	476	697	1792	3948
	Male	426	126	53	96	49	233	489	786	1039	2560	5857
Subtotal	Female	27319	12270	18277	22178	45237	214826	99475	56663	53678	82743	632666
	Male	33318	17256	21710	30971	26348	55491	54422	54905	56450	92967	443838
Grand Total		60637	29526	39987	53149	71585	270317	153897	111568	110128	175710	1076504

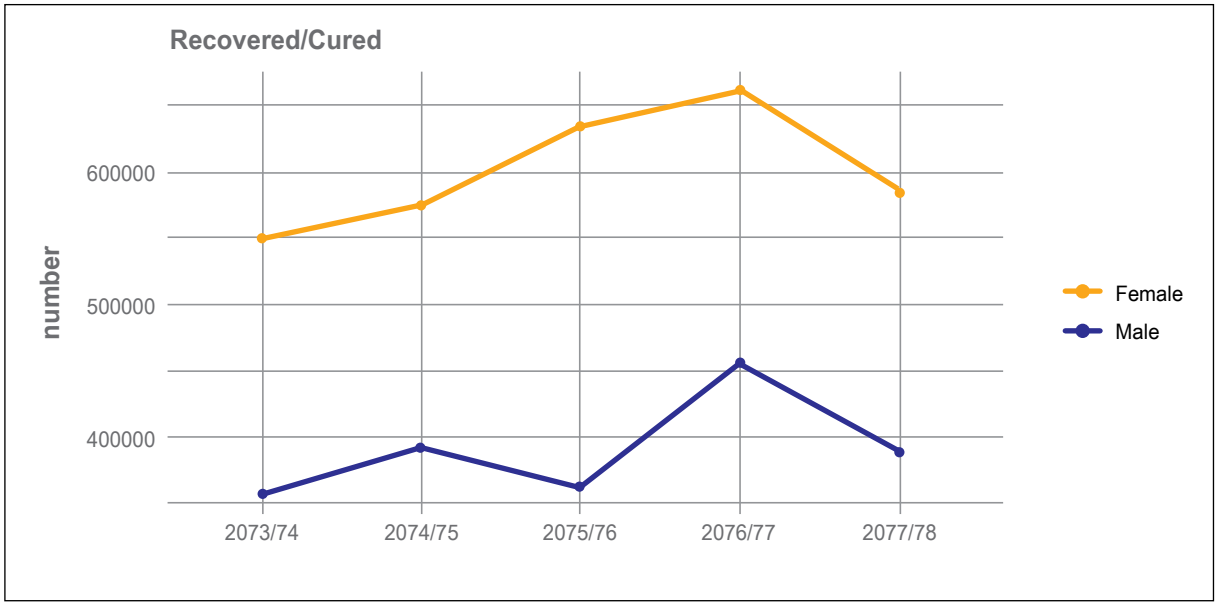
Source: HMIS/DoHS

7.2.8 Trend in type of Discharges

The In-Hospital outcomes of patients were reported into six categories namely recovered, not improved (stable), Referred out, DoPR/LAMA/DAMA, Absconded, and Death. Overall, the trend of recovered cases was an increasing pattern. The hospital inpatient death rate was found to be 1.6 % of the total discharged in the fiscal year 2077/78. Inpatient mortality rate remains in a steady trend during the first four years; however, the number of reported deaths was slightly higher in the fiscal year 2077/78 due to COVID-19 related deaths. The pattern of leaving the hospital without completing the course of treatment such as being Referred out, Absconded LAMA/DAMA/DoPR was also significant.

Figure 7.4.2 Trend in In-Hospital Outcome





7.2.9 Major Hospital Service Indicators

Average length of stay: In hospital management Average length of stay (ALOS) is also a major indicator. For efficient bed management, a reduction in the number of inpatient days results in decreased risk of infection, and improvement in the quality of treatment. In the Fiscal year 2077/78, the national average length of stay was found as 3.3 days. However, the figure was higher for federal hospitals which accounted for 5.9 days.

Bed Occupancy Rate: Bed occupancy rate (BOR) is a measure of utilization of the available bed capacity in the hospital. It indicates the utilization of available bed capacity and calculated as the percentage of cumulative in-patient days by the number of bed days for the duration. In the fiscal year, 2077/78 BOR is found as 35 % which was relatively low. Although there is no general rule for the optimal occupancy rate, a rate of around 80% is considered to be good in many hospitals. In 2077/78, most of the hospitals halted their inpatient services but they mistakenly reported the total no of operational beds.

Inpatient throughput: It is another key performance indicator of the hospital services. In general, throughput describes the movement of patients from admission to discharge.

Table 7.4.3: Key Hospital Performance Indicator

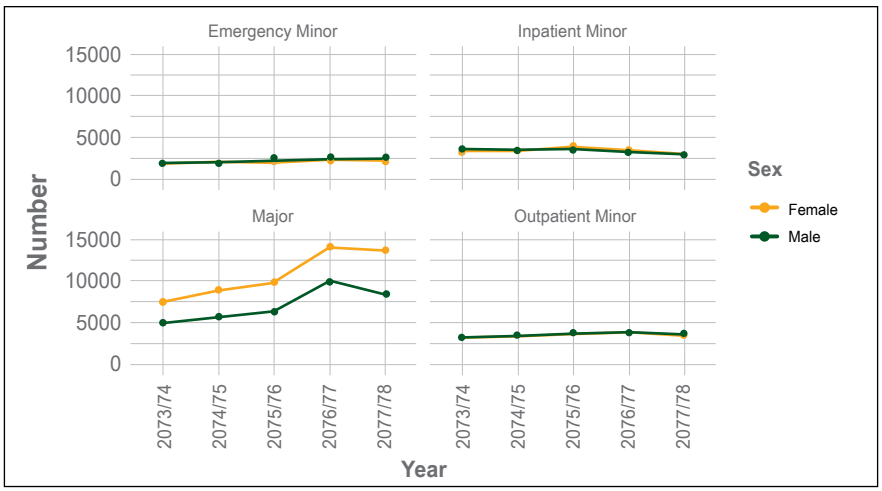
Hospital level major Indicators			
Fiscal Year	**Average Length of Stay (ALOS)**	**Bed Ocuupancy Rate (BOR) %**	**Throughput of inpatients**
2073/74	3.4	43.5	5.3
2074/75	3.4	47.9	5
2075/76	3.7	50.8	4.9
2076/77	3.4	41.1	4.1
2077/78	3.3	35	3.5

Source: HMIS/DoHS

7.2.10 Operative Procedure in Hospitals

Surgeries are an integral part of the health care system. In the HMIS system number of surgeries is collected as major and minor surgeries by sex. A total of 3,93,332 surgeries were done at all levels of hospitals during the fiscal year 2077/78. Females accounted 56.14 % of total cases. The trend in surgery type and gender during the last five years has presented in figure 7.4.3. Due to increase in traumatic injuries like road traffic

Figure 7.4.3 Five year Trend in Surgeries by Sex



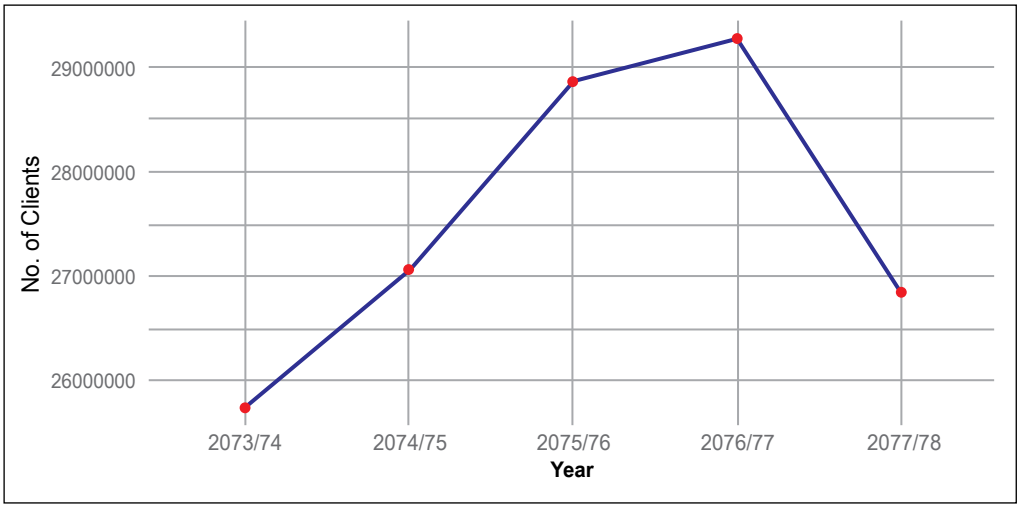
injuries, occupational injuries etc., cancers, and many other diseases surgical interventions on public health systems is also growing. Each year female numbers were leading due to the number of cesarean section delivery increasing every year.

7.2.11 Out Patient Services

Out-Patient Department (OPD) is one of the first point of contact with the hospital for diagnosis, treatment and follow-up cases. Outpatient services are essential services available in health facilities on all days except holidays.

HMIS captures data related to OPD for allopathic services at a health facility. In the fiscal year 2077/78, A total of 2,68,43,366 people visited a health facility for at least one reason. The trend of OPD service utilization shows that there is a continuous increase in the OPD visits reported from the fiscal year 2073/74 to 2076/77. The national trend of OPD services for the last five years is provided in the figure 7.4.7. The number reported during 2077/78 has shown a decrease of 9 % as compared to the last fiscal year. OPD services were interrupted as major tertiary hospitals were transformed into Covid dedicated hospitals during the second wave COVID-19.

Figure 7.4.4 Trend in Outpatient services



7.2.12 Out-Patient Morbidity

In HMIS, outpatient morbidity has been reported in 19 different sections that cover communicable diseases, non-communicable diseases, organ-specific diseases, and mental health problems. As for the reported cases, maximum OPD cases were related to Gastritis Acid Peptic Disease (APD) followed by Upper Respiratory Tract infection (URTI). The top ten outpatient morbidity has shown in table 7.4.4

Table 7.4.4: Top Ten Outpatient morbidity

Disease	Number
Gastritis (APD)	1,467,185
Upper Respiratory Tract Infection (URTI)	1,362,177
Headache	1,356,471
Fractures	1,048,057
Lower Respiratory Tract Infection (LRTI)	917,093
Fungal Infection (Lichen Planus)	727,669

Disease	Number
Backache(Muskuloskeletal Pain)	677,417
Presumed Non-Infectious Diarrhea	662,708
Hypertension	657,159
Pyrexia of unknown origin(PUO)	580,735

Source: HMIS/DoHS

7.2.13 Emergency visit

Emergency services are provided from few primary health centers to all the tertiary level hospitals. In the Fiscal year 2077/78, more than 2 million people were presented for emergency services. Five-year data of emergency visit has been shown in table7.4.5. Unfortunately, the cause specific emergency visits are not captured in HMIS.

Table 7.4.5: Number of Emergency visits by year

Fiscal year	Number	%of population utilizing emergency services per 100,000
2073/74	1,765,350	6.2
2074/75	2,047,412	7.1
2075/76	2,126,908	7.2
2076/77	2,379,816	8.0
2077/78	2,086,959	6.9

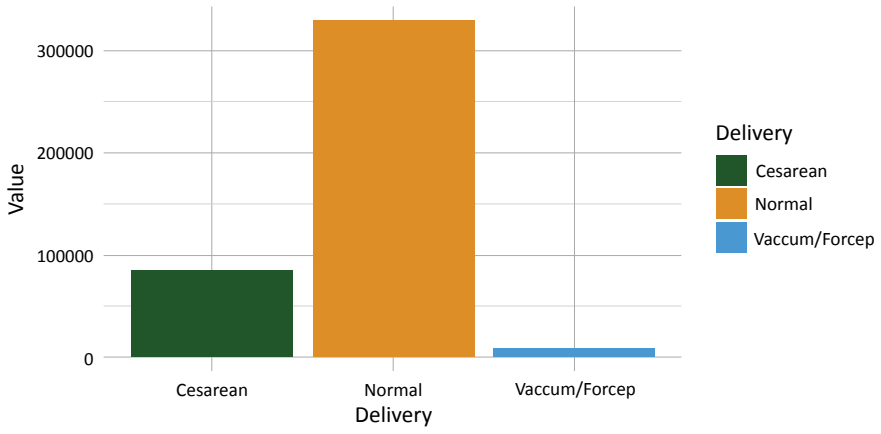
Source: HMIS/DoHS

Overall, the rates of Emergency Department visits per 100,000 population remains stable between 2073/74 and 2077/78. The visit was in increasing trend between 2073 to 2077 but declined in the year 2077/78.

7.2.14 Deliveries in Health Facilities

Institutional delivery service utilization is one of the key and proven intervention to improve maternal health and wellbeing and to reduce maternal mortality through providing safe delivery and reducing complications that are related to and occurred during birth. In fiscal year 2077/78,total of 4,24,111 women delivered at health institution. The type of deliveries in health institutions are presented in bar diagram Figure 7.4.5. Normal delivery is the most common type of birth. At national level 20% deliveries are reportedly being conducted through Cesarean Section.

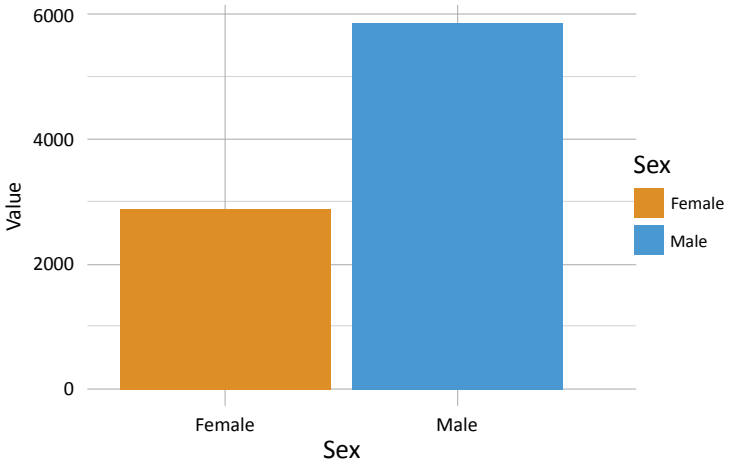
Figure 7.4.5 : Tupes of Deliveries in Health Facility



7.2.15 Post-mortem

A post-mortem examination also known as autopsy is conducted to determine the cause of death.These services are performed at few tertiary level hospitals and all provincial hospitals. During 2077/78, a total of 74 hospitals had conducted 8,753 post-mortem examinations reported in HMIS. Koshi Hospital, Biratnagar had reported 528 total autopsy cases followed by Bheri hospital Banke. The total number of postmortem cases by gender is presented in Figure 7.4.6

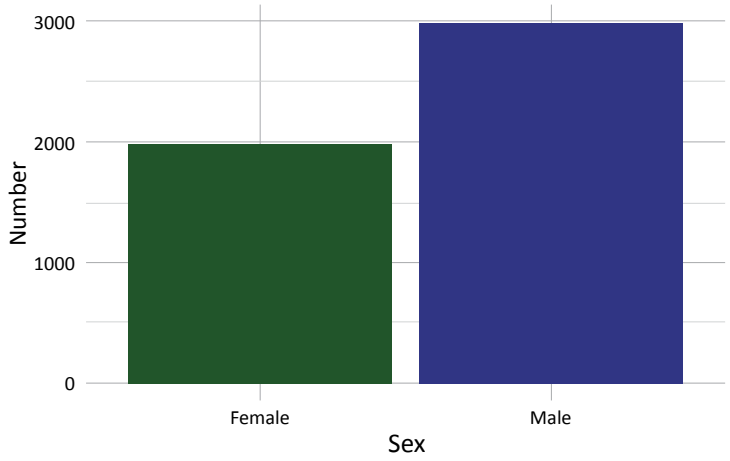
Figure 7.4.6 : Post-martem at Hospital



7.2.16 Brought Dead

Brought Dead (BD)denotes those deaths happened before reaching at emergency. The point of entry of brought in dead cases is the emergency department of hospital. Total of 4,976 BD cases are reported in HMIS during 2077/78. The incidence of brought dead was high in male contributed 60% of total cases.

Figure 7.4.7 : Brought Dead at Hospital



Major issues in Hospitals

Provincial level annual review and few workshops are done at each province regarding data quality issues in HMIS. Major issues are highlighted below

- Inadequate clinical and supportive staff thus poor recording in patients health data
- Doctors' patient ratio, nurse patient ratiosare not at WHO standard
- Poor infrastructure for service delivery
- Weak Referral mechanism
- Lack of ownership in patients' data by health care professionals and management
- Incomplete and inaccurate coding regarding morbidity and mortality

7.3 HUMAN ORGAN TRANSPLANT SERVICES

7.3.1 Introduction

Shahid Dharma Bhakta National Transplant Center (SDNTC) was established in 2012 by the Ministry of Health and Population to strengthen and expand organ transplantation services in the country. This center started its services merely with the OPD services, but within a few years of its establishment it has extended its services beyond organ transplantation.

7.3.2 Major Milestones ofHuman Organ Transplant Center (HOTC)

• Establishment	2012, February
• Initiations of Dialysis services	2012, November 12
• Kidney transplantation started from	2013, January 19
• Free Hemodialysis service stated from	2013, March 29
• Human Organ Transplantation Act	2016, February 25
• First Pair Exchange Kidney Transplantation	2016, July 27
• Initiation of Cardiac Surgery	2016, November 17
• Human Organ Transplant Regulations	2016, December 1
• First Liver Transplantation	2016, December 7
• Free Kidney Transplantation	2017, April 15
• Second Liver Transplantation	2017, July 2
• Transplantation from a brain dead persons	2017, May 11
• Third Liver Transplantation	2018, June 2
• First cadaveric liver transplantation in Nepal	2019, January 18

7.3.3 Objectives

- To strengthen and expand organ transplantation services in the country.
- To provide and expand specialized services beyond transplantation
- To provide high quality health care at a low price/free of cost
- To undertake research related to human organ transplant to understand the state of kidney and other organ failure in Nepal.
- To advocate for policy interventions
- To organize free health camps across Nepal to screen any kind of diseases.
- To conduct educational activities to raise awareness regarding organ failure, organ transplantation and organ donation.
- To produce high level human resources by providing structured training in various aspects of services to expand the services across the country.

7.3.4 Major achievements of FY 2077/78

- Carried out 45 kidney transplants and 1 liver transplant
- Started HLA Service and Tacrolimus test.
- Carried out Kidney Transplant Service during the Covid-19 crisis.
- Started HDU unit during the Covid- 19.

Status of health care services, fiscal year 2076/77 to 2077/78

The number of patients in all these aspects has increased remarkably in the FY 2077/78. There were 27,529 patients received services in outpatient department, while the number of admission and discharge were almost similar with 1,287 and 1,275 respectively.

There were 801 minor surgeries and 367 major surgeries in the FY 2077/78. The number of kidney transplantation decreased from 49 to 45 in FY 2077/78.

The number of sessions of paid dialysis increased from 2,042 in FY 7076/77 to 2,940 in fiscal year 2077/78. There has been a slight increase also in the free dialysis sessions from 18478in FY 2076/77 to 24,023 in FY 2077/78.

7.3.5 Status of specialized diagnostic services

The number of lab tests done in FY 2077/78 was 95,052. The number of ultrasound tests and X-ray and CT scan in the FY 2077/78 was 3519, 4068 and 1347 respectively. Similarly, the number of ECG done was 2140 while echocardiograph was 1,916 followed by 160 endoscopy and colonoscopy. The total number of BCM done was 247 and that of ABG was 342.

The status of human resources at SDNTC shows an upward trend in each fiscal year. In the FY 2077/78, there were a total of 225 staffs of which 167 were technical and 34 were non-technical staffs. These both numbers are higher than that of previous years.

7.3.6 Status of Financial Resources,

The total budget expenditure in the FY 2078/79 was NRs.35,9000,000.00

7.3.7 Physical infrastructures at SDNTC- FY 2078/79

- Hospital owned land: 0 Ropani
- Building:
  - Hospital Room: Inadequate
  - Doctor quarter: Not available
  - Staff quarter: Not available
- Ambulance : Functioning - 1
- Major Medical Equipment:
  - X-Ray machine – 1, USG – 3
  - Laboratory Equipment : Biochemistry, Hematology , Dry Chemistry Analyzer, Automated Immunoassay Analyzer, Automated Tissue Presser, Rotary Microtome, Automated Coagulation Analyzer, 6 port fully Automated Hematology Analyzer, HLA machine, Tacrolimus.
  - Dialysis Machine : 60
  - OT/ICU Major Equipments : Ventilator – 4 , Monitor – 15 , Syringe Pump - 10 , Infusion Pump – 10, Defibrillator- 6, Laparoscopy – 1, Endoscopy
  - 256 Slice CT Scan
  - Cath Lab
  - Endoscopic Ultrasound,
  - CUSA

- Low Temperature Analyzer
- TEG Analyzer
- Autologous Blood Salvage System
- TEE Probe
- PCA Pump
- EBUS
- ECMO
- ABP
- Halter
- TMT

7.3.8 Status of House Keeping at SDNTC, FY 2075/76

SN	Activities	Remarks
1	Cleanliness of the hospital	Satisfactory
2	Maintenance of hospital premises	Satisfactory
3	Sanitation	Satisfactory
4	Health care waste management	Satisfactory
5	Safe drinking water	Satisfactory
6	Canteen	Satisfactory
7	Triage system	Satisfactory
8	Hospital parking	Poor
9	Hospital garden	Poor

7.3.9 Challenges:

- Lack of awareness
- Lack of adequate space

7.3.9 Aims of SDNTC in FY 2077/78

- Conduct massive awareness programs on prevention of organ failure, organ donation and transplantation across the nation.
- Produce competent human resources for kidney, liver, heart surgeries through extensive training and technical support
- Conduct at least 200 kidney transplants per year
- Conduct at least 1 liver transplant and 1 heart surgery per month
- Increase the bed capacity to 300 beds
- Develop the center as a multi-specialty hub and health science institution

7.3.10 Available Services of Shahid Dharmabhakta National Transplant Center

- Kidney Transplant
- Liver Transplant
  - Nephrology(HemoDislysis-CAPD), (CRRT) (Plasma exchange), Access surgery (Fistula creation , permanent catheter insertion)
  - (Endo Urology)(Mini PCNL, TURP, TURBT, Cystoscopy, URS)
- **(Gastroenterology / Hepatology)**

F (OPD)

  - (Gastroduodenoscopy, Colonoscopy, ERCP) Endoscopic Ultrasound
  - (Laparoscopic Cholecystectomy)
  - HEPATOBILLOIARY SURGERY
  - (Gallstone , GB and Bile duct cancer)
- (Liver Surgery)
- **(Cardiology Cardiothoracic & Vascular Surgeon)**
  - **VATS**
  - **Lung Resection**
  - **Open Heart Surgery**
  - **CABG**
  - **Congenital Heart**
  - **Valve Surgery**
  - **Carotid artery surgery**
  - ECG
  - BCM
  - Echo Cardiogram
  - Bronchoscopy Lung Biopsy
- **(ENT)**
- Radio diagnosis
  - (X-Ray)
  - (Ultrasound)
- **(Pathology)**
- **(Organ Donation)**
- **(Physiotherapy)**
- **24 hour Pharmacy**

7.4 HOMEOPATHIC SERVICES

7.4.1 Background

Dr. Samuel Hahnemann of Germany had discovered Homoeopathic system two and half centuries ago. This is based on fixed principals of "SimiliaSimilibusCurantur". Medicine is provided on the basis of sign and symptom exhibited by patients.

Pashupati Homoeopathic Hospital is the only one hospital providing homoeopathic services to the people of Nepal in the public sector. The homoeopathic system is economic, easy and having no adverse effects. The hospital provides OPD service only. However, Hospital is planning is to provide Inpatient service, Pathology service and Physiotherapy in near future.

7.4.2 Strategies adopted

This is the only one hospital of Homeopathy in Nepal. This system is economic, easy and convenient, covering most of the diseases with no side effect from the medicine being used. OPD patients are outnumbered. But, due to lack of manpower and pathology lab IPD is not in action. The treatment provided is free of cost.

1. Curative Health Services: Free Health Services
2. Preventive Service: Preventive and Counseling Service Only
3. Health Camps: Hospital provides yearly homeopathic service in different parts of the country.
4. Cost Effectiveness: Government has to bear minimum cost for medicine

7.4.3 Summary of achievement

The number of patients is increasing day by day. Some of the referred cases are also treated here like allergic rhinitis, urticaria, laryngeal papilloma, PCOD and other skin diseases.

Trends of service provided at Homeopathic Hospital: 2071/72 – 2077/78

Fiscal year	Total Service Provided	G/M	Skin	ENT	Eye	Dental	Gyn/Obs	Others
2071/72	73736	40545	18786	3389	1203	1409	1312	7092
2072/73	82079	43247	21390	3740	1486	1670	2037	8509
2073/74	83376	44150	22067	3124	1560	1732	1994	8749
2074/75	83895	44311	22209	3237	1610	1903	2231	8394
2075/76	84448	45302	21125	3135	2025	1806	2530	8525
2076/77	49267	24317	11290	1430	1033	838	978	9381
	37493	Arsenicum Album 30 C distribution for prevention (prophylaxis) of Covid -19						
	86760	2076/77 Total service without health camp						

2077/078	TOTAL	GM	PSY	GI	ENT	EYE	GYN OBS	DENTAL	SKIN	ORTHO	OTHERS
	25375	15378	53	1321	642	119	270	61	4733	1780	603
	12551	Arsenicum Album 30 c distribution for prevention (prophylaxis) of Covid -19									
	37926	2077/78 Total service without health camp									

Note:Patient load is being decreased due to COVID 19 pandemic in this fiscal year.

7.4.4 Health Camp Services:Fiscal year2077/78

Machhapuchre Rural Municipality, Kaski
Venue: Sardikhola health post,Kaski
Total number of patients: - 444 (Male: -150 andFemale: -294)

7.4.5 Summary of Financial/Allocation

Fiscal Year	Regular Budget in Rs (In lakhs)	Development Budget Rs (In lakhs)	Total Budget Rs (In lakhs)
2077/78	160+7=167	21	187

7.4.6 Constraints

i. Lack of doctors, paramedics and other staffs made ineffectiveness in its services.
ii. Doctors and other staff are not provided with higher training and education.
iii. There is high need of pathology lab.

7.4.7 Conclusion

Pashupati homeopathic hospital is the central level hospital. It needs to be upgraded. People of Kathmandu valley and nearby districts can take free and convenient service of the hospital.However, People far from Kathmandu valley are not able to take benefits provided by this hospital. It is essential to provide service at all 7 provinces of Nepal with utmost priority.

SUPPORTING PROGRAMS

8.1 HEALTH TRAINING

8.1.1 Background

National Health Training Centre is the central body to coordinate and manage all health trainings in Nepal under Ministry of Health and population (MOHP). It was established in 1993 A.D. and is primarily responsible for policy formulation, planning/budgeting, need assessment, curriculum design, training monitoring and evaluation (M&E) and overall quality assurance related to training system on health in line with federal function. The training network includes seven provincial health training centers and 62 clinical training sites.

It caters to training needs of all Departments, Divisions and Centers of Ministry of Health and Population, thus contributing to meet the targets envisioned in National Health Policy 2019, National Health Sector Strategy (2015-2020) and Sustainable Development Goals (2030) AD. It plans and conducts training activities in line with the National Health Training Strategy 2004 AD. Thus, NHTC is one of the centers of Ministry of Health and Population which is responsible for overseeing all health training activities at the federal, provincial and local level through appropriate and quality training needs assessment, training delivery, monitoring, evaluation, post training follows up and research.

8.1.2 Goal

To enhance the technical and managerial capacity of health care service providers at all levels to deliver quality health care services towards attainment of the optimum level of health status of Nepali citizens.

8.1.3 Objectives

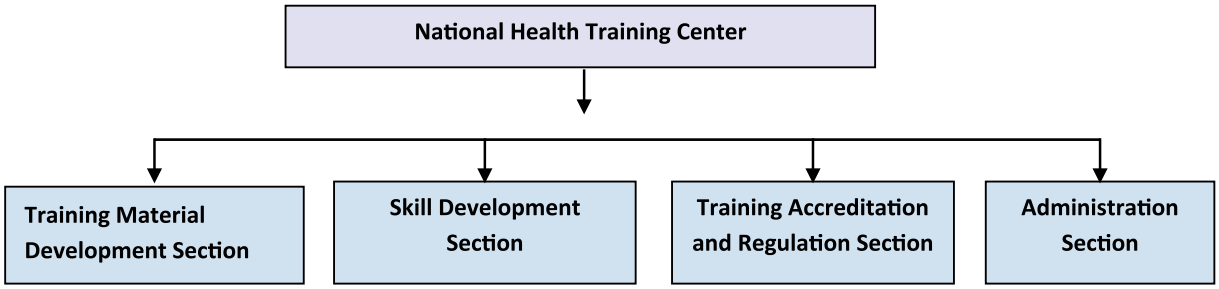
- To standardize the training Learning Resource Packages (LRP) i.e. Trainer's Guide, Participant's Handbook and Reference Manual of different trainings
- To organize and conduct pre- and in-service trainings to address the need of the country and to support the quality of care by enhancing the service provider's competency
- To ensure the quality of training activities by different mechanisms in adherence to national standards and to enhance the capacity of different training sites
- To adopt and promote innovative training approaches
- To strengthen mechanism and capacity for post training follow up and support

8.1.4 Strategies

- Assessing, standardizing and accrediting training activities and clinical training sites
- Developing and standardizing training packages
- Institutional Capacity development of training sites
- Conducting pre-service, in-service, short term and long term trainings as per national requirements
- Integrating and institutionalizing training activities
- Developing links with professional career development organizations
- Strengthening Training Information Management System (TIMS) and develop trainer's pool at federal, provincial and local level.

8.1.5 Organizational structure

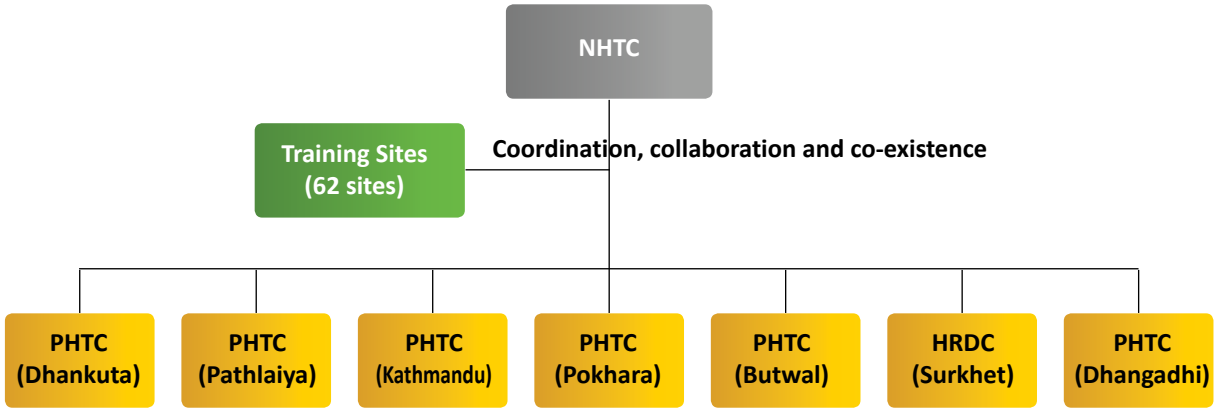
Figure 8.1.1 Organizational Structure of NHTC:



8.1.6 Training Network

National health training network co-ordinates and supports seven Provincial Health Training Center (previous Regional Health Training Centers/ Sub-Regional Health Training Center) currently established under Ministry of Social Development (MOSD)/Ministry of Health and Population of each Province and 62 clinical training sites (Figure 8.1.2). The hospital-based training sites conduct Family Planning, Skilled Birth Attendance, Mid-Level Practicum, Safe Abortion Services, Rural USG, Anesthesia Assistant, Pediatric Nursing, Medico-Legal and other types of competency based training program. The new organizational structure and training network are as shown in below.

Figure 8.1.2. Training co-ordination Wings:



8.1.7 Different Clinical Training Sites accredited by NHTC:

National Health Training Centre provides following training through different training sites as listed below.

Table 8.1.1: Clinical training sites

Province	Number of training sites	Name of the training site	Site accredited for
Province 1	11	FPAN, Charali, Jhapa	Implant, IUCD, Minilap, NSV
		AMDA Hospital, Damak, Jhapa	SBA, RUSG, MLP, AAC
		Mechi Provincial Hospital, Bhadrapur, Jhapa	MLP
		FPAN, Itahari	GBV, VIA, MA, MVA
		BPKIHS, Dharan	Pediatric Nursing, VIA
		Koshi Hospital, Biratnagar	SBA, RUSG, PPIUCD, SAS, GBV, IP, COPF Counseling, ASRH
		Nobel Medical College, Biratnagar	SBA, PPIUCD
		Udayapur Hospital, Gaighat	GBV
		Inaruwa Hospital, Sunsari	GBV
		Okhaldhunga Community Hospital	MLP, GBV
		Marie Stopes Service Pvt Ltd	Implant, IUCD, Minilap, Vasectomy, SAS
Madesh Province	4	Gajendra Narayan Singh Hospital, Rajbiraj	SBA, Implant, IUCD
		FPAN Janakpurdham, Dhanusa	Implant , IUCD, Minilap
		Province Hospital, Janakpur	SBA, Implant, IUCD, Minilap, ASRH, CoFP Counseling, GBV
		Narayani Hospital, Birgunj	SBA
Bagmati Province	21	Paropakar Maternity and Women's Hospital, Kathmandu	ASBA, SBA, Implant, IUCD, PPIUCD, ASRH, GBV,AAC, CNC(SNCU), VIA/ CRYO, STI, SAS (CAC,MA,2nd Trimester Abortion Care), Minilap
		CFWC, Chhetrapati, Kathmandu	Implant IUCD, ASRH, Minilap
		Bhaktapur Hospital, Bhaktapur	ASRH
		FPAN, Pulchowk	IUCD, Implant, SAS
		MSS, Satdobato	IUCD, Implant, SAS, VIA/Cold coagulation
		FPAN, Chitwan	IUCD, Implant SAS
		MSS, Narayanghat	IUCD, Implant, Vasectomy, SAS
		Bharatpur Hospital, Chitwan	ASBA, SBA, MLP, SAS, OTTM, GBV, ICU, CNBC II, AAC
		PHECT Nepal Kirtipur Hospital, Kathmandu	SBA, VIA, Burn Care management
		PHECT Nepal Model Hospital, Kathmandu	SAS, VIA, AAC
		Nepal Medical College, Kathmandu	2nd Trimester Abortion Care, SAS, Hemodialysis
		Army Hospital, Chhauni, Kathmandu	SBA, IUCD, Implant
		TUTH, Maharajgunj, Kathmandu	SBA,NICU, ICU, OTTM, PNC, Medico-legal, Hemodialysis, FP(IUCD, Implant), 1st trimester Abortion
		Kanti Children Hospital, Kathmandu	Pediatric Nursing care(PNC)

Province	Number of training sites	Name of the training site	Site accredited for
		Nepal Cancer Care Foundation, Lalitpur	VIA/Cold coagulation
		COVID-19 Unified Central Hospital, Bir Hospital	Geriatric, IPC, Hemodialysis, ICU, AAC
		Manakamana Hospital Pvt.Ltd, Bharatpur	SBA
		Manmohan Cardiothoracic Vascular Transplant Center, Kathmandu	ICU, CTVIN
		Kathmandu Medical College Public. Ltd, Bhaktapur	Medico-legal
		National Kidney disease treatment Center, Balaju, Kathmandu	Hemodialysis
		National Trauma Center, Kathmandu	Basic Physiotherapy and Primary emergency Care, ECCT
Gandaki Province	5	Pokhara Academy of Health Science, Pokhara	SBA,IUCD, Implant, GBV, AAC, Medico- legal, ECCT
		Community Hospital, Lamjung	SBA, MLP
		Dhaulagiri Provincial Hospital, Baglung	SBA, MLP
		MatrisisuMiteri Hospital, Kaski	SBA
		Sisuwa Hospital, Kaski	MA
Lumbini Province	11	Lumbini Province Hospital, Butwal	SBA, SAS, GBV
		Bhim Hospital, Bhairahawa	SBA
		AMDA Hospital, Butwal	OTTM, PNC, SBA
		FPAN, Butwal	IUCD, Implant, SAS
		MSS, Chandrauta, Kapilvastu	IUCD, Implant, SAS
		Lumbini Medical college, Palpa	SBA
		FPAN, Dang	IUCD, Implant
		Bheri Hospital, Nepalgunj	SBA, GBV, RUSG
		Mission Hospital, Palpa	SBA, MLP
		Nepalgunj Medical College, Banke	SAS, SBA
		Rapti Provincial Hospital, Dang	SBA, Implant, IUCD, PP IUCD
Karnali Province	3	Karnali Provincial Hospital, Surkhet	SBA, ASBA, FP (Implant, IUCD, NSV, Minilap)
		Karnali Academy of Health Science, Jumla	SBA
		Chaurjahari Community Hospital, Western Rukum	SBA
Sudurpaschhim Province	7	Seti Provincial Hospital, Dhangadhi	SBA, GBV, MLP, SAS
		Mahakali Provincial Hospital, Kanchanpur	SBA, ASBA
		FPAN, Kanchanpur	IUCD, Implant, SAS
		Dadeldhura Hospital	SBA, MLP, ASBA
		Bayalpata Hospital, Achham	MLP
		AchhamHospital,Mangalsen	MA
		Tikapur Hospital, Kailali	SBA

The 62 clinical training sites in different provinces of the country are shown in the following figure 8.1.3.

Figure 8.1.3: Clinical training sites in seven provinces

8.1.8 Major activities carried out in FY 2077/78

8.1.8.1 Training Material Development

In the last fiscal year 2077/78, the Training Material Development Section of NHTC has developed training packages on induction training for health officers, ASRH, Psychosocial counseling, Bio-safety and Bio-security, Pediatric Essential Critical Care and BEMT. In addition, the training strategy which has been developed in the last fiscal year is still in the process of the endorsement while FCHV manual was updated and revised. The glimpse of the activity is presented in table 8.1.2:

Table 8.1.2.: Status of development of LRP

Learning Resource Package(LRP)	Status	Support
Induction Training for Health Officers	Completed	NHSSP
Adolescent Sexual and reproductive Health	Completed	NHTC
Psychosocial Counseling	Completed	NHSSP
Biosafety and Biosecurity	Completed	NHTC
BEMT	Completed	WHO
Pediatric essential critical care	Completed	WHO
FCHV manual revision	Completed	NHTC, UNICEF
National Health Training Strategy	On going	NHSSP
SOP on sample collection during epidemic	On going	NHTC
Quality management system in laboratory	On going	NHTC
Revision of IUCD/ Implant/Immediate PPIUCD-related coach/ mentoring package	On going	NHTC
Geriatric care for doctors	On going	NHTC
Revision on Climate Change package	On going	NHTC
Social Audit in health sector	On going	Curative Service Division
Dental Training Package	On going	NHTC
FCHV refresher package	On going	NHTC
FCHV manual revision	On going	UNICEF

8.1.8.2. Skill Development

NHTC conducts various clinical and managerial training and orientation program. The NHTC is following the classroom based in-person training modality. But due to surge of COVID-19 this year NHTC has conducted virtual training also. The various trainings are classified as pre-service and in-service training.

1. Pre-service training: This type of training is focused for the health professionals in their academic course who can enter the health system after completion of their study. NHTC provides the eighteen-month Diploma in Biomedical Equipment Engineering (DBMEE) pre-service training course to produce biomedical equipment technician (BMET). The CTEVT accredited DBMEE training is targeted for the plus two science graduate who will work as biomedical equipment technician after training completion. The graduate will perform preventive and repair maintenance of healthcare equipment used in different health facilities across Nepal. The AAC course under National Academy of Medical Sciences (NAMS) is considered as in service training course which is designed as a task shifting to produce non-doctor Anesthesia Assistant. Staff

nurses and health assistant are the eligible candidates for this course and after graduation; they support in various emergency surgeries especially the cesarean section in peripheral hospitals where anesthesiologist is unavailable.

2. In-service training:

NHTC provides different kinds of trainings to the health service providers who are in service to develop their capacity so that they can perform specific clinical and public health task. The in-service trainings can be classified here based on the type of training provided.

i). Basic trainings:

Basic trainings are organized for Female Community Health Volunteers (FCHVs) who are newly recruited by the local mother's group among the member. The duration of this course is 10 days. \

ii) Competency based training: NHTC organize various clinical training for government health workers in coordination with multiple clinical training sites to upgrade their knowledge and skills in multiple clinical areas. These in-service trainings are based on local need. NHTC fulfill the training demand by developing the new training courses, update and revise the existing training curricula according to the national and international practice and scientific evidence. Following are the competency based training offered by NHTC:

Table 8.1.3: Competency based trainings

Competency based courses	
1. Comprehensive family planning (CoFP) counseling	22. Packages of Essential Non-Communicable Diseases (PEN)
2. Non-scalpel vasectomy(NSV)	23. Palliative care
3. Intrauterine Contraceptive Device (IUCD)	24. Pediatric nursing care
4. Postpartum intrauterine contraceptive device (PPIUCD)	25. Infection prevention and Control (IPC)
5. Minilaps	26. Mental health
6. Implants	27. Spinal Cord Injury training
7. Skilled birth attendance(SBA)	28. Stress Management Training
8. Advanced skilled birth attendance(ASBA)	29. Burn Care Management
9. Comprehensive Newborn care (CNBC)	30. ICU/CCU
10. Safe abortion services	31. Dialysis Care Management
11. Comprehensive abortion care	32. Rural ultrasonography (USG) for nurses
12. Medical abortion	33. Geriatric Nursing
13. Adolescent and sexual reproductive health (ASRH)	34. Cardiothoracic and Vascular Intensive Nursing Training (CTVIN)
14. Gender based violence(GBV)	35. Diabetes Education for Nurses Training
15. Pelvic Organ Prolapse (POP)	36. Helping Babies Survive Training (HBS)
16. Management of Obstetric Fistula(MOF)	37. Primary Emergency Care (PEC)
17. Antimicrobial Resistance Prevention	38. Medico-legal Training
18. Operation theatre technique and management (OTTM)	39. Laboratory Biosafety and Biosecurity
19. Clinical training skills (CTS)	40. Basic Life Support (BLS)
20. Mid-level practicum (MLP)	41. Pre-hospital care
21. Anesthetic Assistant Course	42. Essential Critical Care Training (ECCT)
	43. Bio-Medical Equipment Training (BMET)

iii) Refresher training:

Refresher training is also provided to the existing government health service provider to update and improve their knowledge and skills in a frequent time interval and when there are changes in practices. CAC, FCHVs, and SBAs are in-service refresher training provided according to the need of divisions and centers.

iv)Induction training:

NHTC has begun providing induction training for newly recruited officers of health service from 2071/72. The one-month courses (24 working days) are provided for all health service disciplines. This training is provided to the newly recruited health officers only through the NHTC.

v) Other training:

- Biomedical equipment assistant training (BMEAT).
- Biomedical equipment training for users (cold chain, laboratory, X-ray).
- Orientation program (HFOMC, Appreciative Inquiry).

8.1.8.3. Training Accreditation and Regulation

In Fiscal year 2077/78, the accreditation and regulation section of NHTC has developed and accredited the following training sites

1. Marie Stopes Service PvtLtd, Satdobato for VIA/ Cold Coagulation
2. COVID-19 Unified Central Hospital, Bir Hospital for Geriatric, IPC, Haemodialysis, ICU
3. Manakamana Hospital Pvt. Ltd, Bharatpur for SBA
4. Manmohan Cardiothoracic Vascular Transplant Center, Kathmandu for ICU
5. Kathmandu Medical College Public. Ltd, Bhaktapur for Medico-legal training
6. National Kidney disease treatment Center, Balaju, Kathmandu for Hemodialysis
7. National Trauma Center, Kathmandu for Basic Physiotherapy and Primary emergency Care
8. MatrisisuMiteri Hospital, Kaski for SBA
9. Sisuwa Hospital, Kaski for MA
10. Nepalgunj Medical College, Banke for CAC, PAC
11. Rapti Provincial Hospital, Dang for SBA, Implant, IUCD, PP IUCD
12. Chaurjahari Community Hospital, Western Rukum for SBA
13. Tikapur Hospital, Kailali for SBA

8.1.8.4. *COVID-19 preparedness and response*

In response to COVID-19, NHTC has developed training packages and implemented training for different cadres of health service provider. The following activities were done in FY 2077/78 as for COVID-19 preparedness and response:

- 2 days Essential Critical Care Training for Doctors, Nurses and Health Workers for COVID-19 Management [Virtually: 8647 person and In-person: 54 batches (864 person) trained]
- Medical officers and nursing staff working in HDU / ICU of Bhaktapur Hospital and Civil Hospital conducted Bio-Medical Equipment Users on site training (2 batches - 20 persons).

- A four-day package of Pediatric Essential Critical Care (PECC) has been prepared for Pediatricians, Medical Officers and Nursing Officers and is being implementing in all 7 provinces
- A six-days package of Essential Critical Care Training for Doctors, Nurses and Health Workers is developed and is rolling out in all provinces with the support of partners

8.1.8.5. New initiatives

As a new initiative, it is realized that focus needs to be shifted from traditional to blended approach, on the job training and enhancing online learning platform. Training packages are envisioned to develop on the basis of new concept of learning theory "low dose and high frequency" which helps to reduce absenteeism of health workers in regular health service with optimum utilization of available resources.

NHTC has developed learning resource package and conducted trainings based on emerging disease, critical care and disaster related response which are as follows:

- COVID-19 preparedness and response on Infection Prevention and Control
- COVID-19 Essential critical care and Pediatric critical care to health workers using online platform
- Six months psychosocial counseling package using blended approach
- First Aid with Basic Life Support (BLS) and Advanced First Aid for community responders
- For Pre-hospital care, 3 months' course is developed on Ambulance with Emergency Medical Technician (EMT) for primary life-saving support.

8.1.8.6. Initiatives for future

NHTC has planned to develop specific training packages based on gap identified in different literatures, reviewing international practices and the need of the health service provider in delivering services. It includes: SOP on sample collection during epidemic, quality management system in laboratory, revision of IUCD/ Implant/Immediate PPIUCD- related coach/ mentoring package, geriatric care for doctors, revision on Climate Change package, social Audit in health sector, dental Training Package, FCHV refresher package and manual revision.

The priority areas realized for future initiatives are as follows:

- Capacity enhancement of provincial health training centers for training package development, conducting training and quality assurance.
- Development of mechanism for regular quality assurance of training programs, onsite coaching, follow up and creating online learning platform.
- Focus on research and studies on training activities and its outcome and impact.

8.1.9 Annual target and achievements

a. Program activities

In fiscal year 2077/78, a total of 7,207 participants were trained in 130 different training programs. Among the total trained participants, 63.92% were females (4,607) and 36.07% were male (2,600). Out of the total participants, majority belong to Brahmin/Chhetri (55%) followed by Janajati (26%), Madhesi (13%), Dalit (5%) and others (1%). Similarly, most of the participants were from Bagmati Province (25.7%) while least number of participants were from Lumbini Province (2.2%).

The major cadre groups trained were ANM (9,876), AHW (4,200), Staff Nurse (3,806), HA (3086) and Medical Officer (2,979) in previous five fiscal years. Apart from the cadre mentioned, other participants like account officers, academicians, youth mobilizers and participants from non-governmental sectors were also trained.

b. Budget and Expenditure

The data shows the percentage of budget spent with respect to budget allocation in FY 2077/78compared to previous FYs.

Table: 8.1.4.: Status of budget allocation and financial progress in five consecutive fiscal years

Budget	FY 2073/074 (in NRs '000)		FY 2074/075 (in NRs '000)		FY 2075/076 (in NRs '000)		FY 2076/077 (in NRs '000)		FY 2077/78	
	Allocated Budget	*Expenditure (%)*	*Allocated Budget*	*Expenditure (%)*	*Allocated Budget*	*Expenditure (%)*	*Allocated Budget*	*Expenditure (%)*	*Allocated Budget*	*Expenditure (%)*
Central level	188,450	80.62	204,149	90.3	10,37,00	91.23	11,72,00	51.27	11,28,00	62.27

8.1.9. Issues and Recommendations

S.N.	Issues	Challenges	Recommendations
1	Service delivery	• Multi-door trainings • Inadequate service related standard protocol for developing training package • Focus of training on transfer of knowledge(theory) rather than developing practical skills • Inadequate training follow up mechanism	• Establish one door accredited training system • Develop the SOP for training packages and training sites • Shift from the traditional to blended learning approach and link it with the CPD • Improve the quality of training by regularly updating trainers, by post-training follow-up, by preparing a roster of master trainers and by ensuring training quality as per guidelines
2	Health workforce	• Manage a separate pool of trainers from different discipline • Unplanned selection of participants • Training Need Assessment for institutionalizing need based trainings. • Lack of Coordination with Universities/CTEVT to incorporate the national program requirement in the pre-service curriculum.	• Recruit and place adequate technical skilled human resources in health training center • Select proper candidate for long term training • Develop the capacity of both clinical and non-clinical trainers • Integrate trainings in pre-service education

S.N.	Issues	Challenges	Recommendations
3	Health information	• Inadequate skilled technical human resources • Inadequate recording and reporting mechanism	• Develop capacity of human resource to operate TIMS effectively • Maintain trainer's roster in each province
4	Logistics and infrastructure	• Lack of proper accommodation facilities for training participants and trainers • Limited sites for special training	• Manage hostel facility for trainings of long duration • Strengthen the support in infrastructure development and accreditation of training sites
5	Financing	• Inadequate allocation of budget for training monitoring and quality assurance • Inadequate incentives for trainers and budget for conducting planned trainings	• Establish the mechanism of self-sustainability of trainings and allocate adequate budget for training monitoring and quality assurance • Initiation of paid training systems through contracting out with the private sectors
6	Leadership and governance	• Lack of systematic coordination mechanism with province governments and local level for training management and quality control. • Issue of accreditation, renewal and accountability of training sites etc. • Timely revision of the training related policies and strategies.	• Coordination, collaboration and partnership with Province Governments and External Development Partners and UN Agencies for quality health training management and conduction • Clarify the federal and provincial roles in supporting partner's mobilization and training site development • Develop proper training related policies and update necessary strategies.

8.2 VECTOR BORNE DISEASE RESEARCH AND TRAINING

Summary

The objective of Vector Borne Disease Research and Training Center (VBDRTC) is to fill the knowledge gap and generate scientific evidences in the field of Vector Borne Diseases. VBDRTC is responsible for researches and trainings that relate with VBDs such as Malaria, Kala-azar, Dengue, Chikungunaya, Zica, Westnyl diseases, Lymphatic filariasis, Scrub typhus and Japanese encephalitis. In the FY 2077/78, trainings on VBDs for focal persons/health workers, malaria microscopic basic and refresher trainings for lab technicians and lab assistants were conducted to enhance their level of knowledge and skills related to prevalent vector borne diseases.

Study conducted in this fiscal year include outcome monitoring of first line drug LAMB for the treatment of visceral leishmaniasis, susceptibility test on Anopheles annularis and fluviatilis with Alphacypermethrin in Sindhuli and Makawanpur districts, susceptibility test (CDC Bottle Bioassay) on Dengue vector Aedes aegypti with Lambda-cyhalothrin in Chitwan district. VBDRTC also conducted Pre TAS in Lam Jung, Parbat, Baglung, Dhankutta, Jhapa, Bara and Bardia and TAS I survey in Kanchanpur district in January 2021 with the guidance of MOHP and financial and technical support of USAID and WHO.

8.2.1. Introduction

VBDRTC was established in the year 1979 AD as a Malaria Research and Training Centre under the Nepal Malaria Eradication Organization (NMEO). On 12th June 1996, the center was named as Vector Borne Disease Research and Training Center. The key objective of the center is to fulfill the knowledge gap and supplement with evidence base for the better understanding of VBDs etiology, its transmission intensity and interventions programs implemented by Nepal government. VBDRTC is responsible for research and training of VBDS including Malaria, Kala-azar, Dengue, Chikungunaya, Lymphatic filariasis, Scrub Typhus and Japanese encephalitis.

Major activities in FY 2077/78

Training
VBDs training

VBDs training for health workers

The objective of this training is to update the knowledge, skills and strengthen management capacity of health workers on VBDs to enhance the level of knowledge and skills of the participants in the management of prevalent vector borne diseases in Nepal. Three days VBDs training was conducted in Darchula District Hospital, Darchula; Manthali Hospital, Ramechhap; Malangawa Hospital, Sarlahi; and Lahan Hospital, Lahan, Siraha. The methodologies used were lecture, audio/visual aids, power-point presentation, group works and discussion**.** Medical Superintendants, physician and pediatrician and & medical generalist, director, senior health administrator, vector control officer were facilitators. A total of 100 participants (25/group) consisting MO, VCI/ VCO/ MI, HA, AHWs, SN, and ANMs were trained on VBDs as per program schedule in the fiscal year 2077/78.

Malaria microscopy training

With a vision of malaria free Nepal by 2025, Nepal Malaria Strategic Plan 2015-2025 has been developed. Light microscopy (Giemsa Malaria Microscopy) is still the gold standard technique for malaria diagnosis. VBDRTC is providing basic malaria microscopy and refresher malaria training to laboratory technicians/ assistants of malaria endemic areas. Purpose of this training is to generate competent manpower at microscopic centers.

The basic malaria microscopic training

This training is intended to provide to laboratory personnel who are new to malaria microscopy and are involved in malaria diagnosis. It is 30 days of course with lots of hands on techniques involving smear preparation, staining, and microscopic examination of malaria parasites. The expected outcome of this training is to provide basic malaria microscopy quality diagnosis and to acquire skill in differential diagnosis of all species of Plasmodium parasites. Twenty-six persons in two groups (13 persons in each group) were trained. One additional group of 15 persons was also trained in basic malaria microscopic training with the financial support of Gandaki Province. A total of 41 persons were trained in basic malaria microscopy at VBDRTC in FY 2077/78. Among 41 persons, 7 persons achieved level A.

Malaria microscopy refresher training

This course is intended to provide training to those who had previously obtained basic malaria microscopy training to update and upgrade the skills in malaria microscopy and to strengthen the malaria microscopy laboratory services in malaria endemic districts. It is 15 days of course, was conducted in VBDRTC with lots of hands on techniques involving smear preparation, staining, and microscopic examination of malaria parasites, counting, quality assurance and national slide banking. A total of 26 persons were trained in refresher malaria microscopy training in 2 groups.

8.2.2. Molecular diagnosis of Covid-19 using RT- PCR at VBDRTC

Polymerase chain reaction (PCR) is a molecular method based on DNA amplification and has been used since the late 1980s. In VBDRTC, RT PCR was used to diagnose, quality assurance, surveillance and outbreak investigation of malaria and serotyping of dengue virus. In FY 2077/78, VBDRTC's PCR lab is used as Covid-19 laboratory to diagnose the cases of corona virus. Covid-19 laboratory was started from 20 chaitra 2076, the starting stage of covid-19 outbreak in Nepal. A total 2,496 throat and nasopharynxial swab samples were found positive among 27,300 tested till 28 Ashwin 2077.

8.2.3. Research activities

8.2.3.1 Validation and follow up assessment of past Kala-azar treated cases at Public Health Settings in Nepal

Background

Kala-azar (KA) is a vector-borne disease that is fatal if treatment is not provided timely. The disease is on the verge of elimination as a public health problem (target annual incidence of <1/10,000 population) in Nepal. KA is endemic in 23 districts with over 9.9 million people are at risk.

Liposomal Amphotericin B (L-AmB) is the currently first line therapy as a single dose (10 mg/kg body weight) for the treatment of KA since 2016 in Nepal. However, 3 days regimen with 15 mg/kg (5mg/kg in divided-dose) has also been widely practiced by the treating physician across the country. Given the paucity of anti-VL drugs and the looming threat of resistance and relapses, there is an obvious need for follow up assessment of treatment outcomes.

Methods

A mixed-method study design was conducted during the period of April to June 2021 with main objective to validate and assess the final clinical outcomes after six months of KA cases with L-AmB at public health settings. The knowledge and acceptability of single *vs* three days regimen of L-AmB was also assessed among KA treating physicians and the nurses. Past treated KA cases were identified based on the national line list

of five years (2016-2020) and their contact number was obtained from Neglected Tropical Diseases (NTDs) & VBDs control section at EDCD after approval.

All identified past treated KA were traced and validated retrospectively through telephone call and collected the information using pre-designed data collection tools by trained research assistant. The information were collected on past history of KA, year of treatment, treatment regimen, treatment outcomes and repeat treatment required if any after first KA treatment and need of follow up visit. In-depth interviews was also conducted with treating physicians and nurses who were working in six KA treatment hospitals namely Koshi Hospital Biratnagar, BPKIHS Dharan, Janakpur Zonal Hospita, Sukraraj Tropical & Infectious Disease Hospital and Bheri Zonal Hospital. The interview was details on acceptability of single dose vs three dose of L-AmB regimen for the treatment of KA and emergence of relapses at their settings.

Results

A total of 473 (out of 533) past treated KA patients were contacted through telephone call. Among them, 266 (56.2%) past treated KA patients responded to telephone call and 244 (91.7%) had reported as final cure. A total of 22 (8.3%) out of 266 past treated KA cases received repeated treatment due to having similar signs and symptoms of KA after six months of their first treatment. The mean age of validate past treated KA cases was 31.3± 19.3 years, age >15 years were 77.1% and mostly male (70.3%). Out of 266 cases, 164 (61.7%) past KA cases were treated with three days regimen of L-AmB, 55 (20.6%), 47(17.7%) with single dose regimen and 55 (20.6%) with Miltefosine for KA treatment. It has observed that 12 out of 22 past KA cases (54.5%) who received the repeated treatment within 12 months were aged £15 years and mostly male (63.6%). Repeat KA treatment was observed more among past treated KA cases treated with L-AmB single dose regimen (31.8%) when compared with L-AmB three days dose regimen (27.3%) which is statistically significant (*p-value* 0.003).

A total of 13 KA treating physicians and 19 nurses were interviewed. L-AmB for KA treatment was well accepted by the KA treating physician; three days regimen was highly accepted vs single dose regimen due to time available for post treatment follow up. There is no sufficient time to monitor and follow up of treated KA cases with single dose regimen. According to treating physician, increasing number of relapses cases were observed with L-AmB single dose regimen among KA cases reported from endemic doubtful districts in Western Nepal. Knowledge among the nurses about storage of L-AmB, its preparation, administration and infusion was satisfactory.

Conclusion

Most of the KA cases were treated with three days regimen with L-AmB. High number of KA cases received repeat treatment that were treated with single dose L-AmB and mostly below age £15 years; mostly from endemic doubtful districts which needs further investigation. Three days L-AmB regimen for KA treatment is well accepted by treating physicians. Regular refresher training is required to the nurses' who are involved on L-AmB preparation, administration and infusion.

8.2.3.2. Susceptibility Test malaria vectors with Alpha-cypermethrin

Objective

To determine the susceptibility status of malaria vector Anopheles annularis mosquitoes with pyrethroid insecticide (Alpha-cypermethrin).

Susceptibility Test in Sindhuli district

Mosquito collected area: Tallo Ranibas Village, ward no.14 of Kamalamai Municipality.

Study period of 2077/12/04 to 2077/12/10.

Results

In order to assess susceptibility status of field population of adult female An. annularis mosquitoes against Alpha-cypermethrin in this study, CDC bottle bioassays were performed on 178 adult female. An. annularis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and 38 adult female An. annularis mosquitoes were exposed with control bottles (coated with acetone only) alongside each CDC bottle bioassay. CDC bottle bioassays performed on 178 field populations of adult female An. annularis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and diagnostic exposure time of 30 minutes showed 93.2% mortality.

Conclusion

In this study we assessed the susceptibility status of field population of An. annularis to pyrethroid insecticide (Alpha-cypermethrin). The mortality rate observed was 93.2% which indicates resistance to Alpha-cypermethrin. This finding is in agreement with our previous study, using CDC bottle bioassay in wild population of An. Annularis from Kushanhari village of Kawasoti municipality, Nawalpur district against Lambda-cyhalothrin at the diagnostic dose of 12.5 mg/ bottle with 30 minutes exposure time (92.5% mortality) showed the resistance.

The mortality observed for *Anopheles fluviatilis* against Alphacypermethr in concentrations of 0.05% was 100% in the present susceptibility test indicatingg that the adult female *Anopheles fluviatilis* mosquitoes collected from Kalapani Village ward no.3 of Bardibas Municipality in Mahottari district are susceptible to this insecticide. Therefore, continued monitoring of insecticide susceptibility and generating complementary data on resistance intensity to measure potential changes in the strength of resistance to public health insecticides is essential to ensure early detection of insecticide resistance in malaria vectors in Nepal.

8.2.3.3. Susceptibility Test (CDC Bottle Bioassay) on field populations of malaria vector Anopheles fluviatilis with Alpha-cypermethrin in Makwanpur district

Mosquito collected area: Nibuwatar village, ward no. 4 of Bhimphedi Rural Municipality in Makwanpur district.

Study period: 2078/03/10 to 2078/03/16

Results

Anopheles fluviatilis is implicated as primary vector transmitting malaria in different eco-geographical regions of Nepal. In this study, CDC bottle bioassays were performed on 117 adult female Anopheles fluviatilis mosquitoes with diagnostic dose of 12.5 mg/bottle of Alpha-cypermethrin and 31 adult female Anopheles fluviatilis mosquitoes were exposed with control bottles (coated with acetone only) alongside each CDC bottle bioassay. The results of CDC bottle bioassays performed on 117 adult female Anopheles fluviatilis mosquitoes for a diagnostic exposure time of 30 minutes with Alpha-cypermethrin at the diagnostic dose of 12.5 mg/ bottle showed 99.1% mortality.

Conclusion

In this study we assessed the susceptibility status of field population of Anopheles fluviatilis to pyrethroid insecticide (Alpha-cypermethrin) the mortality rate observed was 99.1% which indicates that this species is susceptible to Alpha-cypermethrin.

8.2.3.4. Susceptibility Test (CDC Bottle Bioassay) on Dengue vector Aedes aegypti with Lambda-cyhalothrin in Chitwan district

Objective

To determine the susceptibility status of dengue vector Aedes aegypti against pyrethroid insecticide (Lambda-cyhalothrin).

Mosquito collected area: Bharatpur Metropolitan City, ward no. 3 New Road.

Study period: 2077/08/21 to 2077/08/28.

Results

The results of the CDC bottle bioassay susceptibility tests conducted on 130 female Aedes aegypti for a diagnostic exposure time of 30 minutes with Lamda-cyhalothrin at the diagnostic dose of 10 mg/ bottle resulted with 93.07% mortality.

Conclusion

Aedes aegypti (Linnaeus) is competent vector of a variety of arboviruses, including dengue, chikungunya and zika viruses. In this study the mortality rate of Aedes aegypti was 93.07% which indicates resistance of this species to Lambda-cyhalothrin. Continued monitoring of insecticide susceptibility and generating complementary data on resistance intensity to measure potential changes in the strength of resistance to public health insecticides is essential to ensure early detection of insecticide resistance in disease vectors in Nepal.

8.2.3.5. LF elimination Programme: Transmission assessment survey (TAS)

Lymphatic filariasis (LF) is a parasitic mosquito-borne endemic disease spread in 73 countries which is one of the leading causes of global disability and targeted for global elimination. An estimated 1.4 billion people are at risk of LF disease. LF being a one of the major public health problems in Nepal, Government has expressed its commitment towards achieving elimination by the year 2030 through the mass distribution of Diethylcarbamazine citrate (DEC) and Albendazole to endemic districts of Nepal. The Nepal LF Elimination Program has already reached all 63 endemic districts. Till date, 48 districts are already qualified to stop MDA and have graduated to TAS II survey.

8.2.3.6. Re Pre TAS survey

Introduction

Achieving elimination of lymphatic filariasis (LF) as a public health problem requires a minimum of five rounds of mass drug administration (MDA) and being able to demonstrate low prevalence(antegenemia <2%) in several subsequent assessments. LF elimination programs implement sentinel and spot-check site assessments, called pre-TAS, to determine whether districts are eligible to implement more rigorous population-based surveys to determine whether MDA can be stopped or if further rounds are required. Re Pre TAS survey is done after completing of two rounds of MDA when pre /TAS failled**.** Re Pre TAS survey was done in in 7 districts namely Dhankuta, Jhapa, Lamjung, Parbat, Baglung, Bardiya and Bara in january 2021.

Objective:

The overall objective of this Re Pre TAS survey is to assess the impact of LF interventions after two more rounds of MDA following failed Pre-TAS. **Specific objectives are** to determine the prevalence of Ag among people over the age of 5 years at sentinel and spot-check sites and whether these districts are eligible to implement TAS1.

Methods

Cross-sectional survey was done to determine the prevalence of LF antigenaemia. The population in sentinel and spot check sites aged over 5 years will be the sample population for this survey. At least 300 people including pregnant women were sampled from both sentinel and spot check sites. In addition, a sentinel and spot check site was further divided into 3 segments (cluster/village) per sentinel and spot check. At least 100 samples were collected from each cluster.

Results

Among the 7 pre TAS district the survey found that both Sentinel & Spot check site of Dhankutta and Bardiya district LF antigenemia prevalence was found less than 2 %, so these two district was considered as pre-TAS passed district and remaining 5 districts (Jhapa, Lamjung, Parbat, Baglung and Bara) both sentinel site and spot check the LF antigenemia prevalence was found morethan 2%. So these district was considered as Pre-TAS failed district.

Districts/EU	Site name	testd	positie	negative	positive%	result
Dhankutta EU-1	Dandabazar-SS , Sagurigadhi RM, 5	300	0	300	0 %	Passed
	Leguwa-SC, Mahalaxmi M 5	305	3	302	0.99 %	
Jhapa EU-2	Damak-SS, Damak M,1	307	2	305	0.65 %	Did not Pass
	Kumarkhod-SC, Jhapa RM, 2	300	7	293	2.33 %	
Lamjung EU-3	Chakratirtha-SS ,Rainas M, 6	305	15	290	4.91 %	Did not Pass
	Dhamilikuwa-SC,RainasM,6	305	10	295	3.27 %	
Parbat EU-4	Khanigaun-SS, Falebans M,5	305	2	303	0.65 %	Did not Pass
	Pang-SC, Kushma M, . 1	314	17	297	5.41 %	
Baglung EU-5	Narayansthan-SS, Baglung M, 14	303	8	295	2.64 %	Did not Pass
	Kushmishera , Jaimini 1	308	2	306	0.64 %	
Bardiya (EU-6)	Dumreni-SS ThakurdwaraM,1	305	5	300	1.64 %	Passed
	Dhadhwar-SC Barbardiya M,10	306	5	301	1.63 %	
Bara EU-7	Dakshin Jhitkahiya-SS, Devtal R M, 3	308	0	308	0 %	Did not Pass
	Bariyarpur-SC Mahagadhimai M, 2	312	9	303	2.89 %	

Conclusion and recommendation

Due to the low LF antigenemia prevalence (less than 2 %), Dhankutta and Bardiya district was considered as pre TAS pass district & these districts are qualified to TAS I survey.

8.2.3.7. TAS I SURVEY IN KANCHANPUR DISTRICT

Introduction

A transmission assessment survey (TAS) is designed to evaluate whether transmission of LF is presumed to have reached a level low enough that it cannot be sustained in the absence of drug intervention and, therefore, MDA can be stopped. The target population of a TAS is children aged 6-7 years or grade 1 and 2 children if net primary school rate is more than 75 percent. The rationale is that children in this age-group should have lived most (or all) of their lives during MDA in the area being surveyed. As of August 2020, Kanchanpur is eligible for TAS 1) after eight rounds of MDA. This survey was conducted by Vector Borne Disease Research and Training Center (VBDRTC) from 6th to 22nd January 2021.

Objective

The objective of this survey is to determine whether the number of positive children in a given sample size in a community-based survey is above or below the critical infection threshold under which transmission is likely no longer sustainable.

Methods

This survey was conducted as a community-based cluster survey based on established WHO guidance because of the uncertainty of opening of schools due to COVID-19 pandemic. All of the wards under the EU were listed and WHO's Survey Sample Builder (SSB) was used to determine the sampled ward and sample size. SSB provided the random numbers.

Result

EU name EU-1	**Number of clusters (wards)**	**Sample size**	**tested**	**Critical cut off**	**positive**	**Result**
Kanchanpur	30	1,556	1,587	18	1	Passed

The TAS-I survey result found only one positive case among 1587 children. The positive case was from the 7 years age group. Furthermore, it was found that one children's test result was indeterminate.

Conclusion and recommendation

Only one child was found a LF positive, which is below the critical cut off 18. Thus the evaluation unit will be eligible to stop the MDA and conduct the regular post MDA surveillance TAS-II after two years.

Financial Achievement

Fiscal year	**Allocated budget**	**Total Expenses**	**Expenses %**	**Remaining**	**Irregularity regulated**	**Irregularity (cumulative)**
2075/76	23260000	20459136.09	87.90	2800863.91		423000
2076/77	23792588.35	16833055.16	70.74	6959533.19	197370	620370
2077/78	24299000	17344138.40	71.37	6754861.60	0	620370

Problems/ constrains

S. N	Problems/ constrains	Action to be taken	Responsibility
1	VBDRTC's Office & dormitory for trainees is occupied by the regional educational directorate.	Provincial Ministry of Social Welfare& Regional Educational Directorate to be managed in other place.	VBDRTC & MoHP/PMoSW
2	Old infrastructure: dormitory, office building and quarters.	Hostels, office and staff quarters to be renovated.	VBDRTC
3	Vacant post: parasitologist, entomologist & vector control officer	Vacant post needs to be filled	VBDRTC/MOHP
4	Lack of vehicles for training, research, surveys and outbreak investigation of VBDs.	At least one new vehicle should be provided for field program.	VBDRTC/MOHP
5	Lack of sanctioned post for microbiologist, epidemiologist, research officer and statistical officer.	O & M survey to be done to develop VBDRTC as center of excellence.	VBDRTC/MOHP

8.3 HEALTH EDUCATION, INFORMATION AND COMMUNICATION

8.3.1 Background

The National Health Education, Information and Communication Centre (NHEICC) is the apex body under the Ministry of Health and Population, Nepal. The NHEICC aims to plan, implement, monitor and evaluate health promotion programs within a country. The health promotion programs covered health education, communication, service delivery including health system research and survey. The scope of the NHEICC is guided by the National Health Communication Policy 2012, and the National Health Policy 2019, communication strategies and other related guidelines, directives policies,and plans. The centre functions to support national health programmes and services to achieve national health goals and to meet 17 targets of Sustainable Development Goals (SDGs), The centre leads all health promotion, health education and communication programmes including multi-sectoral health initiatives. The centre applies health promotion approaches such as advocacy, community engagement, mass media mobilization, social and behaviour change communication to implement its programmes. It also concerns about the quality of services and government regularities. NHEICC has 4section namely Health Education and Material Development Section, Health Communication Coordination Section, Health Promotion and Tobacco Regulation Section and administrative section.

8.3.2 Vision

Healthy, alert and conscious citizens concerned with happy life.

8.3.3 Goal

The goal of health education, information and communication program is to promote healthy behavior, prevention and control of diseases and increase use of health services.

8.3.4 Objectives

The general objective of the health promotion, health education, information and communication is to raise health awareness, motivate and guided into action to the people as a means to promote improved health status and to prevent disease through the efforts of the people themselves and full utilization of available resources.

The specific objectives of NHEICC are listed below:

- To mobilize and use modern and traditional communication multimedia and methods to raise health awareness, knowledge and promote healthy behaviour among the general public.
- To strengthen, expand and implement health communication programmes at all levels.
- To generate, collect and mobilize resources to implement health information, education and communication (IEC) programmes.
- To prevent the unauthorized dissemination and duplication of health related messages or information and IEC materials on different issues.
- To enhance capacity on health communication to develop, produce and disseminate quality, correct, authorized, uniform and appropriate messages and information.
- To provide quality health messages and information through appropriate media and methods to the citizens who otherwise have little access to such messages and information.

8.3.5 Strategies

Advocacy, health services and regularities are the core strategies for health promotion. Health education, information and communication activities implemented based on the health promotion strategies. The specific strategies are as follows:

- Advocating with all levels of stockholders for building healthy public policy and health in all policies.
- Implementing a one-door integrated approach for all health IEC programmes under MoHP.
- Ensuring adequate budget for health IEC programmes.
- Coordinating and collaborating with all stakeholders including partners
- Ensuring implementation of health IEC programmes through health infrastructure at all tiers of government i.e. federal, provincial and local levels in a decentralized manner.
- Mobilizing communication media, methods and materials for the prevention of diseases and promotion of health.
- Ensuring the quality, uniformity and standardisation of health messages and materials through technical committees.
- Using entertainment approach with an education format for disseminating health messages and information.
- Ensuring that all stakeholders disseminate health messages and information after taking consent from concerned MoHP authorities.
- Encouraging the media to disseminate messages and information on health issues.
- Encouraging the dissemination of health messages and information through public-private partnerships.
- Discouraging messages and information that is harmful to health.
- Prioritizing lifestyle diseases prevention messages and information dissemination.
- Building the capacity of health workers to plan and implement health IEC programmes.
- Introducing new communication technologies for health promotion and health communication.
- Coordinating with academia for building the capacity of health workers on health promotion and health communication.
- Strengthening monitoring and supervision activities to support and determine the gaps in knowledge, attitudes and practices among target audiences and service providers.

8.3.6 Major activities and achievement by federal, province and local level in 2077/78

Health education, information, communication activities were carried out at federal level as mentioned below (Table 8.3.1).

Table 8.3.1: Major activities carried out by federal level in 2077/78

• Development and production of IEC materials and distribution to stakeholders.	• Communication programme on communicable disease and epidemic prevention.
• Development, production and broadcasting of health messages through radio, television, and newspapers.	• Awareness and communication programme on IMNCI, immunization, diarrhoeal diseases, pneumonia etc.

• Broadcasting of health messages through radio Nepal and Nepal television in news packages and through dedicated and specific programs like jeevanchakra, janaswasthya radio program, janaswasthya bahas. Press meet	• Health awareness and communication program on mental health and birth defect
• Communication programme on smoking and tobacco product control and regulation.	• Dissemination of messages and information through popular online media
• Child health, free health, communicable and non-communicable disease prevention related IEC materials printing and distribution	• Safe motherhood, delay marriage and family planning, adolescent health related inter-personal, social mobilization and mass communication programme
• Communication programme on risk factors of non-communicable diseases through social mobilization, interpersonal communication as well as electronic and print media.	• Airing and broadcasting of disease outbreak and epidemic related messages.
• Covid-19 prevention and control program	• Health tax fund program on tobacco control and regulation.
• Promotion of COVID-19 vaccines through mass media, risk communication and community engagement	• Risk communication and community engagement directive endorsed
• Campaigns like Nepal mask campaign, Nepal mental health campaigns were carried out	

Source: NHEICC

Health education, information, communication and health promotion activities that were carried out by provincial and local level in the reporting period are listed in the following table (table 8.3.2).

Table 8.3.2: Major activities carried out by province and local level in 2077/78

• Broadcasting of messages via local mass media	• Celebration of world health day and other health related days, week and months.
• Journalist interaction on different health issues.	• School health education, health mother group and social behaviour change campaign at local level.
• School health education program.	

Source: NHEICC

8.3.7 Trend program analysis by federal, provincial and local level

The physical and financial achievement in the year 2077/78 regarding Health education, information, communication and health promotion programme by federal level was 98.23 percent and 74.99 percent respectively. Provincial and local level achievement report was not available in the reporting year. The trend is shown in the following table (Table 8.3.3)

Table 8.3.3: Percentage trend of physical and financial achievement by federal, provincial and district level in 2073/74 to 2075/76.

Programme	2075/76		2076/77		2077/78	
	Physical	Financial	Physical	Financial	Physical	Financial
Federal Level	56.04	79.12	95	76.41	98.23	74.99
Provincial and local Level	NA		NA	NA	NA	NA

Source: NHEICC

8.3.8 Strength, Weakness and Challenges:

The strength, weakness and challenges of Health education, information, communication and health promotion programme in the reporting year are shown in the following table.

Table 8.3.4: Strength, Weakness and Challenges

Strength	Weakness	Challenges	Opportunities
• National health communication policy, strategy and directive are in place. • Good organizational structure at Federal/ Province level for health promotion program • Behaviour change communication for health promotion approach has been developed in line with national health communication policy 2012. • Programmes flow from federal to province and local level.	• Limited human resource for health promotion at federal and province level. No human resource for health promotion at local level. • No organizational structure for health promotion at local level. • There is no reporting of HEIC activities at local level.	• Inadequate compliance with national health communication policy (NHCP), guidelines and directives. • Less emphasis in health promotion activities according to changing disease pattern. • Inadequate allocation of budget on the basis of planned programs	• New initiations such as anti-alcohol control advocacy program, Health Promoting school programs, Formulation of strategies such as strategies for health promoting school, hand washing strategies, health promotion strategies etc. • Understanding a health literacy as a outcome of health promotion for health mangers and health workers which support to change their mind-set of working. • Creating healthful school environment • Promotion of hand hygiene, oral hygiene and genital hygiene. • Gradually digitalisation of IEC/BCC materials.

8.4 HEALTH SERVICE MANAGEMENT

Background

The Management Division (MD) is responsible for DoHS's general management functions. DoHS's revised Terms of References (ToR) of MD describing it as the focal point for information management, planning, coordination, supervision, forecast, quantify, procure, distribute health commodities for the health facilities and the monitoring and evaluation of health programmes. The division is also responsible for monitoring the quality of air, environment health, health care waste management, water and sanitation. It also monitors the construction and maintenance of public health institution buildings and supports the maintenance of medical equipment. It also involved repair and maintenance of bio-medical equipment, instruments and the transportation vehicles. More activities assigned to this division include including policy and planning related to health infrastructure and logistic management. The objectives and strategies of the Management Division are listed in Box 8.4.1

Box 8.4.1 Objectives and strategies of the Management Division

Objectives — The Management Division aims to support health programmes and DoHS to deliver health **services** through the following specific objectives:

- Facilitate and coordinate among concerned divisions and centres to prepare annual plans, programmes and to make necessary arrangements to get approval from the National Planning Commission (NPC) and Ministry of Finance.
- Make arrangements for the preparation and compilation of annual budgets and programmes of province and local levels.
- Monitor programme implementation status and carryout periodic performance reviews.
- Manage integrated health information system.
- Manage and coordinate the construction and maintenance of buildings and other public health infrastructure including the maintenance of biomedical equipment.
- Support MoHP to develop and implement environmental health, health care waste management and drinking water-related policies, directives and guidelines
- Support MoHP to develop and update national-level specification bank for drugs and health equipment's.
- To plan and carry out the logistics activities for the uninterrupted supply of essential medicines, vaccines, contraceptives, equipment, HMIS/LMIS forms and allied commodities for the efficient delivery of healthcare services from the health institutions of government of Nepal in the country.

Strategies:

- Make arrangements to collect and analyse health information and use it to support the planning, monitoring, and evaluation of health programmes
- Strengthen bottom-up planning from community to central levels via the optimum use of available resources including health service information.
- Support MoHP to Conduct and expand regular periodic performance reviews and use outcomes for improvements down to community level.
- Strengthen and guide the monitoring and supervision system at all levels.
- Establish a central data bank linking HMIS with the Human Resources Management Information System (HURIS), health facility and work force registry, surveillances, HIIS, LMIS, finance, surveys, censuses and other sources of information.
- Expand computerized information systems at all levels.

- Monitor the health services provided by state and non-state health institutions.
- Develop and implement construction, repair and maintenance plans for public health facilities and for biomedical equipment.
- The routine management of integrated health service Information.
- Develop and implement integrated supervision and monitoring plans.
- Establish and develop required infrastructure, human resource and guidelines to conduct other assigned designated and non-routine works.
- Logistics planning for forecasting, quantification, procurement, storage and distribution of health commodities.
- Introduce effective and efficient procurement mechanisms like e-Bidding, e Submission.
- Use of LMIS information and real-time data in the decision making.
- Strengthen physical facilities at the Federal, Provincial, District and Local level for the storage and distribution of health commodities.
- Promote Online Inventory Management System and Non-Expendable/Expendable Items Inventory System in Federal, Provincial, District and Local level warehouses.
- Auctioning of non-functional cold chain equipment's/furniture, vehicle etc.
- Repair and maintenance of bio-medical, cold chain equipment's/instruments and transportation vehicles.
- Capacity building of required human resources on logistics management regarding public procurement, e-bidding, e-procurement, and online Inventory Management System at all levels.
- Implement effective Pull System for year-round availability of Essential Drugs and other health commodities at all levels (Federal, Provincial, District and Local level Health Facilities).
- Improvement in procurement and supply chain of health commodities, working on procurement reform and restructuring of federal, provincial and district stores.
- Formation of IHIMS Working Group at Federal and Provincial levels.

Organizational arrangements

The Management Division has four sections and one unit for the overall management of functions and service delivery (Box 8.4.2). The specific functions of sections and units are given below:

Box 8.4.2 Sections under Management Division
• Integrated Health Information Section
• Environmental Health and Health Related Waste Management Section
• Health Infrastructure Development Section
• Logistic Management Section

8.4.1. The Integrated Health Information Management Section

This section manages health service information from community to the DoHS level. This system provides the basic information for planning, monitoring and evaluation of the health system at all levels. The major functions of the HMIS are listed in Box 8.4.3

Box 8.4.3 Major functions of the Integrated Health Information Management System

- Facilitate MoHP to develop national level policies, plans, regulation, guidelines, standards and protocols related to integrated information system.
- Timely update and making information digital friendly for effective management and health information.
- Develop, expand and institutionalize existing health sector information system such as HMIS, LMIS, HIIS etc as an integrated information system.
- Identification and revision of sector wise health indication for national level health information.
- Develop periodic and annual health reports and disseminate the funding based on rigorous analysis and existing health information.
- Facilitate for capacity building and health personnel for institutionalization of integrated information system at different level.
- Coordination and cooperation with provincial and local level government for health-related information management system development and implementation.
- Facilitate division of DoHS for developing annual work plan and budget.
- Prepare and document monthly, trimester and annual progress and various activities conducting by divisions under DoHS and need based reporting to MoHP.
- Provide support to MoHP on behalf of DoHS for development of overall plan.
- Improve online data entry mechanisms in all districts and hospitals and gradually extend online data entry to below districts level health facilities. Online data entry mechanism will be established in provinces and local levels.
- Establish a uniform and continuous reporting system from government and non-government health service providers so that all health services provided by government and non-government providers are reported and published.
- Verify, process and analyse collected data and operate a databank.
- Provide feedback on achievements, coverage, continuity and quality of health services to programme divisions and centres, RHDs, hospitals, DHOs and DPHOs. Databased feedback will be provided to provinces.
- Disseminate health information through efficient methods and technologies.
- Improve the information management system using modern information technology.
- Update HMIS tools as per the needs of programme divisions and centres.
- Update geo-information of health facilities.
- Provide HMIS and DHIS 2 tracking as per needed.

Nepal's health sector needs accurate, comprehensive and disaggregated data to gauge its performance, to identify inequalities between social groups and geographic areas, to plan future interventions, and to enable the monitoring of NHSP-2 and NHSS targets to provide evidence to inform strategic and policy level decisions.

The current HMIS software system (DHIS 2 software) meet the basic requirements of the recently revised HMIS. Existing software related errors have been resolved with upgrading of System to dHIS 2.3. Few problems related to Nepali Calender are on the progress of sorting out with the help of DHIS 2 developers. New Dashboards for different level governments have been developed which will facilitate program managers and policy managers to monitor real time health situation. There is still software related errors seen which are raised due to calendar and other issue.

8.4.2. Health Infrastructure Development Section

Functions of the health infrastructure Development Section are listed in Box 8.4.4

Box. 8.4.4 Major Functions of the Health Infrastructure Development Section
• Support MoHP for development of national level policy, regulation and standards related to physical structure of health facilities and health equipment's.
• Maintain the updated record and upgradation of physical infrastructure and health equipment.
• Facilitate health facilities to develop national plan for need based infrastructure development.
• Coordination with concerned authorities for basic infrastructure management of health facilities.
• Facilitate for development update and monitoring of hospital code of conduct.
• Facilitate for supervision, monitoring and quality control of health infrastructure and equipment.
• Identifying the status of and maintaining medical equipment;
• Rolling out the out sourcing of maintenance contract nationwide.
• Coordinating with government agencies and other stakeholders for the maintenance of health facility and hospital medical equipment.
• Manage and mobilize biomedical engineer and other human resources.

8.4.3. Environment health and health related waste management section

As per the work description approved from council of ministers federal gvernemtn is responsible for development and monitoring and evaluation guideline, logical framework, quality standard for drinking water, food and air quality. This section was establish to implement the above function of the federal governement. Detail terms of reference of this section is included in Box 8.4.5

Box 8.4.5 Major Functions of the Environmental health and health related waste management section
• Support and facilitate MoHP to develop environmental mental health related policy, guideline, directions and standards.
• Facilitate for carrying out regular surveillance and studies related to impact and drinking water, air and overall environmental on health status and support for environmental pollution control.
• Support MoHP for development of national laws, policies, plans, standards and protocols for health-related waste management.
• Facilitate for scientific management of health-related wastages released for different health facilities under federal, provincial and local level government.
• Carry out monitoring and central activities for scientific management of health-related wastages released from health facilities under federal government.

8.4.4. Logistic Management Section

The function of the Logistic Management section are listed in Box 8.4.6

Box 8.4.6 : Major functions of the Logistic Management Section
• Support MoHP for development of procurement and supply related national laws, policies, guidelines, quality standards, protocols. • Support MoHP to prepare national level standard and specification bank for drugs, health related tools and equipment. • Procurement of vaccine, family planning commodities and other essential health commodities to the province. • Facilitate federal and local level government for procurement and supply of the essential medicines and equipment. • Coordination and facilitation to develop and institutionalize logistic information system at the national level. • Management of essential commodities at the health facilities under DoHS.

Major ongoing activities

The following innovative activities were conducted on a regular or ad-hoc basis in 2077/78 alongside the above-mentioned regular functions.

a) Health Infrastructure Information System **—** The HIIS is expected to provide the basis for decision making on building construction and maintenance as well as for resource allocation. The system is in process of completion after which it will be regularly updated.

*b) Building construction and maintenance***—** The Management Division oversees the construction and maintenance of health facility buildings and other infrastructure in partnership with the Department of Urban Development and Building Construction (DUDBC). All maintenance within health facilities premises and construction and maintenance works costing less than one million were disbursed through the Management Division till 2074/075. All other construction works costing more than one million is done through DUDBC. Since 2061/62, a total of 2,069 facilities have been built while in 2077/078 NPR 2.72 billion was spent on health building construction through DUDBC (Table 8.4.1). An MoHP committee monitors these works.

Table 8.4.1: Summary of building construction Status by DUDBC (2061/062 – 2077/078)

Detail	Number
Total number of health facilities built	2069
Number of facilities under construction	84
Near to completion facilities	63
Completed/handed over facilities	1922*
Budget allocated (in NPR) in 2076/077	3,48,91,20,000
Expenditure (in NPR) in 2076/077	2,71,78,65,466 (77.89%)

*** Out of 1922 completed/handed over facilities, 32 facilities are completed but final payment is due.**

Table 8.4.2: Building construction scenario in previous five years from DUDBC.

Types of building	2073/74	2074/75	2075/76	2076/77	2077/78
Health posts with birthing centres	275	-	-	-	2
Doctors' quarters	20	-	1	-	-
Staff quarters	36	-	-	-	-
PHCCs	6	-	-	-	-
Birthing centres	8	-	-	-	-
District health stores	-	-	-	-	-
BEOC buildings	-	-	-	-	-
CEOC buildings	-	-	-	-	-
Public health office buildings	-	-	-	-	-
District hospital buildings	3	-	6	-	-
Regional hospital buildings	-	-			
15 bedded hospital building	-	-			
Zonal hospital buildings	-	-			
Sub-regional hospital buildings	-	-			
Maternity units in zonal hospitals	-	-			
Emergency blocks in district hospitals	-	-			
Block A buildings in districts	-	-			
Maintenance and Renovation	-	-	-	4	-
Vaccine Warehouse	-	-	-	-	8
Provincial Public Health Laboratory (PPHL)	-	-	-	-	5
Regional Medical Store	-	-	-	-	3
Ayurved Panchakarma & Yog	-	-	-	-	1
Ayurved Hospital	-	-	-	-	1

d) Health facility upgrading— The Management Division has started the process of upgrading PHCCs and below 15 bed district hospitals up to 15 bed hospitals. In line with the upgrading of all sub-health posts to health posts and higher level facilities to at least 15 bed hospitals following certain procedures, division collects demand and recommendations from concerned agencies and process for approval.

e) *Logistics Management Information System (LMIS)* - This unit was established in 1994. LMIS unit just started Online Inventory Management System in 2 Central Warehouses, 5 provincial warehouses and 77 District Warehouses. After the restructure of Nepal's governance in federal structure, the logistic management division was demolished and its functions are being carried out through logistic management section under Management Division of Department of Health Services. Major Functions of Logistic Management section are collection and analysis of quarterly (three monthly) LMIS reports from all of the health facilities across the country; preparation, reporting and dissemination of information to:

- Forecast annual requirements of commodities for public health program including family planning, maternal, neonatal and child health, HIV and AIDS commodities, vaccines, and Essential Drugs;
- Help to ensure demand and supply of drugs, vaccines, contraceptives, essential medical and cold chain supplies at all levels;
- Quarterly monitor the national pipeline and stock level of key health commodities.

The following are the major activities conducted by the Management Division in 2077/78:

- Conducted 26th National Annual Performance Review Meeting, 2077/78.
- Continued HMIS's web-based online reporting system.
- Prepared dashboards in dHIS-2 so that major indicators can be easily observed.
- Manage to print and distribute HMIS/LMIS forms, stock books and different forms required for all health institutions.
- Major Problems encountered in dHIS-2 were fixed.
- Prepared, printed and distributed the DoHS Annual Report, 2076/77 (2019/20).
- Support and conducted HMIS/DHIS 2 training for newly recruited health workers and palika level health incharge throughout the country.
- Arranged the printing and supply of HMIS recording and reporting tools.
- Orientated and trained health workers on health care waste management.
- Orientation and training on health care waste management to Province and Local level staff.
- Plan for the efficient management on forecasting/quantification, procurement, storage, distribution and transportation of health commodities to all health facilities for the delivery of healthcare services based on LMIS.
- Develop tender documents as per public procurement rules and regulations and procure essential medicines, vaccines, contraceptives, equipment, different forms including HMIS/LMIS and allied commodities.
- Store, re-pack and distribute medicines, vaccines, contraceptives equipment and allied commodities.
- Support on implementation and functioning of Web Based LMIS. Web based LMIS will be modified and robust into Online Inventory Management System at federal, provincial and local level.
- Conduct capacity building in Online Inventory Management System to all New/Old Store Keepers, Computer Assistants for full functioning of OIMS throughout country with live operation.
- Conduct capacity building on Public Procurement Act and Regulations with coordination of Public Procurement Monitoring Office to provincial and local level managers and Store Keepers
- Capacity building of health workers and office assistant of central, provincial and local level on Standard Operating Procedures (SOP) in Effective Vaccine Management (EVM).
- Disposal, De-junking and auctioning of unusable equipment, materials and other health commodities.
- Coordination with partner INGOs and NGOs for strengthening cold chain capacity through support in disaster resilient cold chain equipment as well as repair and maintenance of refrigerators and freezers.
- Manage to maintain the bio-medical equipment, machineries and transport vehicles.
- Implement and monitor Pull System for contraceptives, vaccines and essential drugs in the districts.
- Coordinate with all development partners supporting health logistics management.
- Supervise and monitor the logistics activities of all medical stores.
- Conduct RDQA for LMIS data Quality Assessment.

Issues, challenges and recommendations

Table 8.4.5: Issues, challenges and recommendations — health service management

Issues and challenges	General recommendations
Inadequate quality human resources	Produce and appoint skilled human resources
Individualized planning in divisions and centres (due partly to time constraints) and negligible bottom-up planning	Ensure strategic joint central annual planning and budgeting under the Management Division for one-door planning from DoHS and promote bottom up planning to address district specific issues
Insufficient budget for building health facility and hospital buildings.	Provide funds and human resource support for upgraded health facilities.
Health facility buildings construction delayed and obstructed (around 1% sick projects).	Mandatory supervision and approval by concerned health facilities before payment for building construction. Self-dependence for health facility building construction in the long term.
The standardization of public hospitals	Strategic planning to bring public hospitals to design standard as per guidelines
Insufficient and poor implementation of waste management guidelines by health facilities and hospitals	Expand programme and budget for health care waste management as per guidelines
Information flow from lower level health facilities and data quality issues	Provide more budgetary support for data quality and its timely flow from lower level health facilities to DHOs and DPHOs and make reporting to DoHS's information system mandatory for all hospitals
The monitoring of private health care	Establish a task force or outsource the supervision of private health facilities
Low Budget in Drug Procurement and supply in local level	Budget will be revised as demand in next year.
Capacity building in procurement, forecasting, quantification and LMIS	LMS has planned to conduct that training at all provinces.
Management of Expired, Wastage and unused materials	LMS will collect those materials from all provinces and destroy or disposed as process.
Inadequate of HMIS/LMIS tools and late supply	Tools will be supplied in time and adequately
High demand of required equipments	LMS will demand budget for equipment procurement.

Table 8.4.6 : Specific recommendations — Health Service Management

Recommendations	Responsibility
a. Health infrastructure	
• Endorse proposed Central Coordination Committee and Technical Committee • Form joint taskforce representing MoHP, DoHS-MD, RHDs and DUDBC officials to assess delayed and ongoing infrastructure projects and make plan to address issues • Operationalise joint monitoring team for the field monitoring of construction projects • Endorse standard building design and guidelines • Develop a building planning cycle • Establish/strengthen a health infrastructure section with adequate capacity at central and regional levels to be responsible for construction related planning and budgeting. • Update and strictly implement land development criteria considering geographical variation, urban/rural settings (guidelines have been endorsed by MoH with ministerial decision). • Assess regional, sub-regional, and zonal hospitals against standard guidelines and develop standardization plan. • Develop mechanism to standardise PHC-ORC structures in coordination with communities.	MoHP, DoHS-MD,PPICD, RHDs, DHOs, DPHOs
Information management	
• Initiate and continue measures to functionalise and regularize all routine information systems. • Roll-out routine data quality assessment mechanisms at all levels. • The monthly generation of data from all data platforms; sharing and review with concerned programmes, divisions, RHDs, DHOs, DPHOs, and hospitals. • Provide data access through public portal, including meta-data and resources. • Ensure interoperability among all existing management information systems. • Develop and implement a long-term survey plan.	MoHP, DoHS-MD,PPICD,RHDs, DHOs, DPHOs
Supervision and monitoring	
• Update and implement integrated supervision checklist, supervision plan and feedback tools. • Deploy functional feedback mechanism with provision of coaching and mentoring services. • Develop monthly integrated online supervision calendar and submit to higher authority to monitor effective execution at all levels.	All levels

8.4.4 Logistic Management

8.4.4.1 Background

An efficient management of logistics is crucial for an effective and efficient delivery of health services as well as ensuring rights of citizen of having quality of health care services. Logistics Management Division (LMD) was established under the Department of Health Services in 2050/51 (1993), with a network of central and five regional medical stores as well as district level stores. The major function of LMD was to forecast, quantify, procure, store, and distribute health commodities for the health facilities of government of Nepal. It also involved repair and maintenance of bio-medical equipment, instruments, and the transportation vehicles.

To systematize the management of logistics, the Logistics Management Information System (LMIS) unit was established in LMD in 1994. LMIS unit started Web-based LMIS in 2065/66 and online IMS was implemented 2073/74 for store management. Further, MD started using eLMIS from Baishakh 2075 B.S to strengthen supply chain management, LMIS data entry and data visualization for better decision making. eLMIS is implemented up to Local Level stores and gradually implementing on service delivery points (SDPs). SDPs where eLMIS is not implemented are sending quarterly LMIS forms. After the restructure of Nepal's governance in federal structure, the logistics management division was removed, and its functions are being carried out through Logistic Management Section under Management Division of Department of Health Services. Major Functions of Logistic Management Section are collection and analysis of real time data up to LLG level and quarterly (three monthly) LMIS reports from all the health facilities across the country; preparation, reporting and dissemination of information to:

- Forecast annual requirements of commodities for public health program including family planning, maternal, neonatal and child health, HIV and AIDS commodities, vaccines, and Essential Drugs.
- Help to ensure demand and supply of drugs, vaccines, contraceptives, essential medical and cold chain supplies at all levels.
- Quarterly monitor the national pipeline and stock level of key health commodities.

Goal

Quality health commodities available at health facilities and community level round the year.

Overall Objective

To plan and carry out the logistics activities for the uninterrupted supply of essential medicines, vaccines, contraceptives, equipment, COVID 19 Commodities, and allied commodities (including repair and maintenance of bio-medical equipment) for the efficient delivery of healthcare services from the health institutions of government of Nepal in the country.

Strategies

- Logistics planning for forecasting, quantification, procurement, storage, and distribution of health commodities.
- Introduce effective and efficient procurement mechanisms like e-Bidding, e-Submission.
- Use of LMIS information and real-time data in the decision-making through data visibility in electronic logistics management information system (eLMIS).
- Strengthen physical facilities at the Central, Provincial, Health Offices, Local Level Government and SDPs for the storage and distribution of health commodities.
- Promote Inventory Management System and Non-Expendable/Expendable Items Inventory System in Central, Provincial, Health Office and Local Level Government warehouses.

- Auctioning of non-functional cold chain equipment/furniture, vehicle etc.
- Repair and maintenance of bio-medical, cold chain equipment/instruments and transportation vehicles.
- Capacity building of required human resources on logistics management regarding public procurement, e-bidding, e-procurement, and eLMIS at Central, Province, District, LLG and SDPs levels.
- Implement effective Pull System for year-round availability of Essential Drugs and other health commodities at all levels (Central, Province, Health Office, LLG and Health Facilities).
- Improvement in procurement and supply chain of health commodities, working on procurement reform and restructuring of federal, provincial and district stores.
- Formation of Logistics Working Group at Central and provincial levels.

8.4.4.2 Major Activities

- Plan for the efficient management on forecasting/quantification, procurement, storage, distribution, and transportation of health commodities to all health facilities for the delivery of healthcare services based on LMIS.
- Develop tender documents as per public procurement rules and regulations and procure essential medicines, vaccines, contraceptives, equipment, different forms including HMIS/LMIS and allied commodities.
- Store, re-pack and distribute medicines, vaccines, contraceptives equipment and allied commodities.
- Formation of 9 member Logistics Working Group (LWG) at Central level to solve logistics issues.
- Manage to print and distribute HMIS/LMIS forms, stock books and different forms required for all health institutions.
- Support on implementation and functioning of eLMIS.
- Conduct capacity building on Public Procurement Act and Regulations with coordination of Public Procurement Monitoring Office to provincial and local level managers and Storekeepers.
- Capacity building of health workers and office assistant of central, provincial, and local level on Standard Operating Procedures (SOP) in Effective Vaccine Management (EVM).
- Disposal, De-junking and auctioning of unusable equipment, materials, and other health commodities.
- Coordination with partner INGOs and NGOs like UNICEF, HEAL Group Nepal for strengthening cold chain capacity through support in disaster resilient cold chain equipment as well as repair and maintenance of refrigerators and freezers.
- Manage to maintain the bio-medical equipment, machineries, and transport vehicles.
- Implement and monitor Pull System for contraceptives, vaccines, and essential drugs in the districts.
- Coordinate with all development partners supporting health logistics management.
- Supervise and monitor the logistics activities of all medical stores.
- Conduct RDQA for LMIS data Quality Assessment.
- Implement Telemedicine program in the hill and mountain districts.

8.4.4.3 Analysis of Achievement

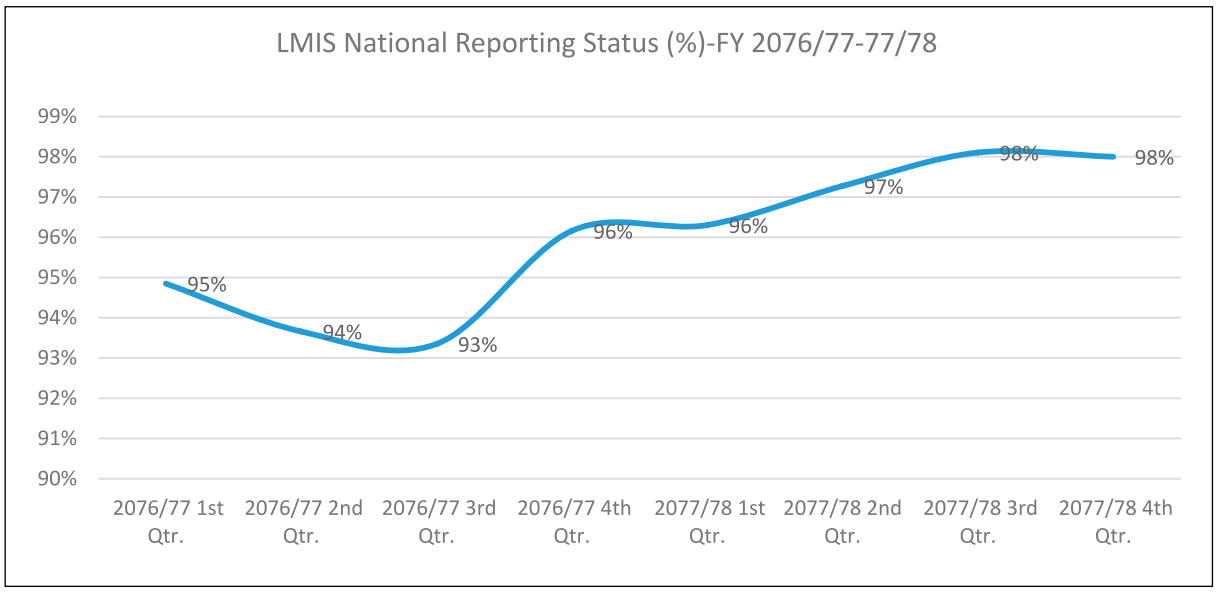
LMIS Reporting Status

- **Review and optimization of information flow for the LMIS reports**
- MD together with technical assistance with GHSC-PSM advocated for improved reporting rate; MoHP issued a letter to all provinces to make necessary arrangements for LMIS data entry at district or LLG level instead of sending reports to Kathmandu. To address this directive, the MD along with GHSC-PSM to implement the eLMIS transactional module to all provinces and 77 DHOs. The objective of the LMIS

data entry activities at the LLG level was to improve reporting timeliness, increase data visibility for forecasting, quantification, and procurement at the local level, and reduce the costs of transporting LMIS forms to Kathmandu.

Trend in reporting rate of LMIS

Figure 8.4.1. LMIS national reporting status



These efforts have resulted in improved reporting rates. FY 2077/78 average quarterly reporting rate is 97.32%. Timeliness of reporting improved significantly after the implementation of data entry through real time e-LMIS at all local level government. After successful implementation of e-LMIS at all local level government in FY 2077/78, reporting rate improved with reporting timeliness and real time health commodities stock status available for decision making at LLGs. **(Figure 8.4.1)**

- **eLMIS implementation**

  MD/LMS has successfully implemented the electronic Logistics Management Information System (eLMIS) in all Central Medical Stores, all Provincial Health Logistics Management Center (PHLMC), 77 Health Office stores, 753 LLGs, all 8 Laboratory and 156 Service Delivery Points within FY 2077/78. Remaining Service Delivery Points are in process of implementation.

  With the COVID-19 pandemic, MD initiated to track and trace COVID-19 commodities in eLMIS and decided to implement eLMIS up to Service Delivery Points where computer and internet service are available. A separate configuration was added on eLMIS to manage and track COVID-19 commodities. Separate new requisition type as 'COVID-19' was included in addition to regular and emergency requisition. A new dashboard was added on eLMIS for tracking COVID-19 commodities. Additional real-time reports to track COVID-19 stock status.

- **eLMIS implementation at Service Delivery Point**– As eLMIS is implemented up to all central, provincial, Health Office, LLG stores across all 7 provinces. LLGs analyzed the need of real time system for their service delivery points and initiated eLMIS implementation on Service Delivery points under their jurisdiction.

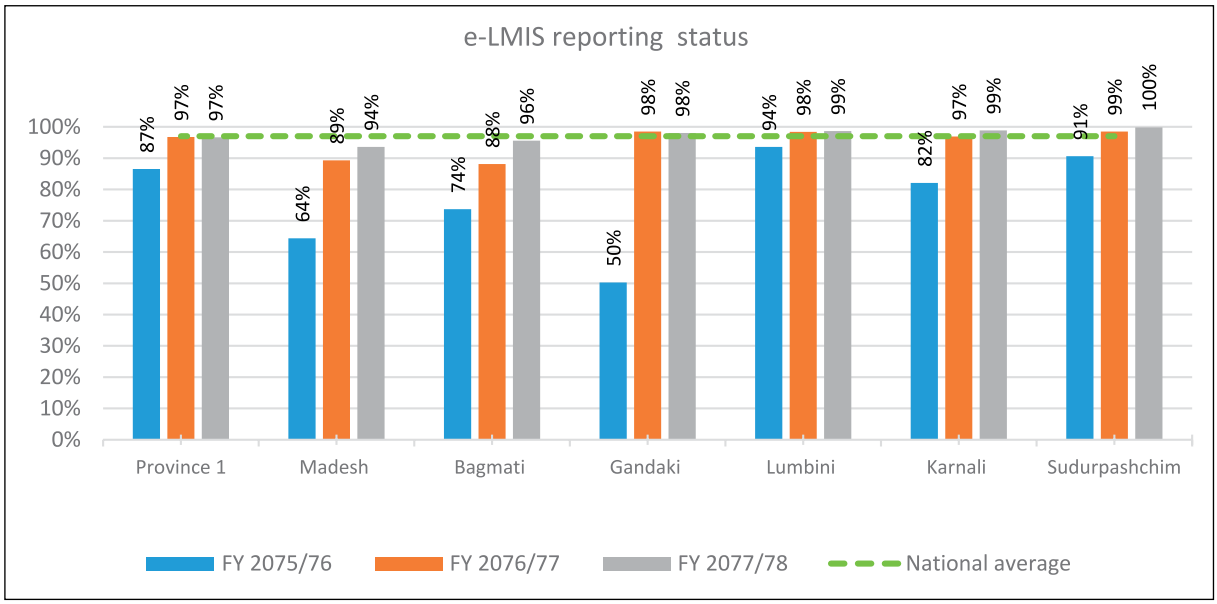
- **Continue eLMIS user support through help desk**– Management Division continues to provide system support to all users in 1,126 sites across the country. E- LMIS Help desk located at the Management Division, Teku, Kathmandu provides user support through toll-free helpline, trouble-shooting guidelines,

support personnel and training. The helpdesk receives calls and emails from eLMIS users, which are logged and given support tickets. Each query is tracked in the support Team Foundation Server software.

- **Standard operating procedures** – Management Division developed and implemented standard operating procedures (SOPs) for the functionality of the eLMIS to address user difficulties. The procedures have been submitted and approved by the Management Division.
- **eLMIS monitoring and data utility for decision making eLMIS** performance and COVID-19 dashboards were developed and updated daily to monitor stock status of COVID-19 commodities and show the use of the eLMIS at the live sites.

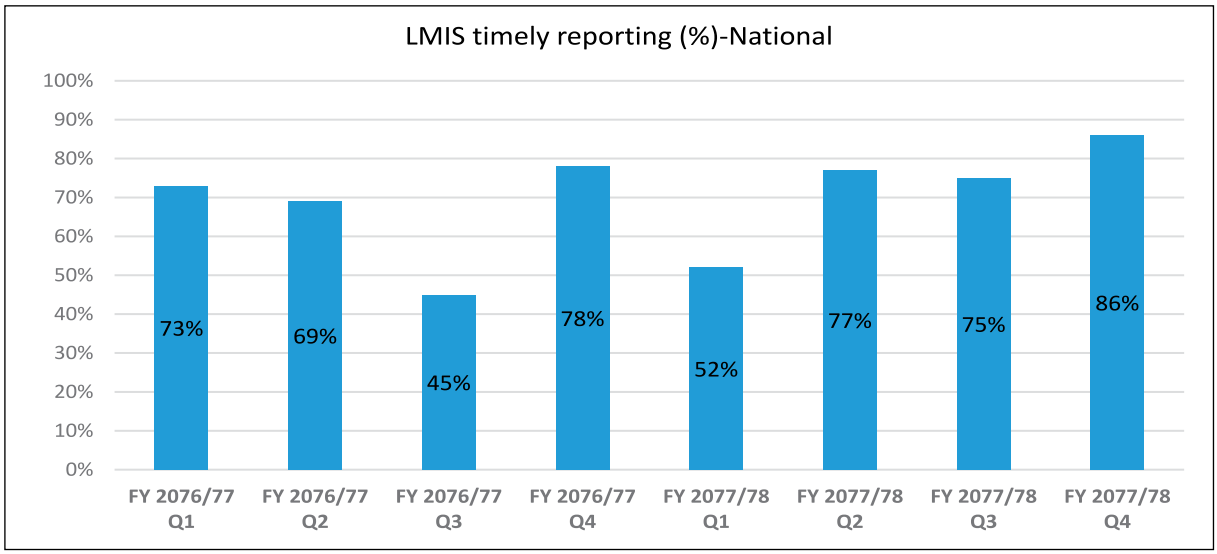
1. Provincial Reporting Status, fiscal year 2077/78

Figure 8.4.2. Reporting Status



Reporting status of LMIS has been improved across all three fiscal years in all provinces Except Madesh and Bagmati all provinces are above the national average of 97%. (**Figure 8.4.2)**

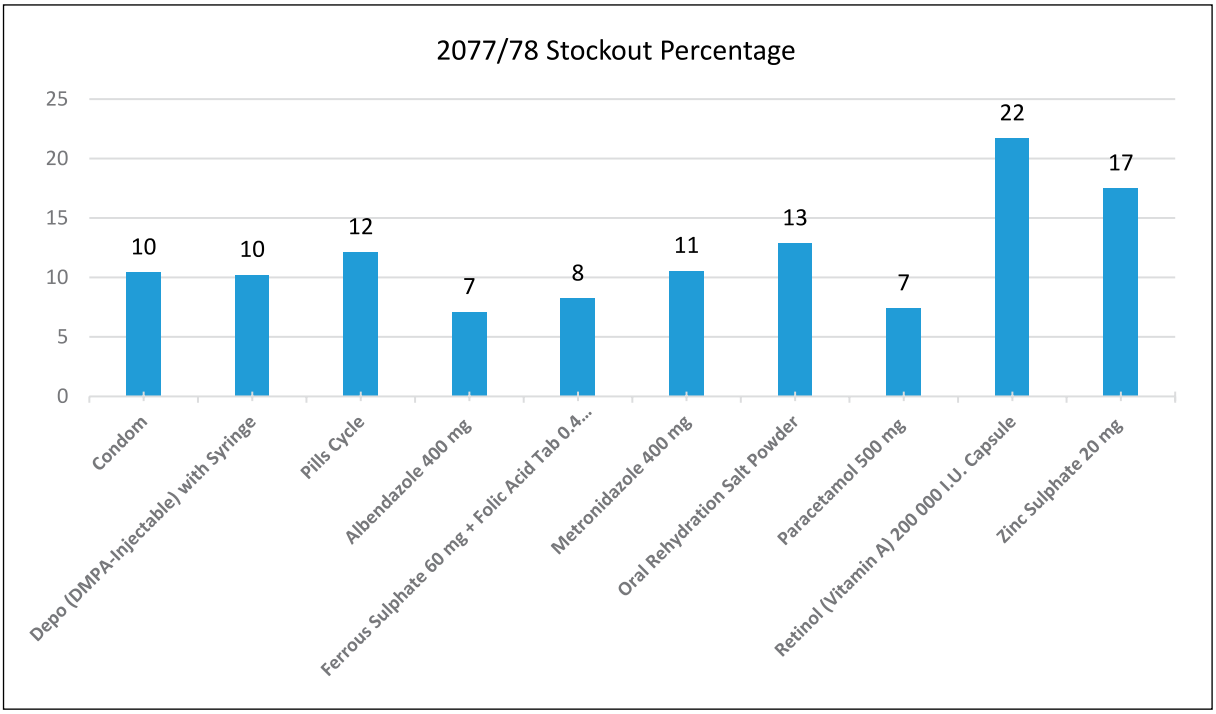
Figure 8.4.3 LMIS timely reporting



The timeliness of national reporting on LMIS has been gradually improve in final quarter of FY 77/78 as compared with first quarter of FY 2076/77. (**Fig 8.4.3)**

2. Availability of Key Health Commodities

Figure 8.4.4 Commodity Stockout Status, fiscal year 2077/78



LMIS report provides data visibility of stock status at the health facility level of key health commodities like Condom, Depo, Pills, ORS, Zinc, Vitamin A, Ferrous Sulphate, Albendazole, Paracetamol and Metronidazole 400mginand essential drugs for free health services on a quarterly basis. The figure shows average stockout rate(quarterly) in 2077/78. Among three FP commodities, Condom, Depo and Pills are stock out in 10%, 10% and 12% of SDPs respetively. Out of MNCH and essential commodities, Paracetamol has the lowers stock out rate at 7% whereas Vitamin A shows the stockout rate of 22%.(**Figure8.4.4)**

8.4.4.4 Major Logistics Activities to Strengthen Health Care Services

a. Procurement

MD/LMS continued and added more commodities in the multi-year procurement. Condom, Injectable, ORS, Iron Tablets, Essential Drugs are now being procured through multi-year mechanism. Multi-year mechanism saves every year bidding and evaluation time for tender. LMS also completed the LICB (limited international competitive bidding) process in coordination with World Bank for the procurement of Implants; which results in procuring directly from the manufacturer in much lower cost.

A district-wise breakdown list of essential drugs and quantities to be procured at the district level, are based on consensus forecast was developed by PHCRD and LMD. The list and budget were sent to all districts by the Primary Health Care Revitalization Division (PHCRD). Similarly, on the development of e-bidding software, the terms of reference/guidelines were finalized and sent to prospective e-bidders for their review and feedback.

Training on public procurement for the Province and District level personnel was provided with the financial support of UK AID/NHSSP and technical support of GoN/PPMO.

b. Consensus Forecasting

Forecast is crucial in identifying long-term need and funding requirement of health commodities. Every year, the working group forecasts for coming three-year period with periodic review. The group consists of representation from various divisions and centers under DoHS/MOHP including EDPs.

The main purpose of the workshop is outlined below:

- To estimate the future commodity needs based on data in the Logistics Management Information System (LMIS) and Health Management Information System (HMIS) and demographic and program considerations, in-country stocks, and supplies in the pipeline.
- To identify funding needs and budget allocations to procure the commodities.
- To provide data on specific commodity requirements to coordinate procurement and shipment delivery schedules.
- To ensure citizens' rights and the government's commitment to basic health service and universal health coverage for its citizens as per the National Health Policy and the Constitution of Nepal (2015).

Annually, quantification exercise has been undertaken through organizing consensus workshop. As in the past, in this FY2077/78 (FY20/21) on April 9-11, 2021 the Management Division (MD) of Nepal's Department of Health Services (DoHS) held a workshop in collaboration with the program divisions and centers with technical support of USAID GHSC-PSM Program. Forecasting and quantification of Essential drugs, RH/FP commodities, MNCH commodities, vaccines, syringes, and HIV& AIDS commodities were carried out for the coming FY 2078/79.

There were all together 7 divisions/centers shared their commodity forecasting in the workshop:

1. Curative Service Division (CSD)
2. Family Welfare Division (FWD)
    a. Child Health Section that included
        i. Expanded Programme on Immunization (EPI)
        ii. Integrated Management of Newborn and Childhood Illness (IMNCI)
    b. Family Planning and Reproductive Health Section
    c. Nutrition Section
3. Epidemiology and Disease Control Division (EDCD)
    a. Non-Communicable Disease & Mental Health Section
    b. NTD & Vector Borne Disease Control Section
    c. Zoonotic & Other Communicable Disease Control Section
    d. Epidemiology & Outbreak Management Section
    e. Leprosy Control & Disability Management Section
4. National Tuberculosis Control Centre (NTCC)
5. National Public Health Laboratory (NPHL)
6. National Centre for AIDS and STD Control (NCASC)
7. Management Division

The forecast was based on scientific data which included demographic data, consumption pattern, morbidity issues and some special programmatic considerations. The workshop also incorporated other factors effecting forecasting i.e., non-prescribed drugs, replacing drugs, fast moving drugs and duplication.

The workshop was successful in addressing issues on forecast and quantification of health commodities and came out with recommendations. The success of forecast and quantification is a milestone in logistics management, but there is always room for continuous improvement.

c. Quarterly National Pipeline Review Meetings

Pipeline monitoring of FP commodities was started since 1997/98. It now covers FP, MNCH, EPI Vaccines, Syringes, nutrition and selected Essential Drugs as well. National pipeline reports are now used to monitor the availability of the stock at service delivery points (SDPs) and to monitor the procurement status of key health commodities.

In each quarter, a national pipeline meeting takes place at the Logistic Management Section to review, monitor, and evaluate the procurement, shipment, distribution, transportation and stock status of family planning and other health commodities.

In Quarterly Pipeline Review meetings, program Divisions of DOHS, External Donor Partners and stakeholders like Social Marketing agency participate. In the meetings shipment schedules, shipment status (planned, ordered, and received), actual consumption and months-of-stock-on-hand of 39 health commodities were discussed.

In FY2077/78 (FY2019/20) due to COVID-19 pandemic emergency there were no any such meetings organized, however developed the pipeline report every quarter of the 39 key commodities including FP, EPI Vaccines and some program commodities. Based on evidence, decisions were taken to cancel or postpone or prepone or even relocation / redistribution of the stock averting a situation of stockout or overstock and expiry.

d. Strengthen Storage Capacity

Ideal storage conditions for essential drugs and commodities are required to deliver quality health services from any service delivery sites and ensure optimal health service utilization by consumers.

Numerous districts seriously lacked ideal storage space for handling health and other allied commodities including vaccines. Earlier assessment showed that storage space was inadequate, and security was poor, store space scattered in two or more rooms with none specifically designed for storage and many were in rented buildings. Most of the storerooms were filled with unusable commodities and junk. Every year huge quantities of drugs and other health commodities went missing, damaged, or had to be destroyed.

Logistics Management Section in technical assistance with USAID/GHSC-PSM enhanced warehouse capacity at the central and provincial warehouse with installation of storage equipment, and induction of good warehouse practices. Health Commodities store at the health office of all 77 districts were reorganized making it possible to institute supportive supervision and good practices.

In the reporting period, GHSC-PSM worked closely with stakeholders – DoHS Divisions mainly the MD, provincial health directorates (PHDs) and Logistics Management Centers (PHLMCs), Health offices, local level governments (LLGs). The purpose is to ensure availability of uninterrupted supply of health commodities to patients.

Selected Model LLG Sites		
Province	**District**	**LLG**
Province 1	Sunsari	Duhabi Municipality
Province 2	Sarlahi	Lalbandi Municipality
Province 3	Makwanpur	Makwanpurgadhi Municipality
Province 4	Kaski	Machhapuchre Rural Municipality
Province 5	Rupandehi	Tilottama Municipality
Province 6	Surkhet	Chaukune Rural Municipality
Province 7	Kailali	Tikapur Municipality

GHSC-PSM in close coordination with provincial governments identified LLGs that could be developed as model LLGs based on set criteria, i.e., the LLG should have its own separate health storeroom and LLG's stakeholders and elected bodies should actively participate and provide support. The team assessed sites to coordinate with relevant stakeholders, observe storerooms, and gain an understanding of gaps and areas of support required. They prepared technical specifications for materials handling equipment and other equipment (air conditioning, computer, printer, closed-circuit television, etc.), completed vendor selection, and placed purchase orders. The procurement process is at its final stage for delivery of items.

e. Improving Inventory Management and Warehouse Best Practices

Proper warehouse storage and practices are key for maintaining quality health commodities and a functional supply chain system Effective and efficient management of racking and shelving simplifies the warehouse operation. A competent, motivated, skill-mixed workforce is required to ensure good storage practices, operations and that health commodities reach where they are needed most.

MD in collaboration with GHSC-PSM supported Provincial Health Logistic Management Center, and Health Office through mobilization of PSCC and pharmacist in all 77 districts organize all health office stores aligning the process for effective inventory management. This included arranging stores basedon warehouse best practices, conducting a physical count, removing expired commodities, updating inventory records, building overall capacity of staff with an emphasis on inventory management, supportive supervision, teamwork, dedication, hard work and cooperation with the local government institutions.

Pictures of store before, during, and after supportive supervision at HO Chitwan

During a site visit the following tasks are performed with supportive supervision as part of inventory management and warehouse best practices:

- Cleaning of the storage area
- Organizing of stores based on FEFO/FIFO and separation of non-usable health commodities from usable products;
- Performing physical count of all health commodities in a store;
- Verifying and reconciling counted stock with stock registers;
- Signing and stamping reconciled quantities by relevant authority;
- Updating all inventory records and tools (registers and eLMIS)
- On-the job-training on inventory management and any relevant supply chain management function.

Supportive Supervision and store rearrangement.

All the district stores were successfully reorganized with an updated stock balance in the system as well as segregation and record in the separate register of expired and damaged commodities. The event was highly appreciated by the district and provincial health directorates.

f. Capacity Building in Logistics Management

Basic Logistic Training

GHSC-PSM, jointly with PHLMC, organized a four-day Basic Health Logistic and Public Procurement Policy Training to build health worker capacity in supply chain management. The training was conducted for one district of Province 1, five districts of Province 3, and 12 districts of Province 5. A total of 318 participants were trained in the following areas:

- Logistics management system
- Good warehousing practices
- Minimum and maximum stock level
- Order quantity determination
- Logistics management and LMIS-related forms, format, and the importance of timely reporting
- Auctions and disposal
- Pipeline management and quantification (forecasting, supply plan, and budget analysis)
- Roles and responsibilities of storekeepers

Basic Health Logistic and Public Procurement Policy Training in Banke District of Lumbini Province

Real Time Inventory Management System (IMS)

The Ministry of Health and Population's (MoHP) overarching strategy (the Nepal Health Sector Strategy, NHSS, 2016-2021), OC9.1 calls for the improved delivery of health care services using evidence-based decision making at all levels of supply chain. In line with this, MD introduced Electronics Logistics Management Information System (eLMIS) as an improved logistics management information system for informed and evidence-based decision making to strengthen public health supply chain management in Nepal.

eLMIS has two major capability modules; reporting and transactional capabilities. Both options are used to ensure both the availability and visibility of data for informed decision making to ensure continuous availability of health commodities to end users.

The overall benefits of eLMIS implementation will be threefold:

Strategic impacts

- Availability of logistics data for measuring SC Performance.
- Capture and analyze logistics data for informed decision making
- Availability of real-time data enables MoHP to strengthen supply and demand planning, optimize transportation processes, control inventory costs, and minimize risks that lead to Stockouts, expiries and wastage.
- Capability to set up and report on KPIs for FP, MNCH, Vaccines, Essential drugs programs
- Integration with Health information system for visibility and analytics
- Full visibility and real time data for management of SCM.

Operational impacts

- Reduced cycle time for doing some SC activities (e.g., Order processing and reporting)
- Improved efficiencies in capturing consumption and other critical SC data
- Reduced LOE required to prepare and process orders
- Provided capabilities to SC performance enabling PHLMC, DHO, SDPs, and MD/DoHS of MoHP to make accurate decisions within appropriate timelines
- Provided end-to-end visibility into operational data on a real time basis

Public health impacts

- Increased availability of health commodities at SDPs
- Reduced stockouts of health commodities

g. Manual Revision of eLMIS and Basic Logistics Training

Basic Logistics Training Manual was revised on in line to structural changes in Federal Nepal. Trainings for different levels were organized with an aim of improving knowledge, skill and attitude of the storekeepers and health workers at different levels so as to ensure the availability of adequate supply of medicine and health commodities in health facilities to provide effective health care service.

eLMIS Training Manual was revised. The changes which was incorporated to fulfill the need to track and trace of COVID 19 commodities was incorporated.

h. Development of Basic Logistics Training Manual

LMS has developed Trainers' guide and participants handbook for Basic Logistics Training.

i. Conduction of eLMIS training

Management Division conducted eLMIS training to all Local Level Government, 156 Service Delivery Points. This helps to track and trace Health commodities Inventory data on the implemented sites.

SCMWG formation meeting in Gandaki Province

RDQA: Data quality assessment was conducted at Family Planning Central store in FY76/77. The main objective of data quality assessment was to monitor quality of eLMIS data on data accuracy, timeliness and data availability.

j. Supply Chain Management Working Group (SCMWG)

With formation of the Supply Chain Management Working Group (SCMWG) in Provinces 3, 4, and 6 in this fiscal year, the group is actively functional in all seven provinces of Nepal. The quarterly SCMWG meeting is organized with participation from the Ministry of Social Development (MoSD), PHLMC, Provincial Health Directorate (PHD), and external development partners working in health supply chain management in all provinces. In this fiscal year, 20 quarterly CMWG meetings were conducted. GHSC-PSM provided technical assistance to facilitate discussions on allocating supply chain resources, building health worker capacity, operationalizing the eLMIS system, reducing stockouts, and ensuring efficient supply of health commodities, including COVID commodities.

Major outcomes of these meetings were:

- Improved national LMIS reporting rate with an average of 96 percent and improved reporting timeliness of 90 percent in FY21 Q4
- Increased use of eLMIS and improved data quality
- Follow-up to ensure continuous availability of health commodities at SDPs
- Improved storage practices of health commodities (with regular arrangement of store)
- Approval of SCMWG Terms of Reference (ToRs) by the MoSD for Provinces 2, 4, and 7
- Formation of a group of technical experts to strengthen the supply chain at the district, LLG, and SDP levels with regular supportive supervision in Province 5
- SCMWG planning and support in implementing capacity-building activities of supply chain staffs in their respective provinces
- Advocacy on improving supply chain performance, and resource mobilization at lower levels to support eLMIS and supply chain operations

8.4.4.5 Issues and Action Taken:

Issues	Action Taken	Responsibility
Inadequate Budget in Drug procurement and supply in local level government	Budget will be revised as per need in next FY.	MoHP/DoHS
Capacity building in procurement, forecasting, quantification and LMIS	LMS and IHIMS has planned to conduct training in these areas and integrated orientation on e/LMIS, HMIS and HIIS at all provinces.	DoHS/MD/LMS/IHIMS
Not functioning of telemedicine program in rural areas	LMS will coordinate to start the well-functioning of telemedicine program	DoHS/MD/LMS
Management of Expired, Wastage and unused materials	LMS will collect those materials from all provinces and destroy or disposed as process.	DoHS/MD/LMS

Issues	Action Taken	Responsibility
Few eLMIS sites are not operational.	Microteaching and onsite coaching for non-operational sites, data verification and validation, and integrated data review program will be conducted in next fiscal year.	DoHS/MD/LMS/IHIMS
Insufficient LMIS tools and late supply in some Health facilities	Tools will be supplied in time and adequately	DoHS/MD/LMS/IHIMS
Different reporting frequency of HMIS (monthly) and LMIS (quarterly)	Quarterly basis LMIS will be shifted into Monthly basis as per integration policy data management from FY 2079/80.	DoHS/MD/IHIMS
Less number of Health facilities are using eLMIS as compared with HMIS	4,000 Health facilities are planned for eLMIS rollout/expansion by the end of FY 2078/79 and will expand gradually as per IHIMS roadmap and integration policy of Data management.	DoHS/MD/IHIMS
High demand of required equipment's	LMS will demand budget for equipment procurement.	DoHS/MD/LMS

8.5 PUBLIC HEALTH LABORATORY

8.5.1 Introduction

Nepal's healthcare system consists of laboratories involved in diagnostic services as well as those involved in public health activities (surveillance, and research). National Public Health Laboratory (NPHL) is a national level referral lab which regulates the laboratory services in the country. It was established in 1968 A.D. as Central Health Laboratory and began its function as Public Health Laboratory since 1991 A.D.

NPHL is concerned to identify and confirm the agents involved in public health threats, including those which may cause public health emergencies of international concern (PHEIC). Along with diagnostic facilities, NPHL conducts laboratory-based surveillance and plays a crucial role during the outbreaks of various emerging and re-emerging diseases for laboratory confirmation of outbreaks. It also operates as a quality assurance body, responsible for registration and licensing of private sector laboratories and blood centers as a focal point for blood safety in the country. Other programs included are National Influenza Centre, HIV referral laboratory along with the ARV monitoring facilities, Antimicrobial resistance (AMR) program, JE/Measles/ Rubella surveillance, Molecular diagnostic laboratory and quality control program.

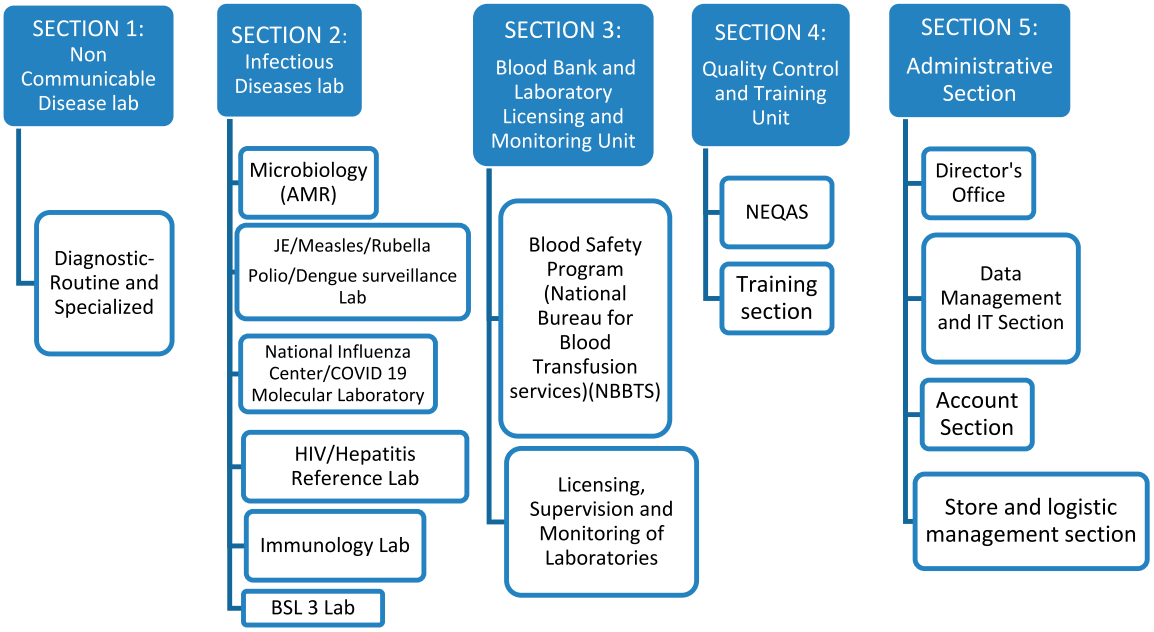
NPHL is operating as per the NHSS-IP's five -year program (2016-2021 A.D). It has started molecular diagnostic laboratory for molecular characterization and genotyping of the pathogenic organisms and early infantile diagnosis of HIV in infants below 18 months using the molecular PCR technology. A BSL-3 lab has been constructed for the purpose of bio containment precautionary required to isolate dangerous biological agent (Risk group 3agents).

With the start of 2020, there was spread of corona virus worldwide. NPHL, being a central laboratory under MOHP, it has responsibility for all public health laboratory issue. So it is playing an active role in control of this COVID-19 pandemic.

8.5.2 Objectives

- To act as a national reference laboratory
- To encourage research and collaboration to inform and improve the quality ofhealth laboratory services
- Training and workshops
- Assisting MoHP for preparing medical laboratory related, policy, legislation and guidelines.
- Quality assurance of laboratories
- Clinical Laboratory licensing, supervision and monitoring
- Support and regulation of blood transfusion service
- Sickle cell screening support to endemic areas
- Influenza surveillance, AMR surveillance, polio containment
- It is also measuring HIV viral load, Hepatitis B & C viral load and
- Planning to carry out genotyping.

8.5.3 Working Structure of NPHL



8.5.4 Non-Communicable Disease Department (NCD)

Five sections (Haematology, Biochemistry, Endocrinology, Histocytopathology and Histocompatibility & Immunopathology Laboratory) are being run under non-communicable disease department. Both routine and specialized services are being provided from these departments. Leukaemia panel (flow cytometric technique), Haemoglobin electrophoresis for haemoglobinopathies (e.g. thalassemia, sickle cell disease, etc.), coagulation factor assays and inhibitor assays, fertility panel and thyroid hormone panel including anti-TPO and thyroglobulin are some of the specialized services being provided.

Besides diagnostic facilities, molecular tests related to haematology like (BCR-ABL fusion gene, Factov-V leiden mutation) and NCD department in NPHL also monitors sentinel sites for Hemoglobinopathies that are situated in Nepalgunj, Bharatpur, Dhangadhi and Butwal. Various research activities are also being carried out in these sections.

8.5.5 National Bureau for Blood Transfusion Services

The National Bureau for Blood Transfusion Services (NBBT), which is based at National Public Health Laboratory (NPHL), is the national authority for implementing the National Blood Programme (NBP). NBBTS works to ensure the safe, adequate supply of blood and blood products to meet transfusion needs by developing policies, guidelines, standards and related software. NPHL is the national reference laboratory for transfusion transmissible infections (TTIs) and is responsible for evaluating conformational testing and for sending proficiency panels to blood transfusion service centres (BTSCs) under the National Quality Assurance Scheme (NEQAS). It is also responsible for governing National hemovigilance program, training BTSC staff, supervising, monitoring, licensing of BTSCs and motivational program. Also, provide equipments to the BTSCs to initiate or enhance the related services.

8.5.6 Quality Control and Training Section

Quality control section and training section carries out quality related activities and conducts training for lab personnel. Training for newly recruited lab personnel, bacteriology training, analyser application training and EID trainings are some of the regular trainings conducted.

Most of the activities of fiscal year 2077-2078 were dedicated to COVID-19 pandemic as well as laboratory related Quality Assurance & others.

8.5.6.1 ISO 15189:2012 accreditation continuation:

NPHL was granted accreditation as per ISO 15189:2012 "Medical laboratories- Requirement for quality and competence" in the discipline of clinical chemistry, immunology, serology/ molecular testing and haematology 11-05-2020 after a yearlong effort. This achievement was continued through year 2021 via assessment by audit team on March 2021.

Various ISO related activities are still ongoing and few more tests are planned to be added in the scope of accreditation this fiscal year.

8.5.6.2 Trainings

Both COVID and non-COVID trainings were conducted during 077-078. Trainings were conducted for NPHL staff (Inhouse trainings) as well as for other laboratories in the country (interlaboratory trainings)

Covid and Non Covid Inhouse and interlaboratory training organized by NPHL Fiscal year 2077/078

COVID-19 Related			
S.N	**Inhouse Training**	**S.N**	**Interlaboratory Training**
1	Orientation of COVID sample reception for COVID sample collection	1	Training on Biosafety Biosecurity and Documentation in COVID-19 PCR Lab-Province 1
2	SOP training of Aliquoting For Covid PCR aliquoting staff	2	Training on Biosafety Biosecurity and Documentation in COVID-19 PCR Lab-Province 2
3	SOP training on extraction For Covid PCR extraction staff	3	Training on Biosafety Biosecurity and Documentation in COVID-19 PCR Lab-Province 3
4	SOP training on Vehicle disinfection for drivers	4	Training on Biosafety Biosecurity and Documentation in COVID-19 PCR Lab-Province 4
5	Hands on training on COVID-19 antigen test	5	Training on Biosafety Biosecurity and Documentation in COVID-19 PCR Lab-Province 5
6	SOP training disinfectant of cold box	6	Training on Biosafety Biosecurity and Documentation in COVID-19 PCR Lab-Province 6
7	A brief explanation on COVID 19 precaution testing and isolation-I	7	Training on Biosafety Biosecurity and Documentation in COVID-19 PCR Lab-Province 7
8	A brief explanation on COVID 19 precaution testing and isolation-II	8	Orientation on Biosafety Biosecurity and documentation in COVID PCR Lab central level Kt

COVID-19 Related			
S.N	**Inhouse Training**	**S.N**	**Interlaboratory Training**
9	Orientation on Biosafety Biosecurity and documentation in COVID PCR Lab	9	COVID-19 PCR sample management virtual training for Lab assistant and lab Technician
		10	COVID-19 PCR sample management virtual training for Lab Technologist and Master

Non- COVID 19 related			
S.N	**Inhouse Training**	**S.N**	**Interlaboratory Training**
1	Disaster Management training for NPHL staff	1	NEQAS Software orientation training for QC Participating labs Ktm valley Periphery Private, Central level and Provincial hospital- I
2	Orientation Program of laboratory ISO 15189 for NPHL staff	2	NEQAS Software orientation training for QC Participating Ktm valley Periphery Private, Central level and Provincial hospital- II
3	First aid training for NPHL staff	3	NEQAS Software orientation training for QC Participating Ktm valley Periphery Private, Central level and Provincial hospital- III
4	Orientation training of software for NPHL staff	4	NEQAS Software orientation training for QC Participating Ktm valley Periphery Private, Central level and Provincial hospital- IV
5	Orientation on Dolphin for NPHL counter and collection staff.	5	NEQAS Software orientation training for QC Participating Ktm valley Periphery Private, Central level and Provincial hospital- V
6	Orientation on Dolphin for NPHL counter and collection staff	6	Biosafety and Security training for Laboratory Personnel (field testing of newly developed package)
7	Orientation on dolphin software for NPHL staff- I	7	Training on internal audit as per ISO 15189:2012
8	Orientation on dolphin software for NPHL staff-II	8	Component Preparation training For BTSC staff
9	Inventory Training for NPHL staff	9	Blood donor motivation training
10	Phlebotomy training for NPHL Routine sample collection staff	10	Training of Trainers (ToT) on Laboratory Quality management System
11	Orientation on Interpretation of automated cell counter	11	Orientation on appropriate use of blood and blood product and NPHL
12	Complete medical education (CME) for NPHL staff	12	Appropriate use of blood and blood product
13	Orientation training on inventory management	13	Appropriate use of blood and blood product
14	Application training (Biorad)		
15	Randox UK orientation on Quality control		
16	Sysmex Coultercounter		
17	Orientation of sero-surveillance		
18	Training on National Procurement system		
19	Application Training HPLC and variant II for Haematology Department		

8.5.6.3 External quality assessment schemes:

National Public health Laboratory (NPHL) is the government national reference laboratory under the Department of health services (DoHS) and Ministry of Health and Population (MoHP). It is directly linked with different levels of government laboratories in the country. It was established in 1968 as Central Health Laboratory. The name was changed to National Public Health Laboratory in 1991 with the mandate for organizational and administration responsibilities for the health laboratory services (public health and clinical diagnostic) in both public and private sectors throughout the country. Networking, Licensing, monitoring, supervision, capacity, strengthening and conducting research activities and NEQAS of the laboratories are the major functions of NPHL.

NEQAS Unit has been established in NPHL in 1997 AD with the collaboration of the International Nepal Fellowship (INF). In earlier phase government laboratories were enrolled in NEQAS programs, which now have been extended to the private sector.

Besides improvement in the quality of laboratory result NEQAS program are also is helping in policy making by making suggestion to higher authorities in the preparation of laboratory standards.

Various EQA schemes are being carried out by NPHL, covering different lab testing panels. The activities and their progress in fiscal year 2076-2077 & 2077-2078 been listed below:

List of NEQAS programs offered by NPHL

Table 1: List of NEQAS programs offered by NPHL

SN	NAME OF PROGRAM	TARGETED LAB	FREQUENCY OF CYCLE	STARTED
1	General/Basic NEQAS program *a. Basic clinical Biochemistry* *b. Basic Hematology* *c. Gram's stain '* *d. Peripheral blood smear (PBS morphology)*	All lab /hospital/ clinic/polyclinic/ of government, semi-government & private sectors	3 times of years (*Shrawan- Bhadra, Mangsir- Poush* & *Chaitra- Baishak)*	1997 AD
2	Dried tube specimen (DTS) EQA program - HIV 1 & 2 rapid test & ELISA	HIV testing sites only	Twice a year (Ashwin & Chaitra)	2021 AD
3	EQA program for bacteriology - Bacteria Identification - Antimicrobial Susceptibility Testing (AST)	AMR SITES	4 times a year (March, June, Sep & Dec)	2005 AD
4	CD 4 EQA program (distribution only) - CD 4 count	CD 4 testing sites (28)	Bimonthly	
5	Transfusion Transmitted Infections (TTIs) serology for blood transfusion service centre (NEQAS –TTIs) a. HIV 1 & 2 b. Hepatitis B Virus Surface Antigen (HBsAg) c. Anti HCV antibody d. Syphilis Antibody	For all Blood Transfusion service center of Nepal.	2 times of Year (Shrawan- Bhadra & Chaitra- Baishak.)	2012 AD

SN	NAME OF PROGRAM	TARGETED LAB	FREQUENCY OF CYCLE	STARTED
6	COVID-19 PCR EQAS proficiency test	For all COVID-19 PCR Sites	4 times of year Shrawan, Magsir, Falgun, Baishak	2020 AD
7	COVID-19 PCR EQAS Retesting	For all COVID-19 PCR Sites	Monthly	2020 AD

8.5.6.3.1 General/Basic NEQAS program

National EQAS (External quality assessment scheme) is one of the earliest schemes being run by NPHL and functioning since 1997 AD. Under this program, Proficiency test panel for biochemical tests, haematological tests and Gram's stain are prepared and dispatched to participating laboratories. Feedback is provided based on the results. Samples are sent three times a year. Around 580 labs are enrolled in this program and the number is still increasing.

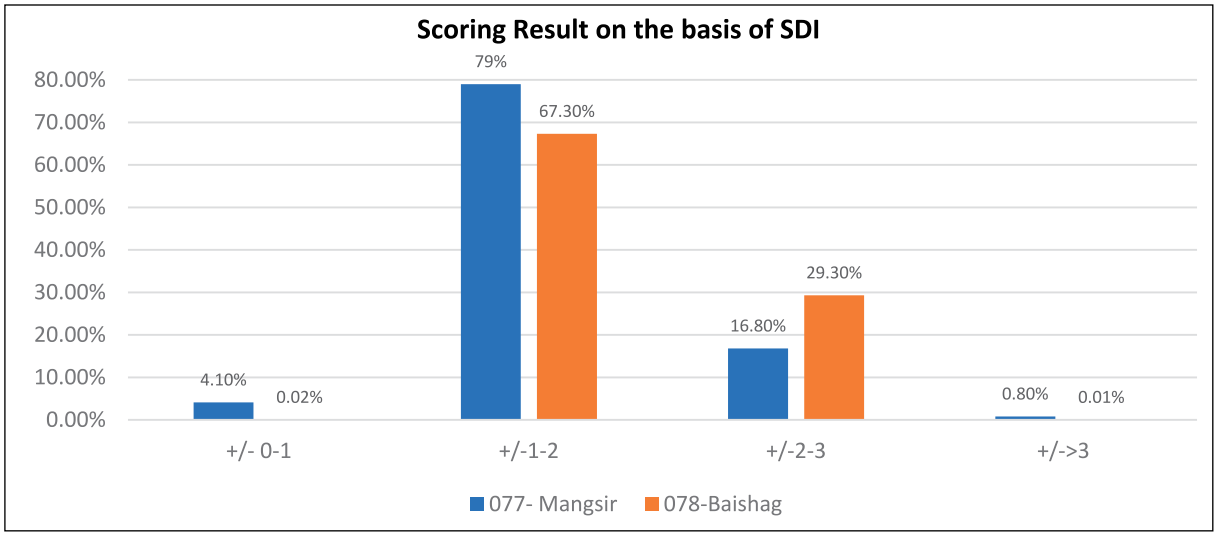
Though the program is intended to run three times a year, only two lots could be conducted this fiscal year, due to nationwide lockdown during COVID- pandemic.

Lot number	Sample dispatch date	Number of labs enrolled (samples dispatched)	Results obtained from (Number/ %)	Number of labs with Score based on SDI range (%)			
				+/- 0-1	+/-1-2	+/-2-3	+/->3
46	077- Mangsir	580	361 (62.2%)	4.1%	79%	16.8%	0.8%
47	078-Baishakh	633	324 (52.2%)	0.015%	67.3%	29.3%	0.01%

Result interpretation Based on:

SDI Range	Interpretation
within -1.0 to +1.0	Excellent
between ± 1.0 to ± 2.0	Good
between ± 2.0 to ± 3.0	accept with caution. warning Signal
beyond ± 3	Unacceptable performance, action signal

Figure 8.5.6.3.1: Scoring Result on the basis of SDI



8.5.6.3.2 NEQAS –TTIs:

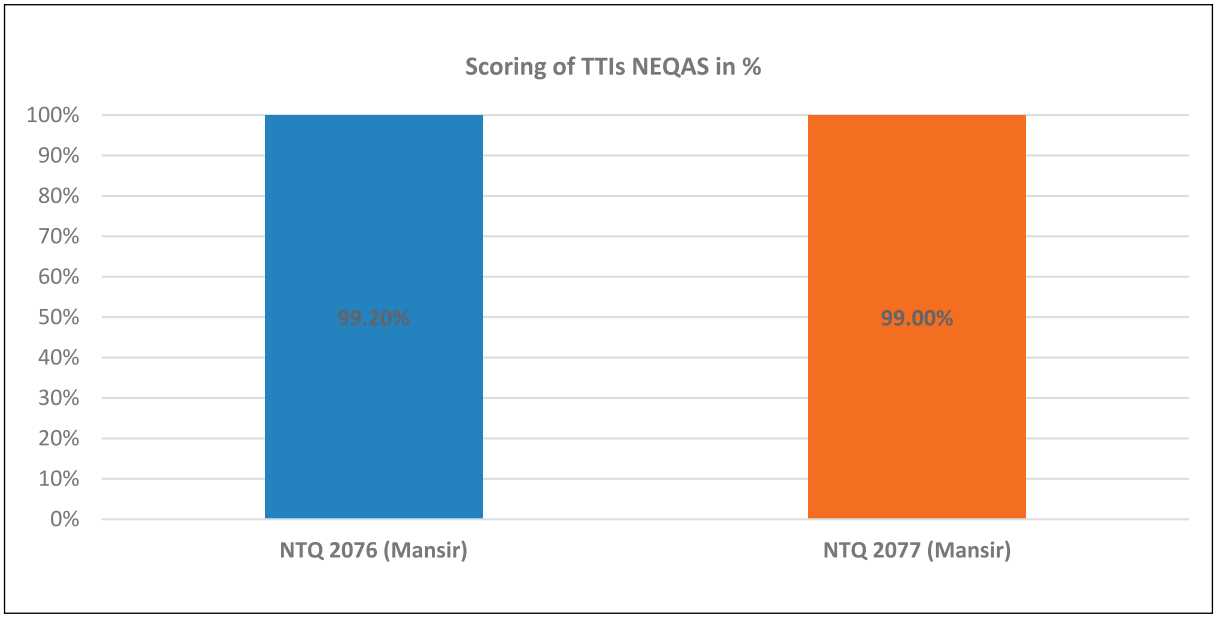
Under this program, EQAS is being run for Blood transfusion service sites and TTI screening test is targeted (HIV, HBsAg, HCV and VDRL). 112 such sites were enrolled in recent program. This program is intended to run every six month (biannually). However, only one round was possible in fiscal year 2076-77, due to COVID-19 pandemic.

Lot number	Date	Number of labs Sample was dispatched to	Results obtained from	Average score in %
NTQ 2077/78-1	077- Mangsir	113	75 (66.3%)	99.0 %

The scores obtained by participating BTSCs will be summed up and percentage scored will be calculated to evaluate the performance as below:

- Scoring **100% in NEQAS** - Excellent performance
- Score between **90-100%-**Need to be improve performance (Action required to troubleshoot the underlying problem)
- Score below **90%-** Unacceptable performance (Urgent action needed to review the technical competency of the BTSC and upgrade the quality of performance)

Figure 8.5.6.3.1: Scoring of TTIs NEQAS in %



8.5.6.3.3 EQAS for HIV testing:

Two kind of EQA scheme are being conducted for HIV testing laboratories.

a. Retesting of HIV Serology dried blood spot:

Due to COVID pandemic, the DBS samples were not tested and replaced by proficiency panel testing.

b. Proficiency panel testing of HIV Serology using Dried Tube Specimen (DTS):

This program is conducted two times in a year frequency; samples are prepared by NPHL and Send via respective Provincial Public Health Laboratories with an aim to replace retesting using DBS. However,

Due to COVID pandemic, it was possible to send the sample only once in 2021. DTS samples were sent to Gandaki and Province-2 without any formal training to the sites, whereas in other remaining provinces the samples were distributed after the training.

Duration: December 2020-February 2021

Performance Evaluation							
SITE	**Batch**	**Excellent (100%)**	**90-100**	**80-90**	**<80**	**Total participants**	**Total sample sent site**
PROVINCE -2	1ST BATCH	8	0	2	8	18	20
Gandaki	2ND BATCH	8	0	1	4	13	20

Duration: July 2021- September 2021

Performance Evaluation							
SITE	**Batch**	**Excellent (100%)**	**90-100**	**80-90**	**<80**	**Total participants**	**Total sample sent**
PPHL SUDURPASCHIM	NPHL-HIV-PT2	13	0	1	2	16	23
PPHL LUMBINI PROVINCE	NPHL-HIV-PT2	18	0	2	0	20	23
PPHL-1(BIRATNAGAR)	NPHL-HIV-PT2		0				25
PPHL (KARNALI PROVINCE)	NPHL-HIV-PT2	5	0		11	16	21
PPHL (BAGMATI PROVINCE)	NPHL-HIV-PT2	14	0	4	3	21	40

CD4 EQAS:

Under this scheme, EQA samples are distributed by NPHL to CD4 testing labs in the country. These samples are obtained from SIriraj Hospital, Bangkok, Thailand and evaluation is also done by the same institute. NPHL receives the feedback after submitting the results and the same is forwarded to concerned laboratories. This program is bimonthly in frequency and as with all other EQA programs; the EQA was not run in full-fledged fashion. However, the EQA samples were not received since the COVID -19 pandemic has started.

8.5.6.3.4 EQA program for bacteriology:

NEQAS in Bacteriology is conducted only for AMR surveillance sites since 2000A.D. NPHL dispatches four batches of EQAs containing 2 unknown strains were dispatched to all participating laboratories at an interval of 3 months during Falgun, Jestha, Bhadra and Poush respectively. Laboratories require identifying the given organism and performing Antibiotic Susceptibility and report it in a standard format provided. The results when received are compiled and scored according to WHO scoring system. Feedback of each batch is sent along with the samples of next EQAs batch.

Lot number	Date	Number of labs Sample was dispatched to	Results obtained from	Average score in %
2/2020	077- Bhadra	Not sent due to covid closure		
3/2020	077- Poush	22	6 (27.2%)	89.1 %
1/2021	077-Falgun	22	10 (45.4%)	87.8%
2/2020	078- Jestha	22	13 (59.1%)	72.8%

In fiscal year 2078/2079 only 3 batches of EQAS samples were sent to 18 human health Laboratories and 4 animal health laboratories (on their request).

8.5.6.3.5 Quality assessment on Covid -19 test (COVID-19 PCR EQAS proficiency test & COVID-19 PCR EQAS Retesting

EQA schemes are in function for COVID-19 PCR labs by retesting, Proficiency testing and onsite supervision.

EQA by retesting:

The EQA scheme for COVID-19 PCR labs was initiated in June-July 2020 from retesting of samples. This is a monthly program in which retesting is performed on a defined number of samples sent from participating labs.

Till October, retesting was done on 5 positive and 5 negative samples sent from PCR sites. From November onwards, this was replaced by retesting on 10 positive samples.

PT panel EQA:

This program started from Sept- Oct 2020. This is intended to be tri-monthly program in which proficiency panels are prepared at NPHL, coded, and sent to designated COVID-19 laboratories via courier service. Samples are tested at sites and results are sent back to NPHL. NPHL then provides the sites with feedback reports.

Up to November 2021, four batches of proficiency testing have been conducted.

Table EQA by retesting COVID-19 PCR Result

Year	Month	Total Number of Labs	Number of labs participated	Number of labs not participated	% of Lab participants	Result Concordance		
						100% (Excellent)	80-99% (Satisfactory)	Below ≤80% (Unsatisfactory)
2077	Shrawan	24	16	8	62	13	3	0
	Bhadra	33	22	11	66.7	18	3	1
	Asoj	49	18	31	36.7	16	1	1
	Kartik	59	11	48	18.6	10	1	0
	Mangsir	76	38	38	50	33	3	2
	Poush	79	36	43	46	32	4	0
	Magh	80	29	53	36.3	18	7	4
	Falgun	68	22	46	32.4	13	6	3
	Chaitra	69	22	47	31.9	16	3	3
2078	Baishak	81	19	62	23.5	17	1	1
	Jestha	85	61	24	72	57	2	2
	Asadh	90	46	44	51	33	8	5

Table: Result of Proficiency Panel Testing

PT Batch	No. of labs to which PT panel was dispatched	`	No. of labs acquiring 90 to 100% concordance	Number of labs acquiring <90% concordance
1 (Bhadra/ Asoj 2077)	50	48 (94.1%)	42 (87.5%)	6 (12.5%)
2 (Mangshir -2077)	77	73 (94.8%)	73 (100%)	0
3 (Falgun -2077)	65	64 (98.5%)	61 (95%)	3 (4.6%)
4 (Jestha/Shrawan-2078)	88	82 (93%)	47 (57.3%)	35 (42.7%)

8.5.6.3.6 Validation activities:

Validation activities are also being conducted by QC and training unit. Validation is mainly focused on COVID-19 PCR labs and related diagnostic items

Validation of newly established PCR lab:

It is the program whereby PCR sites during their incipient stage must send first 10 positive and first 10 negative samples to NPHL or hub labs or Provincial Public Health Laboratory for validation.

Validation of lab diagnostics:

This is mainly focused on COVID-19 related lab diagnostic items.

List of PCR labs validated by NPHL in the fiscal year 2077-2078:

Province	Number of labs validated		Total
	Government	Private	
1	-	-	-
Madhesh	2	0	2
Bagmati	14	31	45
Gandaki	2	-	2
Lumbini	2	-	2
Karnali	-	-	-
Sudurpashchhim	3	-	3
Total	23	31	54

List of diagnostic items validated/ evaluated by NPHL in fiscal year 2077-2078:

Type of kit	Validation type	Total number
COVID-19 PCR Kit	Paper evaluation	12
	Bench Validation	14
COVID-19 Antigen Kit	Paper evaluation	20
	Bench Validation	11
VTM	Paper evaluation	0
	Bench Validation	3
Extraction kit	Paper evaluation	2
	Bench Validation	9
Others	Paper evaluation	3
	Bench Validation	4

8.5.8 HIV Reference Laboratory

HIV/Hepatitis Reference Laboratory is situated at Infectious Disease Block in National Public Health Laboratory, and is mainly focused on the Testing and monitoring the HIV and Hepatitis related programs and tests. It mainly comprised of Molecular Unit and Immuno-serology Unit where every day routine and molecular level tests from all over Nepal are performed and reported.

Molecular tests like HIV Viral load (Approx. 10350/year), HBV Viral load (Approx. 940/year), HCV Viral load (Approx. 297/year) and Early Infant Diagnosis of HIV (Approx 358/year) are conducted on routinely basis. In Immunoserology, CD4 testing by flowcytometry, HIV 1&2 Ab ELISA, HIVAg/AbCombi ECLIA, HBsAg ELISA, HCV Ab ELISA, HAV and HEV test by rapid diagnostic kits and HBeAg, HBeAb, HBcAb, HBsAb by ECLIA is also performed routinely in our laboratory. We have COBAS Ampliprep/COBAS Taqman and Rotorgene 6000 for molecular analysis, BD FACSCalibur and BD FACSCount for CD4 Testing and e411, Roche for ECLIA machine.

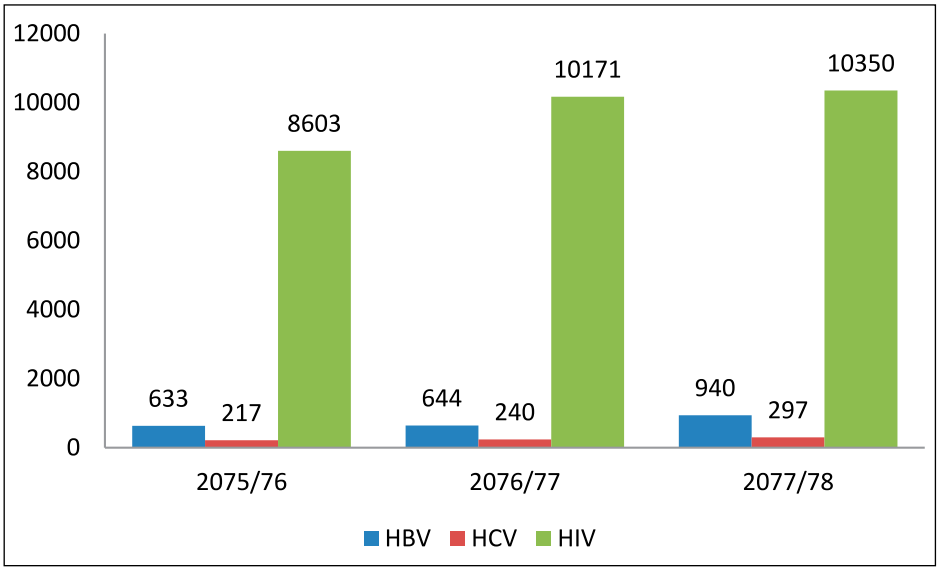
To assure our Quality of Reports, NPHL is been participating in Proficiency Testing Program for HIV Viral Load and EID using Dried Tube Specimen by Centres for Global Health, CDC, USA, HBV and HCV viral load from NRL Australia, CD4 test EQAS from Siriraj Hospital, Bangkok and Serology EQAS from NRL, Australia.

Currently, National HIV EQAS program is also conducted and monitored by this department which includes retesting of the samples from different ART sites of Nepal. This year we have implemented Proficiency panels tests (PT) using Dried Tube Specimens (DTS) and also have dispatched the DTS to Gandaki Province and Province 2. Other Provincial sites are under process.

NCASC and Global fund, EPIC Nepal (FHI360) and WHO has been supporting for several HIV related tests and program. HIV and Hepatitis Unit is actively conducting HIV related Trainings all over Nepal and have been doing research activities like HIV DR(PDR),IBBS survey for HIV by NCASC. NPHL have planned for the use of Plasma Separation Card (PSC) for performing HIV viral load which is under finalization process. Laboratory Integration System (LIS) for HIV viral load and EID reporting is also under process in the support of Save the Children/Global Fund. NPHL is planning for Gene sequencing for HIV Drug resistance and HCV genotyping in coming future.

Trend of the viral load tests on HBV, HCV and HIV are shown in figure 6.5.1

Figure 8.5.8: HIV Reference Unit (Viral load tests on HBV, HCV and HIV)



8.5.9 National Influenza Centre

NPHL was designated as National Influenza Centre (NIC) of Nepal on 19th April, 2010. It is one of the highly equipped departments of National Public Health Laboratory (NPHL) designated by the Ministry of Health and Population (MoHP) and recognized by World Health Organization (WHO) for the purpose of participating in WHO Global Influenza Programme. Upon such recognition by WHO, NIC has become member of the WHO Global Influenza Surveillance and Response System (GISRS).

Influenza Surveillance started in Nepal since 2004 with the aim to identify the influenza viruses from suspected cases of influenza like illness (ILI) and immediate response to minimize the circulation of viruses during outbreaks. Molecular diagnostic assay based influenza surveillance started with the introduction of Real-Time PCR (RT-PCR) at National Public Health Laboratory (NPHL) from 2009. During pandemic influenza outbreak in 2009, NPHL played a keyrole close coordination with Epidemiology and Disease Control Division (EDCD), Department of Health Services along with international organizations like WHO and WARUN. Influenza virus isolation, identification and characterization by serological molecular diagnostic assay were successfully started within one year and 28 isolates were shipped to WHO Collaborating Centre.

National Influenza Centre (NIC)has also been playing a major role in testing the SARS CoV-2 since 2019 December. It has started using CDC Multiplex kits to test respiratory pathogens such as Influenza A, Influenza B and SARS CoV-2. Also, NIC has started testing Respiratory syncytial virus RT PCR in children of age-group< 2 years. The efforts for integration of Influenza and SARS-CoV-2 started from the 2021. NIC—Nepal started reporting the SARS-CoV-2 tests on Influenza samples to FluMart ever since.

Almost after a decade of influenza surveillance activity along with the experience of molecular testing of SARS-CoV-2, NIC is planning to expand its activity in the sub-national region of the country by building the capacity of provincial public health laboratories and restructuring the sentinel sites. The provincial public health laboratories (PPHLs) which are currently performing molecular testing of SARS-CoV-2 will be capacitated to perform molecular testing of influenza viruses. We have been presented with an opportunity because of the Pandemic of SARS-CoV-2. Amidst the pandemic, all the provincial public health laboratories (PPHLs) are strengthened for molecular diagnostic; there is availability of HR with experience in molecular diagnostics. Also, transport system, communication system, data management systems are all in place along with genetic consortium are all in place. NPHL is in process of having sequencing capacity with bioinformatics units soon. This network can be strengthened for detection of additional pathogens.

On 27th and 28th October 2021, NIC conducted an inception meeting; “Inception Meeting of Integrated influenza SARS CoV-2 sentinel surveillance in Nepal” with the PPHLs, provincial health directorate to propose its plan to restructure NISN in order to facilitate the integrated influenza SARS CoV-2 sentinel surveillance in Nepal. The consultative meeting was held on the 2nd Nov 2021 following the Inception meeting.

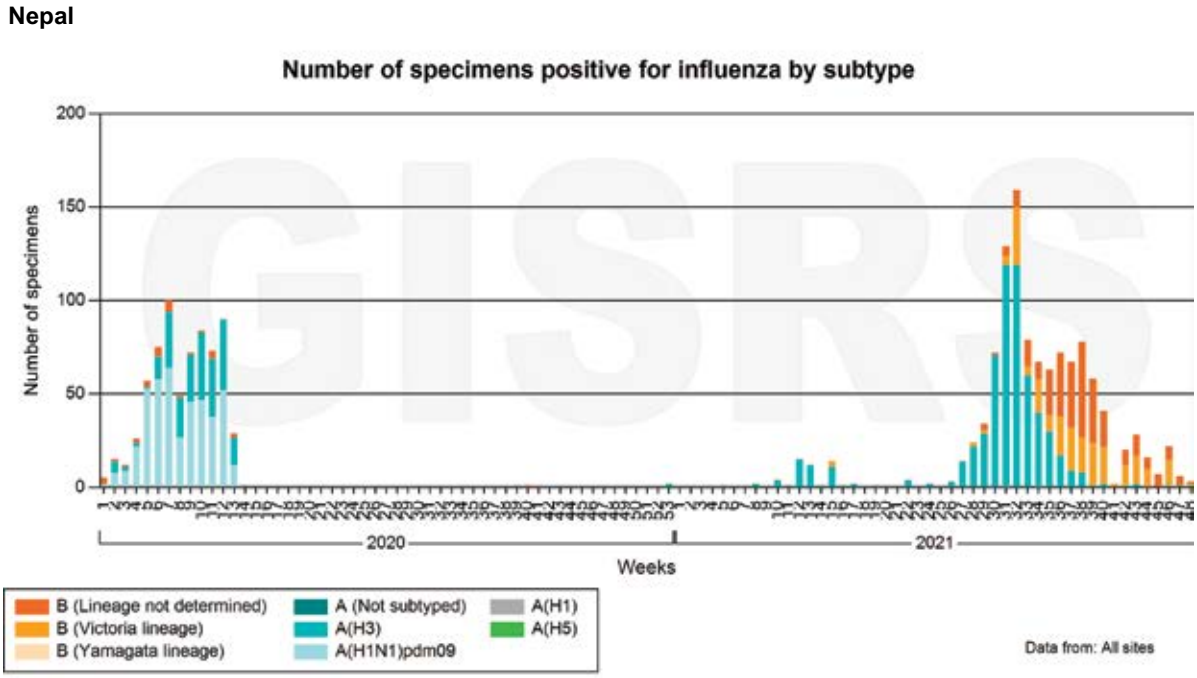
According to the plan to operate an integrated Influenza and SARS-CoV-2 surveillance, NIC-NPHL will be responsible for providing VTMS/ swabs/reagent, organizing trainings and orientation meetings, carrying out quality assurance, conducting NEQAS for PPHLs, participating in EQAS (NPHL as well as PPHLs), sharing of data with PPHLS and sentinel sites, performing virus Isolations, sharing of virus/samples to WHO CC, serving as Biobank for Influenza samples and submitting data on FluMart. Similarly, PPHL will be responsible for coordinating with sentinel site, coordinating with NPHL and testing for influenza provide data and sample to NPHL Participate in QC. Finally, the sentinel sites will be responsible for Collect sample as per SOP for providing sample and data to PPHL/NPHL and reporting data in EWARS. NIC has established eight sentinel sites for NPHL National Influenza Centre and 7 hospitals for each provincial public health laboratory.

NIC-NPHL conducted a hands-on training on National Integrated Influenza-SARS-CoV-2 surveillance in Nepal on the 28th, 29th and 30th November 2021. Personnel from all the PPHLs were given training on how the samples are collected, handled, tested and how the data is reported.

Recently, NIC has reformed "Integrated Influenza and SARS CoV-2 sentinel surveillance in Nepal" and has established eight sentinel sites for NPHL- National Influenza Centre and 7 hospitals for each provincial public health laboratory.

The Summary of the Influenza test done in 2077/78 is as shown in the figure below.

Figure 8.5.9: No of specimens positive for influenza by subtype



At the beginning of the SARS-CoV-2 outbreak, NIC was the first and the only lab that took up the role of starting SARS-CoV2 RT-PCR. During the pandemic, the department was working in its full capacity with 24 hours run-time operations. NIC processed above 2000 specimens for COVID-19 testing. During the hours of emergency, NPHL mobilized its resources effectively by pulling manpower from other departments for COVID-19 testing, with full dedication and coordination from staff members. Four RT-PCR thermocyclers were also installed along with two automated RNA extraction machines that gave RNA extract within an hour. This in turn decreased the turn-around time for the testing, resulting in capacity upsurge.

National Influenza Centre has tested about 3,31,420 RT PCR of SARS CoV-2 (Dec,2019 - Dec 2021) making it one of the highest RT PCR testing molecular laboratory in Nepal. The software for reporting results was updated according to the growing need as per the directions from the Ministry of Health and Population. Following the directives from MoHP, NPHL has also installed cameras to include photos of the patients in their respective reports.

Ministry of Health and Population has recently approved "Proposal for pathogen genetic sequencing capacity building in Nepal" and thus National Influenza centre has started SARS CoV-2 genetic sequencing of SARS CoV-2 PCR positive specimens. The data of sequencing is regularly shared with ministry of health and population and is also uploaded in global platform (GISAID). Also, NPHL has established a pathogen sequencing consortium with approval from government and mutual agreement with related government and non-government organizations.

Summary of the SARS CoV-2 genetic sequencing done from Bhadra 10, 2078 to Mangshir 20, 2078

SN	Date/Year	No of sequencing completed
1.	Ashoj 10, 2078	12 Sample
2.	Ashoj 15	24 Sample
3.	Mangshir 11, 2078	28 Sample
4.	Mangshir 19, 2078	10 Sample

National Influenza Centre started genetic sequencing of SARS CoV-2 RT PCR positive samples for genomic surveillance and Variant detection of SARS CoV-2 in 2021.

8.5.10 Japanese encephalitis, measles and rubella & polio containment laboratory

The infectious and communicable diseases are of growing concern and continue to be a major public health problem worldwide. Among them, vaccine preventable diseases still have top most mortality rate worldwide among the children below 15 years. In order to reduce and control the mortality and morbidity of such vaccine preventable disease (Japanese Encephalitis, Measles, Rubella, etc.), Immunization Preventable Disease (IPD), a partnership between World Health Organization and Government of Nepal is working in close collaboration with National Public Health Laboratory (NPHL) under the Department of Health Services of Ministry of Health and Population (MoHP).

To achieve the goal of reducing morbidity and mortality due to vaccine preventable diseases, surveillance part is essential which can be best and effective with the maximum co-ordination with laboratory based results that is achieved from the better and efficient lab performance. Sample collection, labelling, proper documentation and storage are critical considerations because any results that laboratory generates will be affected and limited by the above factors.

For the effective and smooth performance, better flow of results and to help with the increasing work load for intensive surveillance program, WHO-IPD had supported two personnel, one Medical Microbiologist and one Laboratory Technician in National Public Health Laboratory. An accurate diagnosis in a timely manner using the most cost effective techniques is indispensable for the better surveillance. As the microbiologist is an integral part of the health laboratory team, the main responsibility is to communicate information promptly regarding the quality, quantity and result of collected and received specimen in laboratory along with the lab work performance regarding receiving of specimens, lab testing, storage of specimens, result reporting and documentation of the work performed which would be effective for the programme. Surveillance and rapid response depends upon the disease identification by laboratory with qualified manpower. The effective surveillance depends on the timely reporting and the analyses of the results. NPHL – JE/Measles lab had been accredited again by WHO during October 2018 which is continued.

8.5.10.1 Environmental Surveillance for Polio Virus in Nepal

Environmental surveillance is a highly sensitive method for detecting Polio virus (PV) in environmental samples and this practice has been adopted by many countries and region worldwide.

The examination of composite human faecal samples through environmental surveillance links Polio virus isolates from unknown individuals to population served by the wastewater system. Environmental surveillance can provide valuable supplementary information, particularly in high density urban populations where AFP surveillance is absent or questionable, persistent virus circulation is suspected, or frequent virus re-introduction is perceived.

No WPV have been reported from Nepal since 2010. National Public Health Laboratory (NPHL) in collaboration with WHO, has been conducting environmental surveillance of polio virus since November 2017 and no poliovirus (wild/VDPV/Sabin type 2) has been isolated from sewage samples in Nepal.

8.5.11 Microbiology

AMR surveillance and routine microbiology activities go hand in hand in the Microbiology Department.

NPHL is the National Reference Laboratory and National Coordinating Centre for AMR Surveillance. The Director is the chairperson and The Microbiology Head is the Member Secretary of Human Health Technical Working Group (HH-TWG) for AMR surveillance. HH-TWG meetings were held every two to three months, mostly online this year.

Protocol for Laboratory based Surveillance of antimicrobial resistance in clinical bacterial isolates in Nepal was printed and distributed to the surveillance sites. SOP on Bacteriology for AMR Surveillance was also printed after interactions with microbiologists and specialists from various institutions. The SOP and bench aids were distributed to the surveillance sites in valley as other sites were unapproachable due to lockdown. Three batches of Microbiology EQAS were sent to the AMR surveillance sites including two unknown organisms per panel sent. This year Molecular laboratory was also established in the department. It will be used for detection of resistance genes in multi-drug resistant strains received at NPHL from the surveillance sites.

The AMR surveillance data received from all the sites was collected, collated and the complete data from 15 sites was submitted to Global AMR Surveillance System (GLASS) with the help of WHO country office and FHI 360 (Fleming Fund). NPHL in collaboration with FFGCN, performed need assessment and monitoring visits at 4 proposed AMR sites, with an aim to add at least one hospital from each province.

Different activities (with support from FFCGN) were conducted as part of technical support to AMR participating laboratories and expansion of AMR network laboratories. Nomination of Biosafety and biosecurity focal person at FFCGN supported surveillance sites, renovation and capacity building of FFCGN supported human and veterinary surveillance sites and procurement, installation and maintenance of various equipment and consumables was conducted during this year.

Nepal's first MALDI-TOF (VITEK-MS from Biomeriux) was installed along with automated Antibiotic sensitivity platform VITEL-MS. These two equipments will help in earlier diagnosis of rare organisms with provision of Minimum inhibitory concentrations for bacteria including Mycobacteria, yeast and fungi.

8.5.11.1 Conduction of various training/workshop*:*

A refresher Training on Laboratory based Antimicrobial Resistance Surveillance of Selected Bacterial Pathogens was organized from 17th -22nd February, at NPHL with 24 participants from various human hospitals and veterinary institutions who were trained on media preparation, isolation and identification of pathogens and performing antimicrobial susceptibility test. A hands-on training on Biorepository management of Bacterial Isolates was conducted for medical technologists and microbiologist based at NPHL and veterinary officers from Central veterinary laboratory from May 14-16, 2019. The training was facilitated by facilitators from Mahidol University, who oriented on various methods of preservation of isolates, maintenance of culture stock of standard strains and procedure for its subculture and revival. The training also oriented on creating a biorepository and documentation of the same. A four-day training on AMR Data Analysis, Interpretation, Use and Reporting was conducted from May 27-30 at Alfa house Baneshwor, Kathmandu. A total of 21 participants (mostly microbiologist and IT personnel) from various hospitals were oriented on how to collate record and send AMR data. The training was facilitated by facilitators from FHI, CVL and

other institutions. The training also provided an opportunity to learn different software such as EPI info to analyze the generated AMR data. A Training of Trainers (ToT) on Laboratory Biosafety, Biosecurity and Health Care Waste Management was conducted from 3rd-7th September at NPHL. A total of 23 participants from different institutions were trained as facilitators on laboratory safety, issues of biosecurity and methods of health care waste management. Training on Quality Assurance in Microbiology was conducted from 24-27th September at NPHL. A total of 20 participants were trained and was facilitated by facilitators from NPHL, FHI and other institutions. Training of Trainers on WHONET for AMR data management was conducted on 15-16th November at Bougainvilla events, Kathmandu. The training was facilitated by John Stelling from UK, and was based on as how to extract data from local LMIS and possibility of integration of local LMIS in WHO-NET. The participants interacted directly revealing their issues which were addressed by the facilitators.

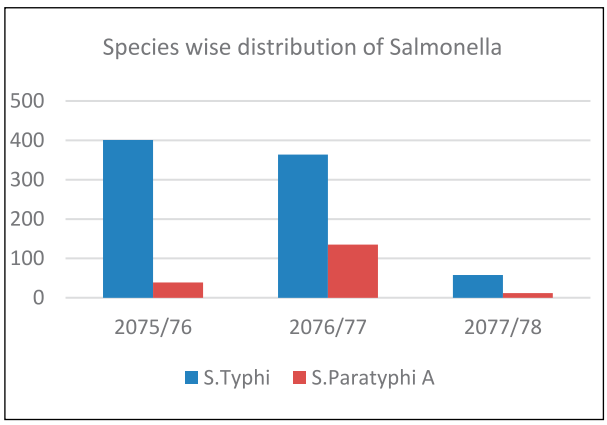
SN	Name of training/orientation
1	Advanced Excel training for AMR data analysis
2	Training on Laboratory-based Antimicrobial Resistance Surveillance of Selected Bacterial Pathogens
3	Laboratory Placement for AMR surveillance site staff at NPHL
4	Orientation of AMR sites on sample/isolate preparation, packaging, shipping and laboratory BSS
5	Workshop on Strengthening Lab Clinical Interface
6	Training of Trainers on Sample Collection, Storage and Transport
7	ESBL tricycle Project Implementation Workshop
8	ESBL Tricycle Project Orientation Workshop
9	ESBL Tricycle Project Hands-on Training Workshop
10	Laboratory Placement for AMR surveillance site staff at NPHL

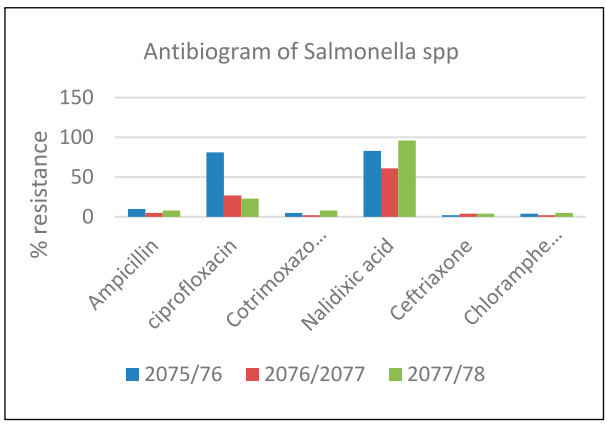
8.5.12 AMR (Antimicrobial Resistance) surveillance activities

NPHL conducts laboratory surveillance on ten pathogens for antimicrobial resistance surveillance to monitor the burden of these diseases and to inform disease control strategies. Frequency of various pathogens and their antibiotic resistance are described below.

A total of 2,851 isolates of surveillance interest were reported in the year 2020. The data thus obtained was analyzed and interpreted accordingly. In addition to the resistance pattern analysis, the data collected in 2020 was also analyzed for specimen type, age and sex wise distribution for each organism. Of them, MDR Klebsiella spp (29%) was the highest reported pathogen followed MDR Acinetobacter spp (24%), MRSA (21%), ESBL producing E.coli (20%), Salmonella spp (2.9%), and others. Fastidious organisms, S.pneumoniae, N.gonorrhoeae and H.influenzae are only reported from few sites reported in very low numbers.

Figure 8.5.12: Trend of enteric fever (cause and AMR)



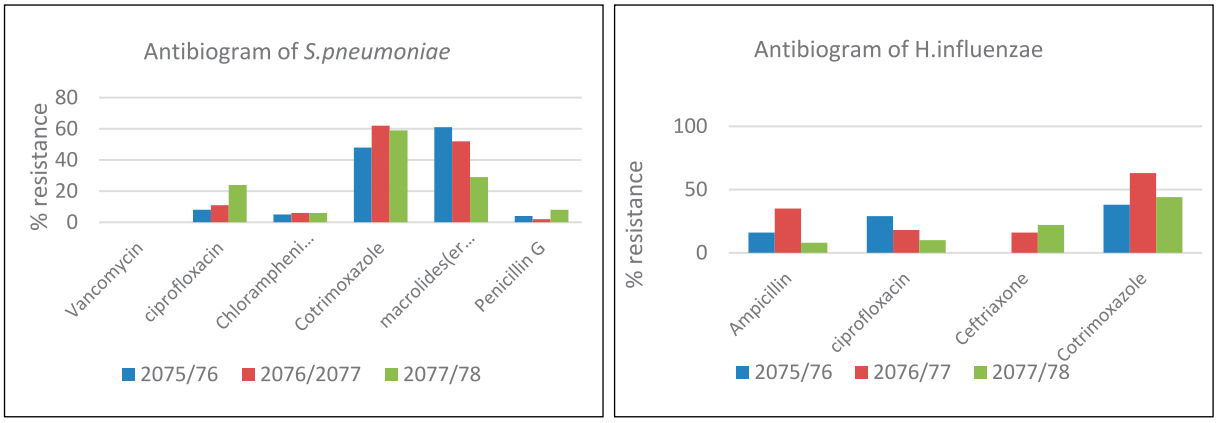


- A total of 85 Salmonella isolates were reported of which 63 (74.1%) were recovered from blood.
- Of the reported Salmonella, 68.2% were Salmonella enterica serovar Typhi (58/85), 14.1 % were Salmonella enterica serovar Paratyphi (12/85) and 17.6% (15/85) were Salmonella spp.
- Infection was higher in January to march followed by July.
- Cases were slightly higher in males.
- Patients of 21-30 years age group were commonly affected in both sexes.

Bacterial Diarrhea:

- Out of 917 stool cultures, only 1 S.flexneri was reported. The isolate was reported from Patan hospital, isolated from 61 years old male patient. The isolate was sensitive to ampicillin, azithromycin and chloramphenicol but resistant to fluoroquinolones and cotrimoxazole.
- No Vibrio cholerae was reported from any site.

Figure 8.5.12.1: AMR in respiratory infections

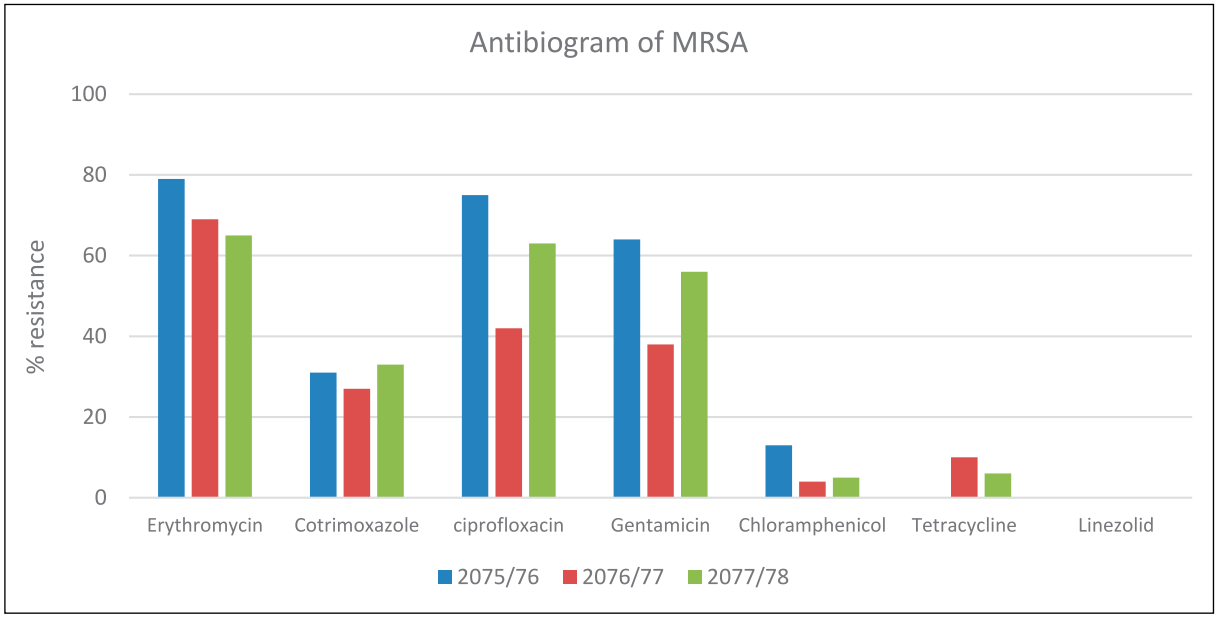


8.5.12.1: AMR in respiratory infections: Among Respiratory Infections, AMR surveillance monitors S.pneumoniae and H.influenzae

- A total of 33 Streptococcus pneumoniae and 10 Haemophilus influenza isolates were reported in 2020.
- Infection was higher in 61-75 years age group.
- Of the total S.pneumoniae isolates, 24.2% were resistant to 1 antibiotic class, 21.2% were resistant to 2 classes of antibiotic and 15.1% isolates were MDR.
- Of the H.influenzae isolates, Of the total, 50% (5/10) were resistant to 1 antibiotic class, 10% (1/10) were resistant to 2 antibiotic classes and 20% (2/10) were MDR

8.5.12.2 AMR in Nosocomial Infections: Among nosocomial pathogens, AMR surveillance monitors MRSA, MDR Klebsiella and MDR Acinetobacter

Figure 8.5.12.2: AMR in MRSA



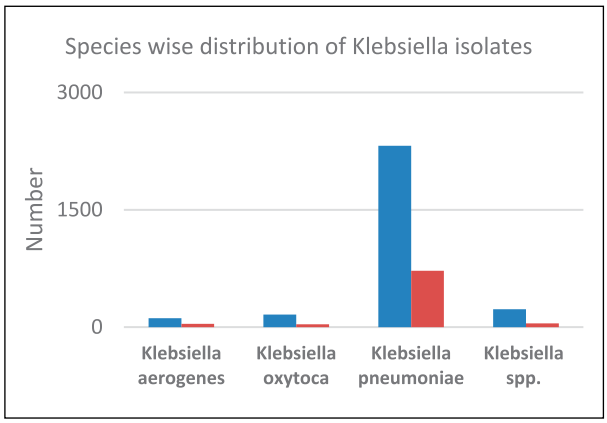
MRSA:

- A total of 2194 Staphylococcus aureus were reported in 2020 from various samples of which 613 (27.9%) were methicillin resistant.
- The proportion of MRSA ranged between 8.6% to 78.5% depending on institution, 7.6% to 50% depending on sample and culture load.
- Most of the isolates were recovered from pus followed by blood and urine.

MDR Klebsiella

- Highest Reported pathogen in 2020.
- Isolation is higher in urine and MDR is also higher among urine isolates
- Infection is higher in female of 20-30 years age group
- MDR rate varies from 2.3% to 67 % depending on institution.
- High resistance to carbapenems is major concern

Figure 8.5.12.3: AMR in Klebsiella



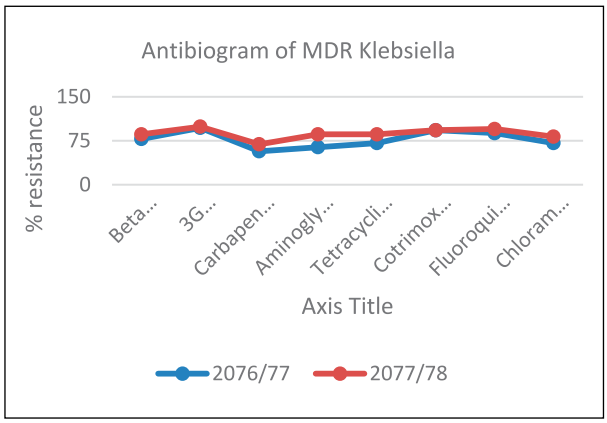
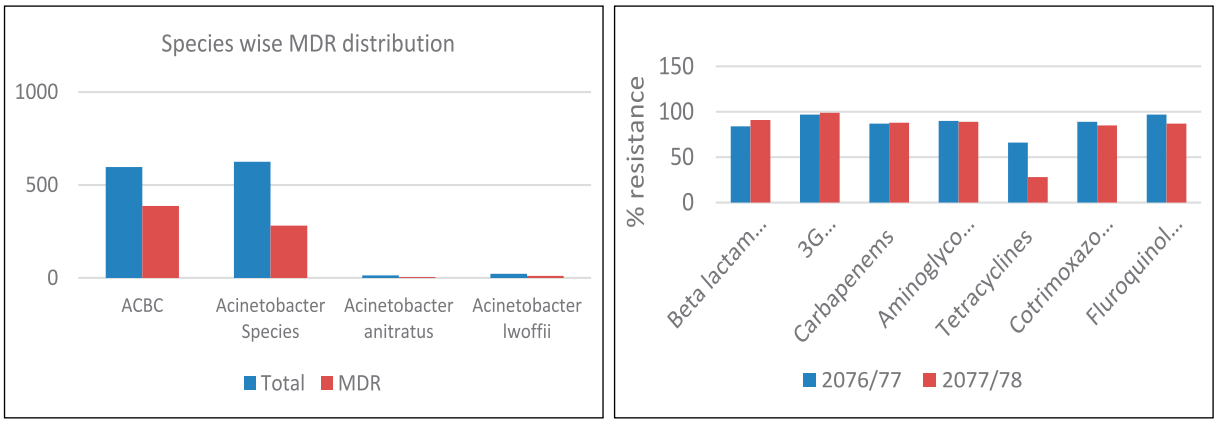


Figure 8.5.12.4: AMR in Acinetobacter



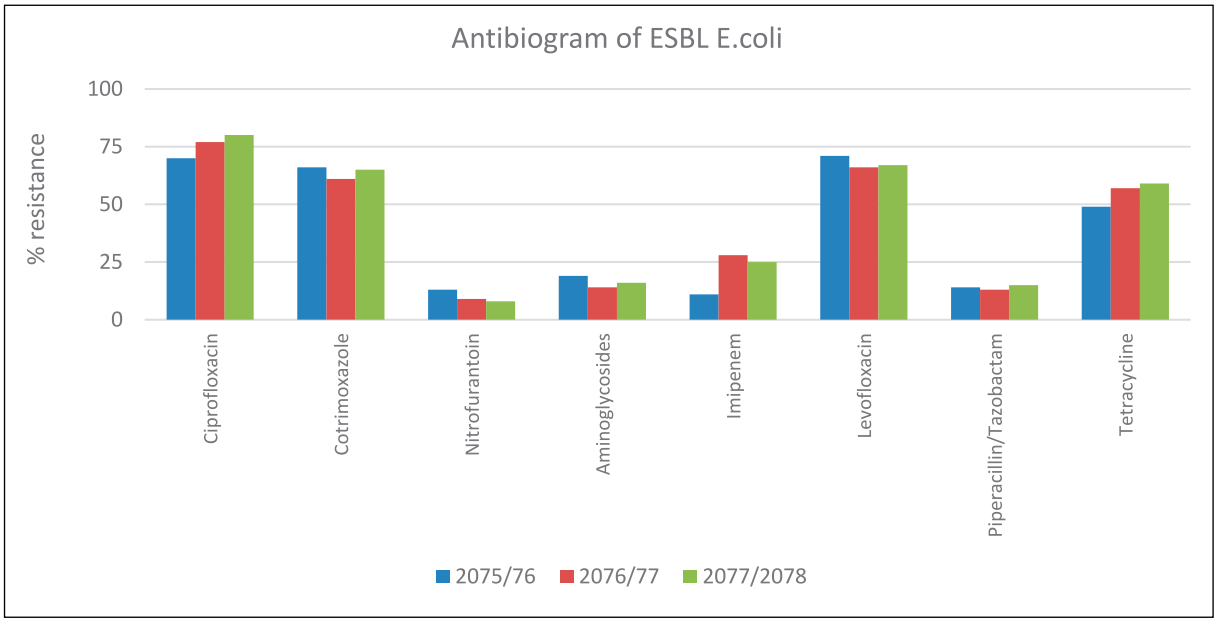
MDR Acinetobacter

- Second highest reported pathogen
- More than half of reported Acinetobacter are MDR (54.4%)
- Isolation is higher in blood but MDR rate is high in Respiratory samples

AMR in uropathogens: ESBL producing E.coli

- Among 6940 E.coli isolates reported 8.3% were ESBL producers.
- Most of the isolates were recovered from urine (80%) of which 8.2% were ESBL positive.
- Most of the isolates were recovered from females of 21-30 years age group

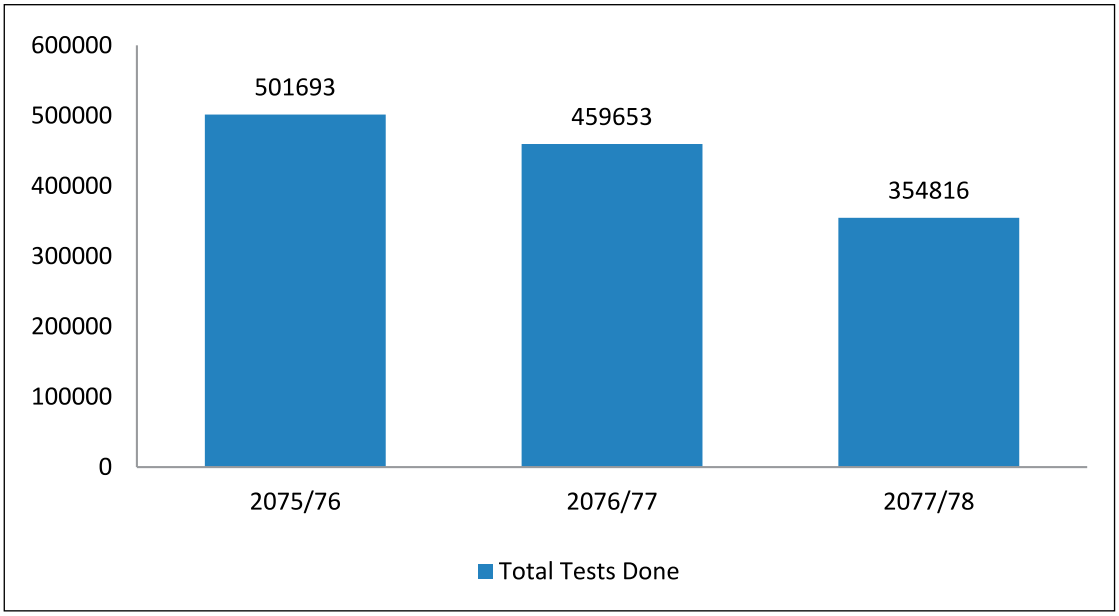
Figure 8.5.12.5: AMR in ESBL producing E.coli



8.5.13 Revenue Generation

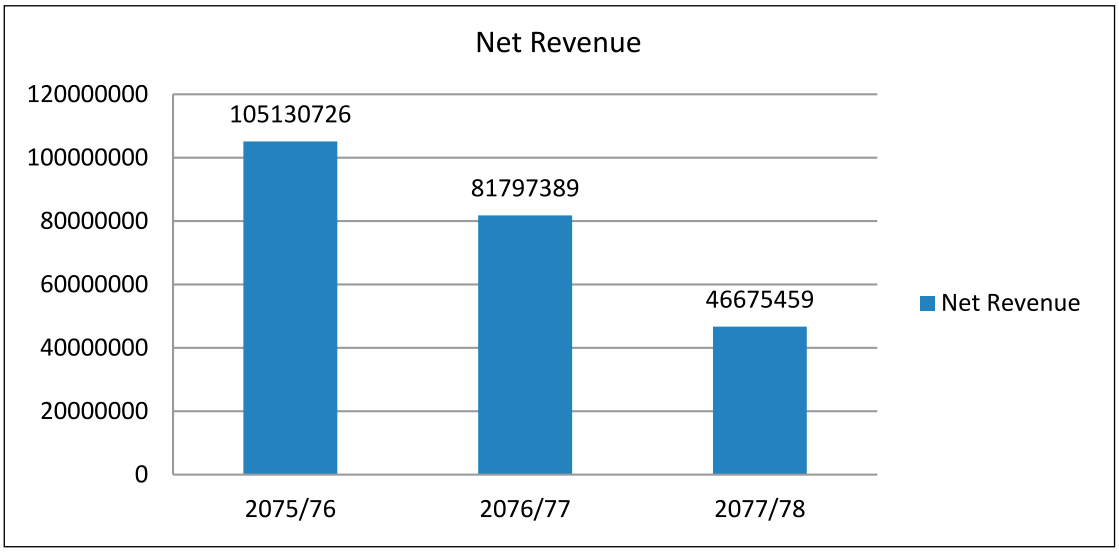
NPHL generates revenue from different laboratory testing services. There is increasing trend on revenue generation and laboratory services provided in comparison with previous years.

Figure 8.5.13.1: Total number of laboratory testing services provided by NPHL



Source: NPHL/DoHS

Figure 8.5.13.2: Trend of revenue generation from laboratory service at NPHL *(amount in Nrs.)*



Source: NPHL/DoHS

Note: Service effected by COVID-19 Pendamic FY 2076/77 & FY 2077/78

8.5.14 Major Activities Of NPHL:

- Routine and specialized diagnostic services including services of referral laboratory.
- Public health related activities (laboratory based surveillance [AES/Japanese encephalitis, measles/ rubella, polio, antimicrobial resistance (AMR), influenza)], HIV reference unit, National Influenza Centre, BSL-3 laboratory and outbreak investigation)
- Training and workshops
- Logistics procurement and supply and laboratory refurbishment

- Supervision and monitoring, regarding function of clinical lab & BTSCS.
- National External Quality Assurance Scheme (haematology, biochemistry, gram stain, microbiology, AMR on selected bacterial pathogens and TTIs)
- Sample processing for Polio containment.
- Assisting MoHP for preparing medical laboratory related, policy, legislation and guidelines.
- Procurement of especial types of kits and reagents and equipment for provincial and local level government laboratories.
- General administration functions.

8.5.15 Future Plan:

- Updating the Health Laboratory Guideline 2073.
- Listing the tests which are at present out-sourcing from different laboratories and health sectors.
- Complete functionalization of PPHL (Provincial Public Health Lab.) in all seven provinces and Decentralization of public health and diagnostic services. Manage PPHL with its own infrastructure (At present PPHL are mostly in rented building) with needful equipments and manpower.
- Laboratory mapping: All the laboratories from all heath sectors should be monitored/supervised directly or with help of its provincial/local government sectors by NPHL. At present there is no clear data of all laboratories (Category E to A).
- Strengthening diagnostic as well as research activities in government based provincial and district level hospitals. Register all government hospitals-laboratory in NPHL.
- Categories all the hospital-, polyclinic- or clinic- based laboratories in into A to E category.
- Emphasize for ISO accreditation for government laboratories.
- Planning to get ISO accrediatation for rest of the routine tests (presently 78 tests got ISO 15189:2012 accreditation) as well as COVID -19 PCR Test.
- Emphasize appropriate Management Information Systems in laboratories. Emphasize online appointment, report dispatch and counselling.
- Establishment of IRC in NPHL.
- Emphasize for ISO accreditation for government laboratories.
- Emphasize appropriate Management Information Systems in laboratories. Emphasize online appointment, report dispatch and counselling.
- Emphasize special tests, molecular tests, tests for research purpose and decrease load of routine tests in NPHL.
- Emphasize for EQAS for all laboratory.

8.5.16 Issues, Constraints and Recommendations

Issues	Recommendation	Responsibility
Lack of appropriate laws and bylaws most needed for laboratory standardization and accreditation.	Provision of laboratory related law, protocol standardization and accreditation.	MoHP, NPHL
Insufficient budget allocation for quality assurance activities of medical laboratories	Provision of adequate budget allocation for quality assurance activities of medical laboratories	MoF, MoHP, NPHL
Lack of scholarships for higher education and advance level trainings for laboratory personnel as well as lack of pro-research environment and inadequate number of functional skilled human resources.	Provide scholarships for higher education and advance level trainings as well as creating enabling environment for pro-research	MoHP, MoE, DoHS, NHTC, NPHL
Strengthen NPHL as referral central with Prevention of out sourcing clinical sample outside country.	Data collection of out-sourcing and management for increasing referral centres within the country.	MoHP, DoHS, NPHL
Involvement of local government in controlling illegally running laboratories as well as providing rights for monitoring and licensing of at least initial level (Category E) laboratory.	Laboratory mapping and providing rights for monitoring to local government.	MoHP,DoHS, NPHL
Laboratory mapping	planning and implementation of laboratory mapping	MoHP,DoHS, NPHL
Strenghthening diagnostic as well as research activities in government based provincial and district level hospitals. Register all government hospitals-laboratory in NPHL.	Planning and implementation of increasing diagnostic as well as research based tests with sufficient infrastructure, equipments and manpower.	MoHP,DoHS, NPHL
Manpower: Strenghthening laboratories with proper and needful manpower comparable to international standards. Strenghthening at least A and B category laboratory with molecular tests to combat pandemic issue like COVID-19 in future.	planning and implementation of laboratory services with sufficient infrastructure, equipments and manpower	MoHP,DoHS, NPHL
Laboratory safety: Proper biosafety and biosecurity is essential in all laboratories. Waste management of hazardious/infectious material.	Short course training of “biosafety and biosecurity” to staffs and new commers.	NPHL
Poor implementation of NEQAS.	Provision of sufficient training, and effective policy for its implementation.	MoHP, NPHL

8.6 PERSONNEL ADMINISTRATION

8.6.1 Background

Human resources are the pivotal resource for health care delivery. Human resource management involves the planning, motivation, use, training, development, promotion, transfer and training of employees. The proper placement and use of human resources is crucial for effective quality health care delivery. DoHS's Personnel Administration Section (PAS) is responsible for routine and programme administrative functions including upgrading health institutions (O&M), transfer of health workers, upgrading of health workers up to the 7th level. According to delegated Authority of Ministry, DoHS is responsible for capacity building and the internal management of human resources. The objectives of PAS are listed in Box 8.6.1.

Box 8.6.1: Objectives of the Personnel Administration Section

The main objective of the section is to mobilize human resource to deliver quality health services. The specific objectives are as follows:

- To transfer and manage all posts up to 7th level according to the delegated authority of ministry.
- To place health staff at sanctioned posts under DoHS.
- To manage human resources at the different levels under DoHS.
- To manage and update personnel information of all levels and institutions under DoHS.
- To manage the posting and transfer of medical officers who completed their studies under government scholarships.
- To execute organisation and management (O&M) surveys to establish and extend the structure of health institutions and organizations under DoHS.
- To recommend to MoHP for approval special leave and education leave requested by health workers.
- To provide legal opinion and advice on the questions of legal dilemma.
- To prepare reply to defence on the cases filed against the department of health services.
- To provide assistance and opinion on legal documents as well as on the procedure & guidelines to be prepared.

8.6.2 Routine activities

The number of sanctioned and fulfilled posts under DoHS of fiscal year 2077/78 is given in Table 8.6.2.1 The routine responsibilities for personnel administration are as follows:

- According to the Health Service Regulations, 2055 and MoHP policy, DoHS is responsible for the transfer of the health workforce up to the 7th level.
- Manage the upgrading of its employees to the 7th level twice a year.
- Work to maintain the professional discipline of its employees.
- Approve house leave, sick leave, delivery leave and other types of leave. It recommends to MoHP for the approval of special and education request by up to 7th level employees.
- Manage the retirement of staff.
- The approval of resignations of staff above the 6th level is made through MoHP.

Table 8.6.2.1: Type and number of DoHS workforce, fiscal year 2077/78

SN	Types of human resources	Grade/level	Sanctioned	Fulfilled
1	Director General	12th	1	1
2	Director	11th (G.H.S.)	1	1
3	Director	11th (PHA)	2	2
4	Director	11th (HI)	1	1
5	Director	11th (G.Nur.)	1	1
6	Senior /Sub Health Administrator	9/10th (PHA)	3	3
7	Senior General Nursing	9/10th (GN)	1	1
8	Senior Community Nursing Administrator	9/10th (PHN/CN)	2	2
9	Senior Public Health Administrator	9/10th(H.I)	3	3
10	Chief Medical Officer/Medical Superintendent	9/10th(G.H.S.)	2	2
11	Senior/ Consultant Medical Generalist	9/10th(MG)	3	3
12	Senior/ Consultant Dermatologist	9/10th(D&V)	1	1
13	Senior /Consultant Gynaecology and Obstetrics	9/10th (G/O)	1	1
14	Senior /Consultant Psychiatric	9/10th (Psy)	1	1
15	Senior /Sub-Health Administrator	9/10th (Intrigrated Chiki)	2	2
16	Chief Nutrition Officer	9/10th(H.I)	1	1
17	Senior /Consultant Dental Surgeon	9/10th(Denti.)	1	1
18	Director /Deputy Director/ Senior Demographer	Gazetted II (Stat.)	1	1
19	Under Secretary	Gazetted II	1	1
20	Under-Secretary (Finance)	Gazetted II	1	1
21	Section Officer	Gazetted III	7	7
22	Account Officer	Gazetted III	2	2
23	Legal Officer	Gazetted III	1	1
24	Statistics Officer /Demographer	Gazetted III	5	5
25	Pharmacist	7/8th (Phar)	2	2
26	Senior /Public Health Officer	7/8th(H.I)	9	7
27	Nutrition Officer	7/8th(H.I)	1	1
28	Medical Officer	8th	7	4
29	Senior Medical Lab Technologist	7/8th(G.M.L.)	1	1
30	Senior Community Nursing Officer	7/8th(PHN/CN)	7	5
31	Senior/ Nursing Officer	7/8th(GN)	5	4
32	Entomologist	7/8th(HI)	1	0
33	Veterinary Doctor	Gazetted III(Agri/Vet.)	1	1
34	Computer Officer	Gazetted III	3	3
35	Mechanical Engineer	Gazetted III	1	0
36	Biomedical Engineer	7/8th (Bibi.)	2	0
37	Architect Engineer	Gazetted III	1	0
38	TB/leprosy Officer	7th (HI)	1	1
39	Nayab Subba	Non gazetted I	8	8
40	Health Assistant /Public Health Inspector	5/6th(HI)	6	6
41	Cold Chain Assistant	4/5th(HI)	3	2
42	Lab Assistant	4/5/6th (G.M.L.)	2	2
43	Light Vehicle Driver	Not classified	7	7
44	Office Assistant (Peon)	Not classified	8	8
Total			**121**	**116**

Source: PAS, DoHS

8.6.3 New initiatives

The following new initiatives started from the fiscal year 2077/78:

- Digital attendance introduced within DoHS.
- An online calendar of operations (online action plan) of divisions and DoHS introduced.

8.6.4 Issues and recommendations

Table 8.6.4.1: Issues and Recommendations.

Issues	Recommendations
Weak coordination between MoHP, department and districts for personnel management	MoHP and MoFALD to work together to fill health worker posts in urban health clinics
Weak management of staff on long leave	Functionalise coordination mechanisms between agencies concerned with producing and deploying human resources including induction training (academia, councils, training centres, MoHP)
Lack of functional database of DoHS personnel	Develop a mechanism for the timely recruitment of contract-based health workers (ANMs and SBAs) to ensure 24/7 services.
Human resource placement in rural and remote facilities	Effectively implement the time-bound transfer of personnel starting from district to central level with the decentralization of authority.
Monitoring of doctors in PHCCs and district hospitals	Initiate an e-attendance system in PHCCs and 50 bed hospitals and then scale-up to all facilities and institutions
Insufficient information for strategic placement and transfers	Develop a scientific health workforce transfer criteria and a time-bound transfer management system from district to central level with the decentralization of authority.
The one-door placement of medical officers	Develop and implement an incentive package to retain doctors at PHCCs and in remote areas.
Placement of scholarship doctors in Tarai and mountain districts	Authorize DoHS to place doctors at PHCCs.

8.7 FINANCIAL MANAGEMENT

8.7.1 Background

An effective financial support system is imperative for efficient health service management. The preparation of annual budgets, the timely disbursement of funds, accounting, reporting, and auditing are the main financial management functions needed to support the implementation of health programmes. DoHS's Finance Administration Section (FAS) is the focal point for financial management for all DoHS programmes. The financial management objectives and targets are given in Box 8.7.1.

Box 8.7.1: Health financial management objectives and targets

Objectives:

- To support all programmes, divisions and centres for preparing their annual budgets
- To support all programmes, divisions and centres for preparing their annual budgets
- To obtain and disburse programme budgets
- To keep books of accounts and collect financial reports from all public health institutions
- To prepare and submit financial reports
- To facilitate internal and external auditing
- To provide financial consultations.

Target —To achieve 100 percent expenditure of all budgets in accordance with programme work plans within a specified times as per financial rules and regulations of the government and to maintain the recording and reporting system accurately and on time.

8.7.2 Achievements in the fiscal year 2077/78

Out of total National Budget of Rs. 13,62,39,58,400.00 was allocated for the health sector during the fiscal year 2077/78. Of the total health sector budget, Rs.13,62,39,58,400.00 (21.84%) was allocated for the execution of programs under the Department of Health Services Network (Table 8.7.1).

Table 8.7.1: Health budget details, FY 2077/78 (in NPR)

Budget	Total	Recurrent	%	Capital	%
Department of Health Services	191,559,400	191,559,400	100	0	0
Integrated Women's Health and Reproductive Health Programme	3,024,100,000	2,686,900,000	89	337,200,000	11
Epidemic and Disease Control Programme	562,140,000	542,420,000	96	19,720,000	4
Health Management Programme	854,559,000	148,800,000	17	705,759,000	83
Curative Service Programme	75,700,000	74,100,000		1,600,000	
Nursing and Social Security Services Programme	2,441,788,000	2,441,488,000	100	300,000	0
Covid -19 Control	6,474,112,000	5,876,212,000	91	597,900,000	9

Table 8.7.2: Central level recurrent budget expenditure by source and programme, FY 2077/78

Budget Code No	Programme budget heading	Released budget by source				Total
		GoN	%	Donor	%	
370010113	Department of Health Services	150,696,859.58	100	0	0	150,696,859.58
370011033	Integrated Women's Health and Reproductive Health Programme	49,664,917.00	2	1,949,181,485.40	98	1,998,846,402.40
370011053	Epidemic and Disease Control Programme	81,585,273.61	30	186,103,019.25	70	267,688,292.86

Budget Code No	Programme budget heading	Released budget by source				Total
		GoN	%	Donor	%	
370011073	Health Management Programme	55,714,228.67	58	39,896,380.05	42	95,610,608.72
370011153	Curative Service Programme	28,390,462.00	0	0.00	0	28,390,462.00
370011163	Nursing and Social Security Services Programme	18,069,249.51	1	2,243,869,824	99	2,261,939,073.51
370001183	Covid -19 Control	468,291,628.89	10	4,335,015,701.85	90	4,803,307,330.74
	Total	**852,412,619.26**		**8,754,066,410.55**		**9,606,479,029.81**

Table 8.7.3: Central level capital budget expenditure by source and programme, FY 2077/78

Budget Code No	Programme budget heading					Total
		GoN	%	Donor	%	
370011034	Integrated Women's Health and Reproductive Health Programme	9402750	18	44129890	82	53532640.00
370011054	Epidemic and Disease Control Programme	1979431	100	0	0	1979431.00
370011074	Health Management Programme	35028384.75	100	0	0	35028384.75
370011154	Curative Service Programme	716927	100	0	0	716927.00
370011164	Nursing and Social Security Services Programme	299522.57	100	0	0	299522.57
370001184	Covid -19 Control	0	0	551236747.9	100	551236747.88
	Total	**47427015.32**		**595366637.9**		**642793653.20**

Table 8.7.4: Cumulative financial irregularities up to 2077/78 (NPR In'000)

Irregularity amount to be regularized	Irregularity clearance	Percent
4775801	934452	19.57

Table 8.7.5: Irregularity clearance status of last three years FY 2075/76 - 2077/78 (NPR In '000)

Fiscal Year	Total irregularity amount	Irregularity clearance	Clearance %
2077/78	4775801	934452	19.57
2076/77	4,07,86,69	41,53,55	10.18
2075/76	2,18,01,50	1,44,53,16	66.29

Source: Finance Section, DoHS

8.7.3. Issues of financial management

Following major issues of financial management given below:

Problems and constraints
No single platform for the planning and budgeting to ensure harmonization of budget planning and program implementation across the three layers of government.
Mismatch in the allocation of health budget to the LGs in the certain levels.
Still remain to ensure the rational allocation of health budget to the Provinces and local level programs and availability of human resources.
Non-release of committed EDPs budgets in time.
Difficulty in financial reporting procedures and reimbursement from External Development Partners (EDPs)

8.8 MEDICO-LEGAL

Medico-legal field or field of Forensic Medicine in Nepal is still waiting for its proper identity. This field has a great wish to grow up in normal way to address and to provide help for Nepali people as there is high degree suffering in society because of improper and inadequate medico-legal service to needy population. This service sector which is supposed to be developed by state is not yet addressed adequately and remains as one of the unrecognized sectors. As a result of improper, incomplete and nonscientific application of forensic evidences the justice system is suffering directly and "Rule of law" or "Law and order" are suffering indirectly. There are more than enough examples of several year imprisonment for an innocent person and release as reward for a criminal in court cases related with crime against human body because of insufficient evidences and weaknesses in medico-legal evidences.

Constitution of Nepal 2072 article 35 guarantees Right to Health for all Nepali citizen and in articles 20, 21 and 22 Right to justice, Right of victim of crime and Right against Torture and in violation of such fundamental rights there are provisions of proper remedy or compensation. There are other articles like article 42 Right to social justice, article 44 Right of consumers which are partially or completely related with medico-legal field for their proper implementation in real life of people. For effective application of above constitutional rights, medico-legal sector in Nepal must be addressed with priority.

Time has compelled to recognize medico-legal field and it is shown by other way with spontaneous appearance of more than five dozens of Nepali doctors specialized in the field of forensic medicine. Now it is high time for Nepal Government to facilitate the environment to utilize those experts in medico-legal field for providing their specialist service to Nepali people.

Few events are coming up with the support and advocacy by MELESON (Medico-legal Society of Nepal), a registered professional society of practicing Nepali Forensic Medicine specialists in this country. Some of the positive outcomes during previous years can be listed as follow:

1. Ministry of Health and Population has created few posts in some hospitals for consultants in this field.
2. A historical first National Medico-legal Workshop was held this year at Kathmandu by Ministry of Health and Population.
3. Six types of medico-legal examination and reporting formats are prepared and prescribed by Nepal Government with initiation of Ministry of Law and Justice in 2073 and now are annexed in relevant laws.
4. National Health Training Center from Department of Health requested to MELESON to prepare six various types of Standard Operating Procedures (SOP), Reference Manuals and Training Manuals for standard medico-legal examination and reporting procedures on 2018.

   In 2020, the SOPs were amended with consideration of concurrent changes in laws and more practical approaches of their application.

   Revision of following SOPs and manuals was done on 2020:

   a) SOP and manuals for autopsy work
   b) SOP and manuals for injury examination
   c) SOP and manuals for sexual offence cases examination
   d) SOP and manuals for age estimation
   e) SOP and manuals for examination of victims of torture

   But till date the revised version of SOPs could not be implemented because of unknown reasons in Department of Health and National Health Training Center.

5. During fiscal year 075/076, Cabinet of Ministers of Nepal has passed a Medico-legal Services Operation Guideline 2075 and within one year time two private Medical Colleges were permitted to conduct medico-legal autopsy and clinical medico-legal examination; at Dhulikhel by KUSMS and at Bhaktapur by Kathmandu Medical College.
6. GBV Protocol was amended as per requirements in new context with incorporation of more than 5 years' experience from the work in the particular field.

Some of the newly added activities of FY 2077/78

During FY 2077/78, very few activities related with medico-legal services could be conducted because of continuous adverse situation of COVID 19 pandemic.

1. Only four Medico-legal Trainings for Medical Officers and other doctors working at periphery were carried out by GESI Section of MoHP at three different Provinces and National Health Training Center at Kathmandu.
2. A roadmap has been passed to develop medico-legal sector in the country by Central Medico-legal Operation Committee at Ministry of Health and Population as novel activity to address the field which includes:
    a. Establishment of a focal desk within MoHP with a forensic specialist to find out the ways for updating medico-legal service sector in the country.
    b. To suggest Province Social Development Ministries or Ministries of Health at Provinces to establish Medico-legal Coordination Committee as mentioned in Medico-Legal Service Operation Guideline 2075.
    c. Medico-legal Unit in all more than 100 bedded hospitals to be established by appointing a focal person with a trained doctor in medico-legal field or Specialist, if available.
    d. Monitor the situation of medico-legal services in Provinces either by Central Medico-legal Service operation Committee or Provincial Medico-legal Coordination Committee at least twice within a year and report to Ministry of Health and Population.
    e. Prepare and update the autopsy unit at all hospitals where medico-legal services are provided as per Medico-legal Services Operation Guideline 2075.
    f. Update the Clinical Medico-legal Service physical facilities in concerned hospitals where service is provided and to handover the clinical medico-legal service to OCMC in hospitals where OCMC are functioning.
    g. Request all Province level and higher hospitals for creation of post of Forensic Medical Officer through O & M survey and immediate request to MoHP to appoint Forensic Medical Officer in following 13 hospitals: Mechi Hospital Bhadrapur, Koshi Hospital Biratnagar, Gajendra Narayan Hospital Rajbiraj, Janakpur Hospital, Narayani Hospital Birgunj, Hetauda Hospital, Bharatpur Hospital Chitwan, Maternity Hospital Thapathali, Lumbini Province Hospital Butwal, Veri Hospital Nepalgunj, Surkhet Province Hospital, Seti Province Hospital Dhangadhi and Dadeldhura Hospital.
    h. Start medico-legal services from all Medical Colleges in the country through their Forensic Medicine Departments.

i. Provide special training for all mortuary helpers

j. Make an assessment on physical facilities and human resources at all hospitals in the country

k. Make a systematic data collection of all medico-legal cases in Health Information Management System (HIMS)

l. Review the remuneration on autopsy work and to allocate remuneration on all types of clinical medico-legal examination and reporting

Though there are many problems in health care service delivery system in the country, the medico-legal service sector which is in pathetic condition, must be addressed to keep minimum standard. There are suggestions provided from the National Medico-legal Workshops 2074 and 2075 for very basic and minimum care in forensic medicine sector. Now the proposed activities are modified in to a road map can be considered as one step forward to address the issues. Proper implementation of the provisions given by new legal provisions, guideline and standards must be implemented to keep this sector for elimination of existing malpractice and sub standards in medico-legal service sector of the country. If those provisions are implemented step by step, it may take no longer to achieve minimum standard in this field of sensitive and important service. A separate Section or Division or Unit through O & M at Ministry and similar structures at all Provinces seems to be necessary establishment to take responsibility for the proper implementation of newly emerged and planned thoughts and idea for the minimum development in standard medico-legal service for the people.

8.9 MONITORING AND EVALUATION

8.9.1 Background

Monitoring and evaluation play a crucial role in tracking implementation and outputs systematically and measuring the effectiveness of programmes and policies. The Nepal Health Sector Strategy (NHSS) 2015-2020 emphasizes the importance of information generated from a variety of sources, such as routine information systems, population and institution-based surveys, surveillance, and research studies for informed decision-making and better policy and planning processes. The strategy promotes the use of information communication technology (ICT), functionality of information systems, and interoperability of the systems for improved and integrated health sector reviews at different levels that feed into the planning and budgeting process.

On the way to achieve Universal Health Coverage (UHC) and Leave No One Behind (LNOB), the NHSS and Sustainable Development Goals (SDGs) place a premium on monitoring and closing the equity gap in the health outcomes of various population subgroups

8.9.2 Major Progress in FY 2077/78 (2020/21)

Major Progress

Integrated Health Information Management

In alignment with the NHSS and the spirit of the 15th Periodic Plan, the Integrated Health Information Management Section (IHIMS) under the Management Division (MD) has finalized the Integrated Health Information Management System (IHMIS) Road Map (2021-2030). The roadmap envisions the strengthening and integration of health information systems for evidence-based planning and decision-making. The proposed e-Health architecture visualizes the interoperability among information systems. The roadmap outlines 47 activities under 14 outputs and 4 outcomes and provides a framework for implementation of the roadmap at the provincial and local level.

MoHP continued to expand the electronic reporting of service data from health facilities (HFs). In FY2019/20, a total of 400 public HFs provided HMIS monthly reports electronically, this has increased to 1,876 public HFs in FY 2020/21. All 753 local governments reported HF-based service statistics electronically to the HMIS either themselves or through parental unit. The HMIS e-learning modules for the orientation of health workers, statisticians, computer operators and programme managers have been updated and are available on the DoHS website (www.dohs.gov.np).

Information Management Unit (IMU) was established to strengthen and operationalize integrated information management for better informed decisions and monitoring of the health sector response to the COVID-19 pandemic. IMU assists MoHP for effective management of COVID-19 related information to surveillance, specimen collection, testing, case management, logistics, and human capital. The IMU was expanded to provincial and local level for effective and integrated health information management fordaily report of COVID-19 related information. This system has been effective in monitoring and managing the caseload, reimbursing COVID-19 case management costs to the hospitals and preparing daily situation report for COVID-19.

In 2021, eLMIS was implemented at 165 additional sites. This includes 9 local governments, 151 Service delivery points and 5 hospitals. In FY 20/21, MoHP shifted the eLMIS implementation responsibility to IHIMS. Currently the system is being implemented in central stores, 7 provincial health logistic management centres, 77 provincial health offices and 753 local governments. In this fiscal year the reporting status is 96%

and timely reporting is 86%. A total of 173 eLMIS sites were configured for COVID-19 commodity inventory management in 2020. Roll-out of e-LMIS completed in 1,023 SDPs where DHIS-2 is implemented by end of FY 2077/78.

The recording and reporting tools of One Stop Crisis Management Center (OCMC) and Social Security Unit (SSU) were digitized in the DHIS2 platform and planned to be linked with the HMIS.

The Health Facility Registry, a master registry to keep track of all HFs within the country was updated in this fiscal year. Provincial level workshops were conducted for updating the health facilities in all seven provinces. A total of 9,204 units have been registered in the system consisting of 6,700 public health facilities and 2,504 private and other non-governmental organizations.

The web-based digital dashboard for monitoring Nepal Health Sector Strategy – result framework hosted at the MoHP website (http://nhssrf.mohp.gov.np/#/root/2/), has been updated. The dashboard provided features to view goal, outcome and output level indicators and their achievements. Similarly another dashboard for easy access of key indicators on NDHS, NHFS and HMIS is available in MoHP website (http://hed.mohp.gov.np/).

The web-based RDQA tool and e-learning modules are available in MoHP website (www.rdqa.mohp.gov.np) is being used by health facilities. Between July 2020 and October 2021, 306 health facilities used the system to assess data quality using web based RDQA portal. The actual number of HFs conducting RDQA is much higher, as the system does not cover the assessments done using excel sheets. The offline version of the tool is being developed by MoHP and planned to be rolled out by next year.

Surveillance systems

Maternal Perinatal Death Surveillance and Response (MPDSR):

The facility based MPDSR system was expanded from 77 hospitals in FY 2018/19 to an additional 13 hospitals in FY 2020/21. Though the expansion of MPDSR was delayed last year due to COVID-19 pandemic, this year it was expanded in coordination at the federal and provincial level. Official guidance from FWD was provided to all provincial and local bodies, for notification and reporting of all maternal deaths. Local municipalities and partners were mobilised for notification as well as reporting of maternal deaths at community and hospitals. MDSR tools were modified to capture deaths from all MPDSR implementing as well as non-implementing sites. The web-based reporting system for MPDSR is being updated.

Policy dialogues for strengthening MPDSR were conducted in Provinces 1, Bagmati, Gandaki, and Sudurpashchim Provinces. The MPDSR implementing sites were supported virtually for quality review and responses of the maternal deaths. The community based MDSR system was expanded to 15 districts in FY 2020/21. Community MDSR training started in 11 new districts and by the end of FY 2021/22, it is expected that 32 districts will be implementing community based MDSR. Likewise, the MPDSR guideline and recording tools have been revised and the web-based reporting system is being updated.

The Open Data Kit (ODK) application developed by Family Welfare Division (FWD) for rapid notification of maternal and neonatal deaths occurring at the health facilities during the COVID-19 pandemic was modified to include notification ofcommunity deaths as well, however, only a few districts have started notifying community deaths through this application.

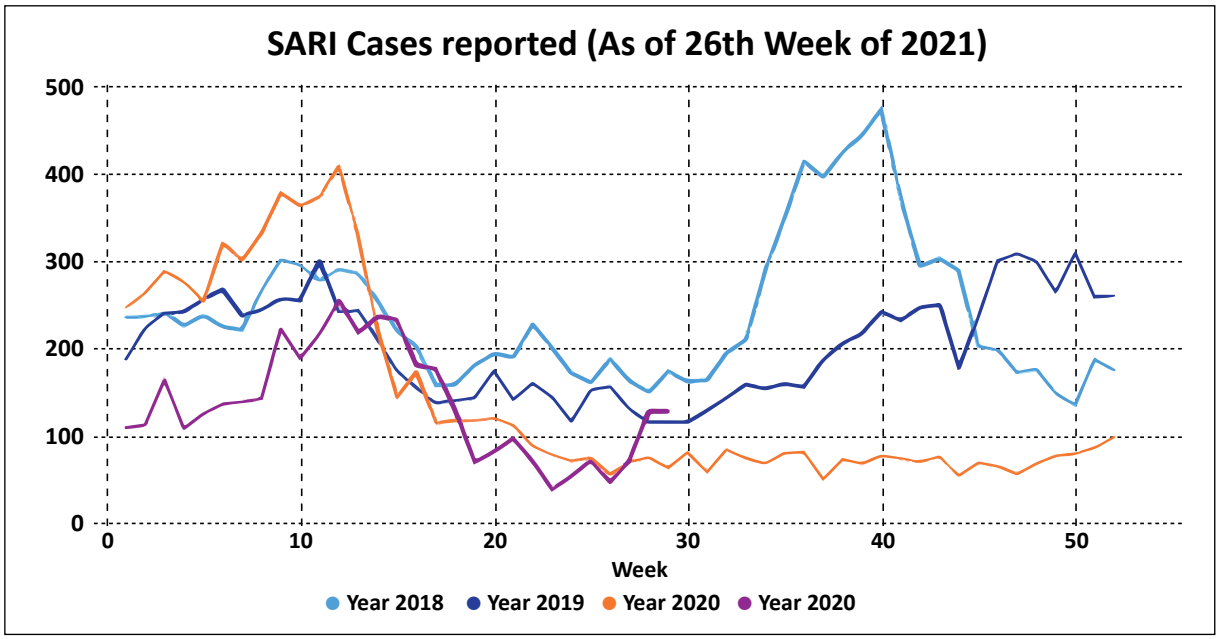
Early Warning and Reporting System (EWARS)

EWARS is a hospital-based sentinel surveillance system where the sentinel sites report on weekly basis (including zero reports) on six priority diseases and outbreaks of any disease. It is designed with an objective

to strengthen the flow of information on outbreak prone infectious diseases and vector borne diseases from district and facilitate prompt response to be carried out by rapid response teams at federal, provincial and local level. EWARS started in 1997 with eight sentinel sites and currently there are 118 sites. EWARS sentinel sites are now reporting in the DHIS2 platform, this helps in better linkages with the HMIS.

MoHP uses the data on SARI cases reported from sentinel sites to track Sever AcuteRespiratory Infection (SARI) cases over time and arrange laboratory tests for COVID-19. A total of 12,553 SARI cases were recorded in 2018; 10,594 in 2019; 7,554 in 2020. As of 27th week of 2021, a total of 3,682 cases were reported. Figure 8.9.1 shows a weekly trend based by year.

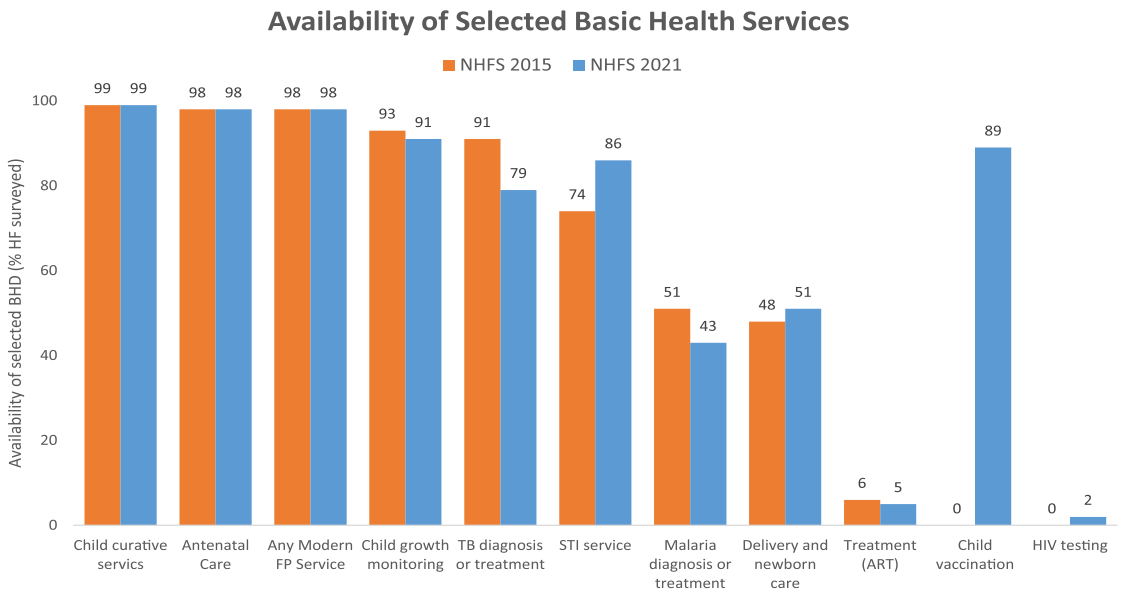
Figure 8.9.2.1 SARI Cases Reported, by Epidemiological Week (2018–2021)



8.9.3 Survey, research and studies

The second **Nepal Health Facility Survey (NHFS)** was completed in 2021 and the preliminary findings were shared at the end of 2021. The preliminary report is available in MoHP website (https://mohp.gov.np/en/news/805-nepal-health-facility-survey-2021-preliminary-data-tables). NHFS provides data to track progress of the of the Nepal Health Sector Strategy (NHSS) 2016-2022 Results Framework and provide a data on service availability, readiness, and quality ofcare at health facilities. A total of 1,576 health facilities were surveyed and 6,893 health workers were interviewed during the survey. The findings show increase in availability of selected basic health services except child growth monitoring, TB and malaria diagnosis and treatment. The figure below gives a glimpse of the findings of the NHFS 2021. *(Note 0 in the figure represent non comparable)*

Figure 8.9.3.1 Availability of Selected Basic Health Services (as % of all facilities surveyed)



Under the leadership of MoHP, **National Demographic and health Survey** (**NDHS)** is being carried out in every five years' period since 1996. The survey will collect data onfertility levels and preferences; contraceptive use; maternal and child health; childhoodmortality; childhood immunization; breastfeeding and young child feeding practices; women'sdietary diversity; violence against women; gender; nutritional status of women and children;awareness regarding HIV/AIDS and other sexually-transmitted infections; tobacco use;disability; mental health; accident and injury; fistula, and other indicators relevant for the Sustainable Development Goals from nationally representative sample of approx. 14,000 households. The data collection work of the survey started in January 2022 though it was planned in 2021.

The final report for sixth series of the **Nepal Multiple Indicator Cluster Survey** (**NMICS) 2019,** conducted by the Central Bureau of Statistics (CBS) was published in November 2020. NMICS 2019 provides information on survival development and protection of children to inform evidence-based decision-making by planners, policymakers, and programme implementers from an equity perspective by indicating disparities by sex, province, location, education, household wealth and other characteristics. The findings showed improvement in most of the indicators related to maternal and child health. The full report is available at https://www.unicef.org/nepal/reports/multiple-indicator-cluster-survey-final-report-2019 .

Enhanced surveillance on Sero-Prevalence of SARS-COV-2 in general population: The national sero-prevalence survey of Nepal for COVID-19 was conducted in October2020 with an objective to estimate the Sero-prevalence of SARS-CoV-2 in the general population of Nepal by measuring total antibodies which peak around three weeks afterinfection.The weighted estimate of national sero-prevalence for COVID-19 in Nepal was 14.4%(95% CI 11.8-17.0). Relatively higher sero-prevalence, 15.8% (95% CI 13.0-19.1) wasobserved among males compared to female 12.2% (95%CI 9.0-16.4). Among frontline healthcare workers/security personnel, sero-prevalence was 10.8% (95%CI 5.8-19.1).The risk analysis identified that the terai region (OR = 4.31) was found to have four timesgreater risk of exposure to infection than the mountain region.

Maternal Mortality Study following the Census 2078:

MoHP for the first time conducted a maternal mortality study aligning with the Nepal Population and Housing Census (NPHC) 2021. The primary objective of this study is to identify programmatically useful information to inform investment and interventions directed towards improvement of maternal health in Nepal. The specific objectives are to increase the evidence base available on maternal mortality in Nepal;

to generate estimates of current levels of maternal mortality at national and sub national levels, to gain a better understanding of why women are dying during pregnancy, childbirth, and the postpartum period, and the social and clinical determinants associated with maternal deaths.

For the data collection, a total of 850 health workers were trained from local, provincial and federal levels. The trained health workers coordinated with the enumerators employed by NPHC 2021 to receive notification of female death and is visiting the households of deceased women to conduct verbal autopsy (VA). The VA forms are verified by health offices at 77 districts and seven provincial health directorates and submitted to the Ministry of Health and Population. The verbal autopsy is expected to be completed by end of April 2022.

Further Analysis of national surveys

A further analysis, titled "Socioeconomic determinants of inequalities in use of sexual and reproductive health services among currently married women in Nepal" was carried out under the leadership of Family Welfare Division, DoHS, MoHP. This was carried out with an objective to examine the status and the socioeconomic determinants of inequalities in utilisation of modern contraceptive methods and institutional delivery among currently married women in Nepal.

A mixed methods approach was used. Secondary data were obtained from the Nepal Multiple Indicator Cluster Surveys (NMICSs) and Nepal Demographic and Health Surveys (NDHSs). Data from NMICS 2014 and 2019 were used for trend analysis on use of modern contraceptive method, intention to use FP method and institutional delivery. Inequalities were measured using a ratio and concentration index.

Key findings:

- The prevalence rate of modern contraceptive use has seen noincrease over the past 13 years and stayed at around 44.2 per cent between 2006 and 2019.
- Spousal separation (couples living apart), FP services being replaced by Medical Abortion (MA) and an increasing number of people preferring natural methods of contraception were major reasons for stagnant rate of CPR as mentioned by key informants.
- The inequality in use of moderncontraception can be seen clearly by wealth status, province and other sociodemographiccharacteristics.
- The value of concentration index (-0.0204) indicates that modern contraception ishigher among the poor.
- The prevalence of use of modern contraception among the poorestincreased by 13.5 percentage points between 2006 and 2019. In contrast to that it decreased by 14.2percentage points among the richest (from 53.9% in 2006 to 39.7% in 2019).
- The richest-to-poorest difference was high(23.6%) in 2006, decreasing to 13.3 percentage points in 2011 and further to 1.2 percentage pointsin 2016.The prevalence of modern contraceptive use was higher among the poorest (43.8%) than the richest (39.7%).NMICS data from 2019 shows that the richest-to-poorest differences were negative in all provinces except Karnali Province.
- Theinstitutional delivery has increased over time and varied largely by wealth quintile in both 2014 and 2019.
- Institutional delivery was highest among the richest wealth quintile in both surveys (91% in 2014 and 96% in 2019). The richest-to-poorest difference was large in 2014 (62.8%) and reduced to 38.8 percentage points in2019.
- The value of concentration index was 0.2082 in 2014, which decreased to 0.0988 in 2019, indicating that the inequality between the richest and poorest has been decreasing over time.

- Factors hindering uptake of institutional delivery in rural areas and among poor communities mentioned by key informants were geographical difficulty; lack of accessto well-equipped health institutions/ Birthing Centers (BCs); lack of Skilled Birth Attendants (SBAs) at service delivery sites; and insufficient travel incentives for poor and rural women.

8.9.4 Health Sector Reviews with Functional Linkage to Planning Process

The annual performance reviews, at each level from federal MoHP to local level health facilities is being done to review the achievement of past year and prepare work plan for the upcoming year. MoHP, together with EDPs, have been conducting these reviews and improving their alignment with the priorities of the Sustainable Development Goals, NHSS, 15th Periodic Plan and annual planning and budgeting of the given year. The AWPB has been a useful instrument to translate strategy into action by linking resources to achievements. The "annual review guideline for provincial, district and local level 2078" details out the objective and step by step guidance for conducting annual review at each level with involvement of development partners to streamline the review and planning process.

8.9.5 Way Forward

- Monitor and ensure compliance of timely and complete reporting from HFs on monthly basis.
- Digitize HMIS recording registers to facilitate on-time reporting, improving data quality and use of data at the point of data generation.
- Update Health Facility Registry from all levels regularly to establish a master registry
- Finalize the revision of HMIS indicator, recording and reporting tools and upgrade DHIS-2 for reporting HMIS data.
- Integrate Ayurveda Information Management System with the national database.
- Ensure functional and reliable data sources for all NHSS and SDG indicators.
- Develop and operationalize the central standard data repository.
- Provide standardized framework for electronic medical record and electronic health record.
- Establish mechanism for monitoring basic health services implementation
- Ensure and operationalize interoperability among MISs.

HEALTH COUNCILS

9.1 NEPAL NURSING COUNCIL

Nepal Nursing Council (NNC) is established under Nepal Nursing Council Act 2052 (1996). It came into operation on 2053-03-02 (16June 1996). NNC is an autonomous body formed to maintain quality nursing and midwifery education for the provision of quality nursing and midwifery services to the public.

The main functions of the council are:

1. Register the nurse and midwife through licensing examination and manage the registration of qualified nursing/midwifery professionals
2. Formulate policy required to operate the nursing and midwifery profession smoothly and to provide better care to the public
3. Monitor the quality of nursing and midwifery services for better care
4. Formulate professional code of conduct of the nursing and midwifery professionals and to take action against those professionals who violate such code of conduct.
5. Develop the scope of practice for nursing and midwifery professionals to determine the work limit of nursing and midwifery professionals
6. Publish the annual Journal of the Nepal Nursing Council

Registration Status of nurses and midwives in NNC

SN	Categories of nurses	Number
1	Auxiliary Nurse Midwife (below PCl level)	35,493
2	Registered Nurse (PCL and bachelor)	67,509
3	Specialized nurse (master and above)	586
4	Registered Midwife (bachelor level)	25
5	Foreign nurse/midwife	845

The NNC had registered 35493 Auxiliary Nurses (ANM), 67509 nurses, 25 Midwives and 845 foreign nurses/ midwives till 12th Mansir, 2078 (28th November, 2021)

Major activities carried out by NNC on 2077/78

- Developed the scope of practice for different level of nurses
- Developed the practical record book for bachelor and PCL level midwives
- Revised the practical record book for nurses
- Develop the guidelines for simulation based education
- Developed the guidelines for Continue Professional Development CPD)
- Provided the online good standing and verification certificate to the nurses who are out of country
- Held the licensing Examination for both Nurse and Midwife for registration and practical exam was also included to test the skill for newly graduate midwives during licensing exam

- Put all essential documents developed by NNC at NNC web site
- Distribution of Specialized license certificate for master level of nurses

Ways forward

- Plan to take specialized license exam for Master nursing
- Plan to maintain the online and up to date information of previously registered nurses
- Separate the licensing system for PCL and bachelor level nursing program
- Formation of ethical committee to address the ethical problems
- Formation of CPD committee to implement the CPD program
- Planning for Computer based licensees examination for nurses and midwives
- Amendment of NNC act and regulation as per federal system
- Development of rules regulations related to midwifery and nursing professionals as per federal democratic republic of Nepal.

9.2 NEPAL AYURVEDA MEDICAL COUNCIL

Introduction

The Nepal Ayurveda Medical Council (NAMC) is the autonomous body to regulate and control Ayurveda medicine in Nepal. It was established under the Ayurveda Medical Council Act, 2045. The Council is regulatory and legislative body for Ayurveda courses, human resources, institutions, practitioners and traditional healers in Nepal. All Ayurveda practitioner and educational institutions have to register with the council. The council has developed a code of ethics for Ayurveda doctors and minimum requirements for Ayurveda educational institutions. The council's main committee consists of an Ayurveda doctor nominated by the government as chairperson, three doctors nominated by the government, the DoAA director, three doctors elected by registered doctors, one campus chief nominated by the government and one Doctor nominated as registrar nominated by the government. The main functions and objectives of the council are listed below:

Functions and objectives of the council

- Arrange for the smooth provision of Ayurveda treatment.
- Develop the system of use of Ayurveda medicines.
- Determine the qualification of doctors and to register them.
- Advice the government on the production, sale and distribution of Ayurveda medicines.
- Suggest to the government for making arranging research on Ayurveda.
- Recognise appropriate Ayurveda educational institutions in Nepal.
- Determine the curriculum, terms admission and examination system policies and essential infrastructures of educational institutions.
- Recognise the educational qualifications granted on Ayurveda, modern medicine and surgery and paramedics.
- Prepare a code of conduct for Ayurveda doctors and to monitor its implementation.

The number of registered members, institutions and courses are given below:

List of Institutions:

A. Post Graduate (MD)

1. Tribhuvan University, IOM, Ayurveda Campus, Kirtipur,

B. Bachelor Level Programme(BAMS)

1. Tribhuvan University, IOM, Ayurveda Campus, Kirtipur
2. Mithila Ayurveda College & Research Center, Janakpur, Dhanusha (Affiliated by NSU)
3. Nepal Ayurveda Medical College, Birgunj, Parsha (Affiliated By T.U.)
4. Nepal Sanskrit University, Kendriya Ayurveda Vidhyapeeth, Bijauri, Dang.
5. Patanjali Ayurveda Medical College & Research Centre, Dhulikhel, Kabhre. (Affiliated By NSU)

C. Certificate Level Programme (AHA)

1. NSU, Janta Vidhayapeeth, Bijauri, Dang
2. Dhanwantari Ayurbigyan Adhyan Sansthan, Baphal, Kathmandu (Affiliated by CTEVT)
3. Himalayan Ayurveda College, Baneshwor, Kathmandu. (Affiliated by CTEVT)

Statistics of registration (up to 2078/8/11)

Category	Registered in 2077/78	Total Number
MD/MS/PG	18	131
BAMS/equivalent	58	798
Ayurveda B. Pharmacy	00	05
AHA/Equivalent	44	1,603
AAHW /TSLC	335	2,796
Traditional healers	00	19
Academic institutions	00	22
Foreigner practitioners	01	01

Specialization details (up to 2078/8/11) are given below

Subject Specialization	Registered in 2077/78	Total Number
Shalya Chikitsa	04	14
Kaya Chikitsa	03	34
Dravyaguna Vigyan	01	13
Rasa Shastra	03	07
Kaumarabhritya (Balrog)	00	04
Prashuti tantra	01	09
Basic Principle	01	07
Shareera Kriya	00	01
Rachana Shareer	02	03
Shalakya Tantra	00	05
Roga Nidan	00	02
Panchakarma	02	07
Swastha vritta	01	03
Agad Tantra	01	02
Manovigyna & Manas rog	00	01
Yoga	00	01
Public Health	00	02
TCM IM	00	05
TCM AMT	00	10
M. Pharma (Ayu.)	00	01
Total	**19**	**131**

Major achievements in FY 2077/78

1. Renovation and restructuring of office setup, furnished office rooms, meeting hall and acquired a vehicle with MoHP Assistance.
2. Updated website.
3. Developed Telemedicine Practice Guidelines for Registered Ayurveda Practitioners in Nepal.
4. Formation of various committees including Committee formation for revision/Amendment of Nepal Ayurveda medical council act and regulations & Bulletin Publication Committee.
5. Conducted Licensing Examination for undergraduates (BAMS) every Six months round the year to certify Ayurveda Doctors.

(NAMC- Nepal Ayurveda Medical Council , MD - Master of Medicine, BAMMS- Bachelor of Ayurveda & Modern Medicine & Surgery , BAMS- Bachelor of Ayurveda Medicine & Surgery, AHA- Ayurveda Health Assistant; AAHW- Auxiliary Ayurveda Health Worker)

9.3 NEPAL HEALTH RESEARCH COUNCIL

Introduction

Nepal Health Research Council (NHRC) is the national apex body for promoting health research across the country. NHRC was established in 1991 by an Act of Parliament and was given the responsibility to promote and coordinate health research regulation, evidence generation, translation of evidence into policy and practice, and capacity building of national scientists in the areas of health research and evidence. Nepal Health Research Council serves as the main national institution responsible for technical and ethical review of proposals submitted by individual health researchers, national authorities, NGOs, INGOs and universities. After review, the Ethical Review Board (ERB) of NHRC approves these proposals. In its role of generating evidence, NHRC carries out research on its own on national health issues aligning with the national health priorities. NHRC has also approved 53 Institutional Review Committee at different academic and research institutions in Nepal. The capacity-building roles of NHRC encompass providing education, organizing training on various aspects of health system research to national scientists with special emphasis on promoting the research competency of young researchers. Nepal Health Research Council has been providing health research grants to the researchers in order to enhance the research activities throughout the country. NHRC also conducts workshops and dissemination programs to facilitate uptake of research findings by the policymakers into health system policies and practices Similarly, NHRC facilitates access to research finding from different research reports, journals, books, magazines, etc. through the library digital database and the NHRC Journal.

Major activities in the fiscal year 2077/2078

Research projects/activities

Nepal Health Research Council conducted different research activities with support of Government of Nepal and other development partners in FY 2077/78. The research activities conducted by NHRC during the last fiscal year are listed below:

1. Population-Based Cancer Registry
2. Situation Assessment of Bipanna Nagarik Aausadhi Upachar Kosh Program of Government of Nepal
3. Sero-Prevalence and Entomological Study of Dengue and Scrub Typhus in Chitwan, Kaski and Dolkha of Nepal- A Pilot Study
4. Situational Assessment of Antibiotics Resistance in Kathmandu Valley- A Pilot Study
5. Identifying Cause of Death From Verbal Autopsy in Thaha Municipality, Makawanpur- A Pilot Study
6. Impact Assessment of Health Tax Fund Utilization of Government of Nepal
7. Operational Research on Implementation of Integrated Disease Surveillance System in Nepal
8. Effectiveness of an Educational Intervention on Knowledge, Attitude and Practice Regarding Pharmacovigilance among Health Care Professionals of Nepal
9. Integrated Biological and Behavioral Surveillance (IBBS) Survey Among Male Labour Migrants (MLM) in Six District (Illam, Panchthar, Dhankuta, Jhapa, Morang and Sunsari) of Province 1
10. An Analysis of Inpatients Expenditure at NICU in Tertiary Care Centers in Nepal
11. Knowledge and Utilization of Research4life Program in the Health Institution of Nepal

COVID-19 Related research Projects

1. A Survey on Factor Associated with COVID-19 Deaths in Nepal
2. Clinical Characteristics and Outcome of SARS-CoV-2 Patient Admitted to Different Critical Care Unit of Nepal

3. Public Awareness and Attitude Regarding COVID-19 Vaccine: A National Level Population Survey
4. Adverse Events and Experiences Following the COVID-19 Vaccination in Nepal
5. Assessment of psychosocial impact due to COVID 19 among school students of Kathmandu Valley, 2021
6. Willingness to Pay for Potential vaccine against COVID-19 and its associated factors in Nepal
7. Remdesivir and Convalescent Plasma Therapy for treatment of COVID-19 in Nepal : A Registry Study
8. Rapid Auditing of epidemiological data of COVID-19 in Nepal
9. Rapid Assessment of COVID-19 Related Policy Audit in Nepal
10. Rapid assessment of COVID-19 testing laboratories in Nepal
11. Assessment of Post-Recovery Impact on Patients with COVID-19 in Nepal
12. Review and analysis of current responses to COVID-19 in Nepal
13. Effect of COVID19 pandemic and lockdown on provision and utilization of essential sexual reproductive maternal neonatal child and adolescent health and nutrition services in Nepal
14. Infection status of COVID-19 among Vaccinated and Unvaccinated Population in Kathmandu Valley: Combination of Retrospective and Prospective Cohort Studies

Drug Trial Related to COVID-19

1. Randomised Evaluation of COVID-19 Therapy (RECOVERY) Trial
2. Clinical Evaluation of YASH-T Decoction in Management of Mild to Moderate COVID-19 Cases: Open Label Controlled Trial

Health Research Grant

S.N	Grants	Total number of grants provided
1	Provincial Research Grant	30
2	Post Graduate Research Grant	35
3	Under graduate Research Grant	30

Training and Workshop

Name of the Training	Date of the Training	Total Number of Participants
Health Research Methodology	26-28 July 2020	464
	13-16 Sept. 2020	229
	20-25 Sept. 2020	147
	27 Sept.-02 Oct. 2020	510
Research Methodology on Medical Entomology	05-09 Oct. 2020	214
	12-16 Oct. 2020	142
	01-06 Nov. 2020	141
Health Research Proposal Development	08-13 Nov. 2020	115
	02-07 May 2021	189
	09-14 May 2021	173
	21-30 Jun 2021	50
Ethical Review Process in Health Research	16-18 May 2021	204
Data Management and Analysis	23-28 May	80

Scientific Writing	19-21 May 2021	176
	9-11 June	180
	25-30 July	35
Qualitative Methods and Data Analysis in Health Research	30May–4Jun	400
Systematic Review and Meta-Analysis (SRMA)	13-18 June	500
	01-06 Aug.	300

Seventh National Summit of Health and Population Scientist of Nepal

The Seventh National Summit of Health and Population Scientist in Nepal was continuum of the previous annual summits celebrated every year on the establishment day of NHRC (10-12 April). Due to the global pandemic of COVID-19, the summit was postponed and held on 01-02 July of 2021 virtually. Research in Public Health Emergencies: Evidence to Policy and Action was the theme of the summit. The Seventh National Summit of Health and Population Scientists addresses emerging need of appraisal and collation of evidence around the public health emergencies following the COVID-19 pandemic and calls for integrating all other discipline of research to inform health policy and practices. Around 352 thousand people were reached through Facebook and 2.3 thousand people viewed the program on YouTube. There were 52 oral presentations, 18 poster presentations and 19 national and international invited talks. in the summit 10 different sessions namely Research in Public Health Emergencies, Research Studies on COVID-19 and Health Emergences, Non-Communicable Diseases**,** Health System and Policy Research**,** Maternal, Neonatal and Child Health including Geriatric Health**,** Interdisciplinary and Implementation Research, Infectious Diseases Research, Nutrition, Mental Health and Substance Abuse, Environmental Health, Pharmaceuticals and Biomedical Research were focused.

Ethical Review Board (ERB) of NHRC received 809 health research proposals for ethical clearance in the FY 2077/2078. For this, 40 ERB meetings and 69 expedited sub-committee meetings were conducted to review and discuss the submitted proposals. Total 660 research proposals got ethical approval with 113 proposals in process, 10 proposals were withdrawn from the researcher due to unavailability of the budget and emergency situation of the country and the rest proposals were not responded to by the researcher and 26 proposals are in pending. During the fiscal year NHRC conducted a workshop on Review and Revision of National Ethical Guideline and Standard Operating Procedure (SOP).during this fiscal year fifty research projects were monitored among approved proposal from ERB.

Institutional Review Committees (IRCs)

There are 53 IRCs established until the last fiscal year across the country to promote health research at the institutional level especially in health science universities, institutes, colleges and hospitals. Every year, a team from NHRC inspects the Institutional Review Committees approved by NHRC. During Fiscal Year 2077/78 NHRC monitored 30 approved IRCs. Similarly, training on Ethical Review Process in Health Research especially for IRC member and other interested candidate was conducted on an online platform.

Journal Publications:

JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL. 18 NO. 3 ISSUE 48 JUL-SEP 2020**
JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL,**VOL. 18 NO. 4 ISSUE 49 OCT-DEC 2020**
JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL. 19 NO. 1 ISSUE 50 JAN-MAR 2021**
JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL. 19 NO 2 ISSUE 51 APR-JUN 2021**
JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL, **VOL.19 NO 3 ISSUE 52 JUL-SEP 2021**

9.4 NEPAL MEDICAL COUNCIL

Introduction

Nepal Medical Council (NMC) is a regulatory organization established by an Act of Parliament (NMC Act 2020) that comprises 19 members. NMC is empowered to protect and promote the health and safety of the public by ensuring proper standards in the training and practice of modern medicine, registering doctors and regulate their practice and ensuring that individual professionals have a fair and unbiased hearing at any disciplinary inquiry. The community and patients occupy a supreme position in the conduct of its multiple duties.

Progress Report FY 2077/78

1. Licensing Examination

Nepal Medical Council Conducts Licensing Examination for undergraduates (MBBS & BDS) and Special Examination for postgraduates (MD, MS & MDS) every four months round the year to certify Medical and Dental practitioners.

Examination conducted in 2077/078 as follows –

Licensing Examination Conducted in 078 Bhadra 20, Kartik 1 & Falgun 9-11			
Total Candidate	**Passed**	**Failed**	**Absent**
4,310	2,561	1,704	45

Special Examination Conducted in 29th Feb. and 27-28th Nov.			
Total Candidate	**Passed**	**Failed**	**Absent**
1,174	770	399	5

2. Registration Status

The major function of Nepal Medical Council is to register and maintain proper archives of medical/dental practitioners as NMC Registered doctors, who have duly graduated in MBBS/ Diploma from Nepal or abroad.

2.1. National Doctors Registered

The data of registered national doctors till 2021in Nepal Medical Council are as follows:

UNDERGRADUATE			
Program	**Male**	**Female**	**Total**
MBBS/BDS	18,927	11,206	30,133

POSTGRADUATE			
Program	**Male**	**Female**	**Total**
MD/MS/MDS	6,009	2,430	8,862

2.2. Foreign National Doctors (FND)

The provision of temporary registration to foreign doctors is on the basis of recommendation of Government of Nepal, Medical Colleges or organizations related with healthcare and their academic qualification. In fiscal year 2077/78, total number of 94foreign doctors has been registered at Nepal Medical Council to provide health services in various parts of the country.

3. Eligibility Certificate Issuance

Eligibility Certificates were provided as per the NMC regulations to those who possess minimum qualification to pursue Medical Degree/ Diploma from abroad. NMC has granted Eligibility Certificates as below mentioned data:

UG Eligibility in 2020 (Till September)				PG Eligibility in 2020 (Till September)		
S.N.	**Country**	**MBBS**	**BDS**	**S.N**	**Country**	**Total**
1	Bangladesh	79	0	1	China	9
2	Philippines	15	0	2	Bangladesh	14
3	China	6	0	3	Thailand	1
4	India	8	0	4	USA	80
5	Pakistan	1	0	5	India	55
6	Ukraine	1	0	6	Pakistan	40
7	Australia	1	0	7	Egypt	1
	Total	**111**	**0**	8	Netherland	1
					Total	**201**

4. Ethical Cases

Nepal Medical Council has been playing crucial role in enforcing code of conduct and developing guidelines and protocols related with medical and dental professions. In order to maintain standard of conduct in health services, Code of Ethics & Professional Conduct 2017 was developed and implemented.

Investigating complaints, registered against the medical services/ doctors and provision of enacting penalty or recommending concerned bodies for legal actions in case of any disobedience/ fraudulent found, also lies under the sphere of Nepal Medical Council. The complaints filed against the misconduct related with medical profession have been operating in following procedure:

No. of complaints	Processed & finalized	Under process
50	29	21

5. Major Achievements in FY 2077/78

5.1 IT friendly

- Totally online submission of Registration form/Good standing form/verification letter

5.2 Infrastructures Development

- Restructuring of Office gate and waiting lobby
- Restructuring side garden

5.3 Revision of Act and Regulation of NMC

9.5 NEPAL HEALTH PROFESSIONAL COUNCIL

9.5.1 Introduction

Nepal Health Professional Council (NHPC) has been established to make more effective the health services in Nepal, to mobilize the services of health professionals (except the qualified doctors and nurses to be registered with the Medical Council and Nursing Council in a managed and scientific manner) and make provisions on the registration of their names according to their qualifications, according to "Nepal Health Professional Council Act 2053" by the Government of Nepal.

Functions, duties, and powers of Council

According to the article 9 of the Act, the functions, duties, and powers of the Council shall be as follows:

- To make necessary policies for smoothly operating the health profession-related activities.
- To determine the curricula, terms of admission, and policies on the examination system of educational institutions imparting teaching and learning on the health profession and evaluate and review the related matters.
- To determine the qualifications of health professionals and to provide for the registration of the names of health professionals having required qualifications

Registration levels and theirqualification requirements

According to the qualification of healthprofessionals, the NHPC will register into respective groups.

1. The health professional with a Master's Degree will be registered inthe "Specialization" category of the related subject.
2. The health professional with a Bachelor's Degree will be registered inthe "First Class" (A) category of the related subject.
3. The health professional with a proficiency certificate level or equivalent will be registered inthe "Second Class" (B) category of the related subject.
4. The health professional with only 18 monthsof study or course on health education or related field will be registered into the "Third Class" (C) category of the related subject.

Subject committees of the Council

For the registration of health professionals, the council has 10 different subject committees:

1. Medical Subject Cmmittee
2. Public Health Subject Committee
3. Radiology Subject Committee
4. Laboratory Medicine Subject Committee
5. Physiotherapy and Rehabilitation Subject committee,
6. Ayurveda Subject committee,
7. Dental Subject committee
8. Optometry Science Subject committee
9. Miscellaneous Subject (Homiyo, Yunani, Naturopathy, etc.) Committee,
10. Examination committee.

9.5.2 Activities performed by the council FY 2077/78

S.No.	Subject	Specialization	First	Second	Third
1	Public Health	146	434		
2	Health Education	11	1		
3	Medicine			818	2,463
4	Medical Microbiology	12	15		
5	Medical Sciences Laboratory	10	321	475	1,611
6	Cytrology	1			
7	Haematology	1			
8	Biochemistry	27	18		
9	Radiography	11	95	189	
10	Radiotherapy		1		
11	Homeopathy		13		
12	Acupuncture			7	
13	Physiotherap	41	161	10	
14	Dental Assistant			178	4
15	Naturopathy		6		
16	Ophthalmology)	17	234	153	
17	Operation Theater and Allied Health Sciences		2	20	
18	Clinical Psychology	4			
19	Speech and Hearing	1	12		
20	Perfusion Technology	1	1		
21	Anaesthesia		4		
22	Occupational Therapy		1		
23	Embryology	1			
Total		284	1,319	1,850	4,078
		7,531 **Grand total 138,540**			

9.5.3 Major achievements in FY 2077/78

1. Made ready all require a legal draft to conduct the examination.
2. Started licensing examination system.
3. Furnished office rooms & meeting hall.
4. Upgraded website & shifted all data to Govt data storage center from unknown storage center.
5. Maintenance of the whole building.
6. Description collection of institutes online on the process.
7. Digital NHPC has already started.
8. Regular meeting of Board and subject committee.
9. Fasten the registration system

9.5.4 Major Subject registred in NHPC

Master Level (Specialization)

1. Master of Science in Medical Laboratory Technology
2. Master of Science in Medical/Clinical Microbiology
3. Master of Science in MLTMedical/Clinical Microbiology

4. Master of Science in Medical/Clinical Biochemistry
5. Master of Science inMLT Medical/Clinical Biochemistry
6. Master of Science in Medical/Clinical Hematology & Blood Banking
7. Master of Science inMLTMedical/Clinical Hematology & Blood Banking
8. Master of Science in Medical/Clinical Virology
9. Master of Science inMLT Medical/Clinical Virology
10. Master of Science in Medical/Clinical Cytology
11. Master of Science inMLT Medical/Clinical Cytology
12. Master in Public Health (MPH)
13. Master in Public Health (Health Promotion & Education)
14. Master in Public Health (Global Health)
15. Master in Public Health (Health Service Management)
16. Master in Public Health (International Health)
17. Master in Public Health (Epidemiology)
18. Master in Physiotherapy (MPT)
19. Master in Physiotherapy (Musculoskeletal Disorder & Sports)
20. Master in Physiotherapy (Health Promotion & Rehabilitation)
21. Master in Physiotherapy (Pediatrics)
22. Master in Physiotherapy (Cardio-Pulmonary Science)
23. Master in Physiotherapy (Neurological Psychosomatic Disorder)
24. M. Phil Clinical Psychology
25. Master of Audiology Speech and Hearing Language Pathology (MASLP)
26. Master in Optometry
27. Master in Naturopathy
28. Master in Yoga
29. Master of Science in Medical Imaging Technology
30. Master of Science in Radiotherapy
31. Master in Anesthesia
32. Master in Embryology
33. Master of Perfusion Technology
34. Master of TCM AMT

Bachelor Level (A-Level)

1. Bachelor of Science in Medical Laboratory Technology (B. Sc. MLT)
2. Bachelor of Science in Medical/Clinical Microbiology
3. Bachelor of Science in Medical/Clinical Biochemistry
4. Bachelor of Public Health (BPH)
5. Bachelor of Physiotherapy (BPT)
6. Bachelor of Optometry
7. Bachelor of Science in Medical Imaging Technology (B. Sc. MIT)
8. Bachelor of Science in Radiotherapy

9. Bachelor of Audiology Speech and Hearing Language Pathology (BASLP)
10. Bachelor of Naturopathy and Yogic Science (BNYS)
11. Bachelor of Yoga
12. Bachelor of Anesthesia
13. Bachelor of Homeopathy
14. Bachelor of Unani
15. Bachelor of Perfusion Technology
16. Bachelor of Occupational Therapy
17. Bachelor of Renal Dialysis
18. Bachelor of Operation Theater and Allied Health Sciences
19. Bachelor of Prosthetic & Arthritic
20. Bachelor of Cardiology Technology
21. Bachelor of Acupuncture

PCL Level (B Level)

1. PCL in General Medicine (PCL GM)
2. PCL in Medical Laboratory Technology (CMLT)
3. PCL in Radiography (PCL RD)
4. PCL in Radiotherapy
5. PCL in Physiotherapy (CPT)
6. PCL in Homeopathy
7. PCL in Dental Hygiene
8. PCL in Acupuncture, Acupressure and Moxibustion
9. PCL in Ophthalmic Assistant
10. PCL in Operation Theater and Allied Health Sciences
11. PCL in Audiology Speech and Hearing Language Pathology
12. PCL in Forensic Medicine
13. PCL in Dialysis Technology
14. PCL in Anesthesia

Technical SLC (C Level)

1. CMA
2. TSLC MLT
3. TSLC Acupuncture
4. TSLC Dental Hygienist

9.6 NEPAL PHARMACY COUNCIL

Introduction

The Nepal Pharmacy Council (NPC) is established to make effectiveness to the pharmacy Profession by managing and operating it in a scientific manner and also provide for the registration of names according to the qualification of pharmacists and pharmacy assistants. The functions, duties and powers of NPC are as follows:

Functions and Duties:

- Established in accordance with Nepal Pharmacy Council Act.
- Nine members committee and a registrar appointed by GoN.
- Provision of registration of Pharmacist and Pharmacy Assistant.
- Provision of De- registration of Pharmacist and Pharmacy Assistant.
- Provision relating to the recognition of educational degree and certificate is under the authority of Medical Education Commission at present.

Infrastructure and Facilities:

- A shared space in National Medicine Laboratory (about 800 sq.ft).for which several approach has been made for own land and building to GON through Health Ministry.
- Regular staff other than Registrar
  - Assistant-2,
  - Exam Assistant-1
  - Helper-1.
- Managed by own financial resource.
- Some budget allocation from the government.

Regular Activities:

- Licensure examination (three times a year).
- Registration of Pharmacist and Pharmacy Assistant after passing out the licensure examination.
- Revision of Code of Conduct (ongoing)
- Revision of Good Pharmacy Practice draft and its Approval (ongoing).

Specific Activities:

- Code of Ethics for publishing pharmacy text book.
- Issuing “No Objection Letter” for foreign study (Diploma level).
- De registration of Pharmacist and Pharmacy Assistant.
- Revision of Name Registration Examination Guidelines.

Approved Colleges:

College regulation is under Medical Education Commission at present

Pharmacy Manpower Status:

- Registered Pharmacist:- 5,050
- Registered Pharmacist Assistants:- 9,400

Examinations conducted: at a glance:

Table 1: Summary of the examination conducted

Exam	Diploma			Bachelor		
	Total Present	Total Pass	Passed %	Total Present	Total Pass	Passed %
1st	51	35	68.63	11	11	100.00
2nd	430	394	91.63	99	85	85.86
3rd	262	99	37.79	277	181	65.34
4th	147	37	25.17	215	110	51.16
5th	689	359	52.10	368	148	40.22
6th	449	185	41.20	325	207	63.69
7th	531	242	45.57	315	121	38.41
8th	944	721	76.38	473	331	69.98
9th	377	185	49.07	258	80	31.01
10th	223	65	29.15	380	205	53.95
11th	964	658	68.26	463	231	49.89
12th	532	113	21.24	552	201	36.41
13th	881	655	74.35	471	118	25.05
14th	413	85	20.58	651	168	25.81
15th	896	455	50.78	647	214	33.08
16th	707	405	57.28	901	458	50.83
17th	379	58	15.30	515	226	43.88
18th	1084	501	46.22	548	110	20.07

Data is based on total number of student appeared in Exam

***Source**: NPC*

HEALTH INSURANCE

Background

Health Insurance happens to be a social health security program from the Government of Nepal which aims at enabling its' citizens with the access of quality health care services without placing a financial burden on them. In the beginning of 2072/073, it was run under the Social Health Development Committee, however since 2074/75 it has been running under the Health insurance Board (HIB) guided by Health insurance Act and Regulation. Health insurance program prevents people from falling into poverty due to health care costs i.e., catastrophic expenditure due to accidents or disease by combining prepayment and risk pooling with mutual support. This program also advocates towards quality and dedicated health services. Moreover, the program attempts to address barriers in health service utilization and ensures equity and access to the poor and disadvantaged groups so as to achieve Universal Health Coverage.

Objectives of health Insurance

- Ensure access to health service.
- Ensure quality health service.
- Protect people from financial hardships and reduces out-of-pocket expenses.
- Enhance capacity and ownership of health service provider.

Aim of Health Insurance

- Extends health insurance to all 753 local levels(by 2022) and to all population by 2030.
- Intends to reduce out of pocket expenditure and improve financial protection among the population

Main features of Health Insurance Program in Nepal

- It is a voluntary program, based on family contributions. Families of up to five members have to contribute NPR 3,500 per year and NPR 700 per additional member.
- The government bears the contribution amount for ultra-poor, MDR TB, Leprosy and HIV /AIDS cases and disabled people with red card holders and families having a poverty identity card.
- Insurees have to renew their membership through annual contributions.
- Benefits of up to NPR 100,000 per year are available for families of up to five members withan additional NPR 20,000 covered for each additional member.
- The maximum amount available peryear is NPR 200,000 according to the number of members in the family.
- The government bears a contribution amount after 70 years old citizens and Benefits of up to NPR 100,000 per year.

- Insurees have to choose their first service point. Insurees can access specialized serviceselsewhere that are not available at the first service point on production of a referral slipfrom their first contact point.
- It is a cashless system for members seeking health services.
- The program is IT-based with enrolment assistants using Smartphones at client household side.
- Contractual agreement between providers and Health Insurance board for providing services under benefit package at specific rate; the rate same for public and private hospitals

Program Implementation Status

The Health Insurance Program started from the Kailali district on 25th, Chaitra, 2072. Then it was

expanded to Illam and Baglung district in FY 2073/74. At the end of FY 2076/77, the program was

implemented in 58 districts of the country. Till the end of FY 2077/78, the program wasimplemented in 75 districts and 736 Local levels of the country. The next two districts are in the pipeline. The list of HIB program launched districts is as shown in Table 1.

Table 1: List of districts implementing National Health Insurance program till FY 2077/78

SN	Name of Province	Districts
1	Province 1	Ilam, Jhapa, Sunsari, Bhojpur, Khotang, Solukhumbu, Sankhuwasabha, Dhankuta,Okheldhunga, Morang, Terathum,Panchthar, Taplejung, Udayapur
2	Madesh Province	Rautahat, Mahottari, Parsa, Dhanusa, Siraha, Bara, Sapati, Siraha
3	Bagmati	Bhaktapur, Makawanpur, Chitawan, Sindhuli, Ramechhap, Kabhreplanchock, Dhading,Nuwakot, Dholakha, Rasuwa, Sindupalchok
4	Gandaki	Baglung, Myagdi, Kaski, Gorkha, Tanahun, Syanja, Parbat, Lamjung, Manag, Mustang, Nawalparasi(BardaghatSustaPurb)
5	Lumbini	Palpa, Bardiya, Arghakhanchi, Kapilvastu, Rolpa, Rukum east, Pyuthan, Banke, Gulmi,Dang,Pyuthan, Rupendehi,Nawalparasi(BardaghatSustaPaschhim
6	Karnali	Jajarkot, Surkhet, Rukum west, Jumla, Kalikot, Mugu, Humla, Dolpa, Dailekh, Sakyan
7	SudurPaschhim	Kailali, Achham, Baitadi, Bajura, Bajhang, Kanchanpur, Darchula, Doti, Dadeldhura

Enrollment and Health service utilization Status of fiscal year 2077/78

There were 13,507 people insured in FY 2072/73, A total of 228,113 people insured in FY 2073/74, 1,130,575 people insured at the end of FY 2074/75. Similarly, 147,938 people were reenrolled during FY 075/76 and 1,640,879 peoples are active insurees in FY 2076/77. Likewise, a total of 3,226,964 people insured at the end of FY 2077/78. The total cumulative numbers of enrolled people are 4,570,533 and total renewed insures are 2,030,795 at the end of FY 2077/78. A total of 1,196,168 peoples dropped from the program at end of 2077/78. During this FY, the total population coverage of the health insurance program is 18.87 percent.

Among the total insurees about 1,626,244 people have taken health services from listed health institutions in FY 2077/78. The leading top five districts based on the number of enrollments are Jhapa, Morang Sunsari, Chitwan and Palpa. The percentage of total renew among all enrollment is about 63%

The enrollment status has shown in Table 2.

Table 2: Summary of numbers of enrollment by district and province(upto 2078 Ashad)

S.N.	Provience	Name Of District	Total No of Insuree till Aasad 2077	Total Renew Insuree	Total New Insuree	Active Insuree	Total Insured
1	1	Bhojpur	25189	12719	4949	17668	30138
2		Dhankuta	5730	3760	13250	17010	18980
3		Ilam	92150	59464	21566	81030	113716
4		Jhapa	382793	267013	129118	396131	511911
5		Khotang	35401	25453	7765	33218	43166
6		Morang	156267	116807	164600	281407	320867
7		Okhaldunga	16333	11715	15639	27354	31972
8		Panchthar	22	13	13049	13062	13071
9		Sankhuwasabha	15926	8842	7276	16118	23202
10		Solukhumbu	6438	2483	857	3340	7295
11		Sunsari	254063	158439	102995	261434	357058
12		Taplejung	10	5	5898	5903	5908
13		Terhathum	2992	2042	5995	8037	8987
14		Udayapur	20	12	23645	23657	23665
15	2	Bara	0	0	2758	2758	2758
16		Dhanusa	7294	3251	17225	20476	24519
17		Mahottari	13203	6734	8486	15220	21689
18		Parsa	21898	12455	15832	28287	37730
19		Rautahat	16343	7245	6133	13378	22476
20		Saptari	16	4	29859	29863	29875
21		Sarlahi	0	5	7783	7788	7783
22		Siraha	29482	20218	35718	55936	65200

S.N.	Provience	Name Of District	Total No of Insuree till Aasad 2077	Total Renew Insuree	Total New Insuree	Active Insuree	Total Insured
23	Bagmati	Bhaktapur	127176	91478	43071	134549	170247
24		Chitwan	275686	170452	59066	229518	334752
25		Dhading	6737	2406	10898	13304	17635
26		Dolakha	16	16	3568	3584	3584
27		Kathmandu	0	0	0	0	0
28		Kavrepalanchok	46233	37353	48365	85718	94598
29		Lalitpur	0	0	0	0	0
30		Makawanpur	124415	73084	20185	93269	144600
31		Nuwakot	27	20	13659	13679	13686
32		Ramechhap	32070	18505	6202	24707	38272
33		Rasuwa	0	0	2411	2411	2411
34		Sindhuli	65702	38120	11666	49786	77368
35		Sindhupalchok	4	7	15935	15942	15939
36	Gandaki	Baglung	62776	38533	8622	47155	71398
37		Gorkha	52307	28090	14013	42103	66320
38		Kaski	155111	81607	22132	103739	177243
39		Lamjung	0	0	8638	8638	8638
40		Manang	0	0	28	28	28
41		Mustang	0	0	627	627	627
42		Myagdi	21148	12023	2988	15011	24136
43		Nawalparasi (Bardaghat Susta Purb)	22	6	33487	33493	33509
44		Parbat	4109	2449	10570	13019	14679
45		Syangja	55488	37448	26477	63925	81965
46		Tanahu	77776	41547	10412	51959	88188
47	Lumbini	Arghakhanchi	51386	33266	9523	42789	60909
48		Banke	31058	18160	12177	30337	43235
49		Bardiya	93165	61987	9829	71816	102994
50		Dang	50	10	12358	12368	12408
51		Gulmi	19762	15949	47090	63039	66852
52		Kapilbastu	57326	31474	10675	42149	68001
53		Nawalparasi (Bardaghat Susta Pashchim)	25	54	9571	9625	9596
54		Palpa	188314	150072	24945	175017	213259
55		Pyuthan	37668	19011	5589	24600	43257
56		Rolpa	22075	11462	4498	15960	26573
57		Rukum East	6025	2506	329	2835	6354
58		Rupendehi	1433	1412	64186	65598	65619

S.N.	Provience	Name Of District	Total No of Insuree till Aasad 2077	Total Renew Insuree	Total New Insuree	Active Insuree	Total Insured
59	Karnali	Dailekh	2386	1253	8040	9293	10426
60		Dolpa	2016	353	167	520	2183
61		Humla	6521	2445	837	3282	7358
62		Jajarkot	37535	15430	2646	18076	40181
63		Jumla	46792	29785	7292	37077	54084
64		Kalikot	33963	8086	2833	10919	36796
65		Mugu	2940	784	1286	2070	4226
66		Rukum West	47815	18559	7648	26207	55463
67		Salyan	0	1	5404	5405	5404
68		Surkhet	46107	19565	6654	26219	52761
69	Sudur Paschim	Achham	36651	18451	4887	23338	41538
70		Baitadi	16251	8758	2507	11265	18758
71		Bajhang	34422	23236	1791	25027	36213
72		Bajura	29282	13707	1747	15454	31029
73		Dadeldhura	879	626	7199	7825	8078
74		Darchula	7890	3110	1226	4336	9116
75		Doti	1051	675	4087	4762	5138
76		Kailali	159812	115747	37915	153662	197727
77		Kanchanpur	17991	13038	15217	28255	33208
		Total	**32,26,964**	**20,30,795**	**13,43,569**	**33,74,364**	**45,70,533**
				Total Renew %	**62.93**		

Table 3: Gender wise Insurees Trend since FY 2072/073- 2077/078

SN	Fiscal year	No. of Total Insurees	Gender wise distribution		
			Male	Female	Others
1	2072/73	12,623	5,972	6,647	4
2	2073/74	228,113	107,804	120,277	32
3	2074/75	1,130,575	533,829	596,633	113
4	2075/76	1,640,879	782,143	858,449	287
5	2076/77	3,158,212	1,509,771	1,648,106	335
6	2077/78	4,570,533	2,202,736	2,367,362	435

Table 4: Province wise total No of Service Provider Health Institutions types and Service Utilization (upto2078 Ashad)

S.N.	Province Name	No. Of PHCC	Government HF	Community HF	Private HF	Total HF	Service Utilizer
1	Province 1	42	35	6	20	103	563926
2	Province 2	34	14	4	9	61	35930
3	Bagmati	27	42	9	7	85	397638
4	Gandaki	25	23	1	4	53	213450
5	Lumbini	30	21	7	5	63	236411
6	Karnali	15	15	3	0	33	92488
7	Sudurpashchim	16	14	2	4	36	86401
	Total	**189**	**164**	**32**	**49**	**434**	1626244

Table 5: Province wise total No of Insured Population (upto2077/78)

S.N.	Province Name	Total Population	Total Insured	In %
1	Province 1	4,972,021	1509936	30.369
2	Province 2	6,126,288	212030	3.461
3	Bagmati	6084042	913092	15.008
4	Gandaki	2479745	566731	22.854
5	Lumbini	5124225	719057	14.033
6	Karnali	1694889	268882	15.864
7	Sudurpashchim Province	2711270	380805	14.045
	Total	24,220,459	4570533	18.871
Total insured 45,70,533 (18.87 %)				

Table 6: Province wise enrollment of Targeted Groups upto2078Ashad:

Province Name	FCHV.	MDR TB	HIV	Leprosy	Null Disability	Senior Citizen	Ultra Poor
Province 1	15676	493	2460	813	28427	150406	25415
Province 2	2723	62	1824	66	5509	53130	9176
Bagmati	8372	50	3327	558	9423	67459	40391
Gandaki	8939	14	2120	100	9927	82966	36419
Lumbini	11318	924	4406	383	13161	104240	123064
Karnali	4021	47	518	55	3369	23970	82803
Sudurpashchim	10324	310	5195	340	4833	64187	159054
Total	**61373**	**1900**	**19850**	**2315**	**74649**	**546358**	**476322**

Opportunities of HIB program

- The program is addressed in Constitution of Nepal 2072, in Article no.51 of State's guideline principle
- Health Insurance Act 2074 has envisioned the compulsory enrollment of the people working in formal sector.
- High political commitment.
- Designed as a tool for providing equitable and quality health service.
- Health system strengthening (generic prescribing, hospital pharmacy, gate keeping system)
- Sustainable approach to provide social health security to Nepalese people.
- Supportive role of government (Constitution provision, periodic plan/ 15th plan and annual
- Budget have given high priority to Health insurance Program)
- Interest and concern of Provincial and Local level government

Program related Constraints /Challenges:

- Inadequate enrollment assistant at ward level.
- High turnover of enrollment assessment
- Low awareness level to community people on health insurance.
- Limited district covered by ultra-poorregistration (only 26 districts)
- Unavailability of servicesand medicines from health institutionand hospital pharmacy respectively according to benefit Package.
- Irrational referral system by first service point.
- Inadequate medical equipment and materials at the service points.
- Inadequate human resources at the service points.

Way Forward

SHORT TERM	MEDIUM TERM	LONG TERM
• O&M of HIB • Minimum service standard of service providers to be fixed • Basic health care package to bedefined clearly • Premium collection through e-banking system • GPS tracking to be customized • Online application to be adopted • Guidelines, regulation, Standard • Operating Procedure (SOP) to bedeveloped as per Act and regulation.	• Stringent regulatory norms to develop for the effective • implementation of the HIP • Proper deployment of the doctors and employee at service sites • Initiation for automated claim management (EMR/ HER system) • Integration of all health services (including Free) into health insurance program	• Embarkation of HIB responsibilities: from both regulatory and operational to regulatory only • Separate authority for review of claims (May be third party administration-TPA) • Standard Medical Treatment Protocol (SMTP) to be developed and the service and price to be fixed as per the protocol • Full implementation of automated system EMR /EHR and link it with IMIS.

DEVELOPMENT PARTNERS SUPPORT

The outcomes discussed in the previous chapters are the results of combined efforts of the Ministry of Health and Population (MoHP), various development partners (multilateral, bilateral) and other supporting organizations including international organizations and national NGOs and private sectors. The Department of Health Services acknowledges its partnership with these organizations and their large contributions to Nepal's health sector. This chapter lists the focus of these organizations' various programs. Partners have also provided technical assistance in their areas of expertise.

Development partners support the government health system through a sector-wide approach (SWAp). The SWAp now supports the implementation of the new Nepal Health Sector Strategy (NHSS, 2016–2022[1]). The Joint Financing Arrangement (JFA) has been signed by various partners and the government. The JFA describes in detail the arrangement for partners' financing of the NHSS. The JFA elaborates the pool funding arrangement and parallel financing mechanism as bilaterally agreed between the government and the donor partners. In the current sector programme, the World Bank has allocated all its commitment through a Program-for-Results, a tool which disburses fund against a verifiable set of results, called Disbursement Linked Results (DLRs). UKAid and GAVI are also disbursing part of their commitments against some DLRs identified and agreed with the MoHP. In addition, in the Fiscal Year 2020/2021, Development Partners have provided additional funding, in-kind and technical support to the MoHP for the preparedness and response to COVID-19 pandemic.

1 The Ministry of Health and Population extended the NHSS 2016-2021 by a year to the end of FY 2021/2022 because of COVI-19 pandemic. The development partners have also re-aligned their support to the extended phase of the sector program.

Development Partners Contributing to Health Sector in Nepal

11.1 MULTILATERAL ORGANIZATIONS

Organization	Major program focus	Geographical coverage	Health sector budget for FY2020/21	Contact details
UNFPA	1. Sexual and Reproductive Health Program: Policy Advocacy & Capacity Building on SRHR, Capacity Building of Health Workers on ASRH, and Strengthening Adolescent Friendly Health Services; Emergency preparedness and response including RH sub-cluster coordination and support. 2. Family Planning: FP/RH commodities support; Strengthening SCM including eLMIS; Service delivery and capacity building support to improve method mix and accessibility to services, Systems strengthening (Family Planning Sustainability Roadmap, FP2030 partnership), and evidence generation. 3. Maternal Health: Support implementation of Safe Motherhood Roadmap, Midwifery regulations, faculty strengthening, education standardization, support national program on RH morbidities, Support Maternal Mortality Study, and policy advocacy. 4. Health sector response to GBV: functionalization of the safe house, shelter home and OCMC, including psychosocial and medico-legal training to service providers.	Nation-wide with provincial offices in Madhesh, Lumbini and Sudurpaschim Provinces. Ongoing project/programmes: Province 1 (2 districts), Madhesh (8 districts), Bagmati (3 districts), Lumbini (5 districts), Karnali (2 districts) and Sudurpaschim (7districts).	Total allocated budget of all programs activities: US $ 6,122,828 Total expenses of all programs activities: US $ 6,102,081	LubnaBaqi, Representative email: baqi@unfpa.org Office address: UNFPA Nepal UN House, Pulchowk Lalitpur (Tel: +977 1 5523880) Email: nepal.office@unfpa.org registry-np@unfpa.org Web: http://nepal.unfpa.org/

Organization	Major program focus	Geographical coverage	Health sector budget for FY2020/21	Contact details
UNICEF	1. Maternal and newborn health 2. Child Health including immunization 3. Adolescent Health and HIV services 4. Health System Strengthening including emergency response 5. Nutrition	District number: 18 District number: 77 District number: 18 District number: 77 District number: 77	Total allocated budget of all program's activities: US $ 7,241,379 Total expenses of all program's activities: US $ 7,241,379	Office address: UNICEF Nepal, UN House, Pulchowk, Lalitpur Tel: 5523200 Fax: 5527280 Email: kathmandu@unicef.org Web: http://www.unicef.org/nepal
WHO Nepal	1. Vaccine preventable disease surveillance and technical support to strengthen immunization coverage. 2. Strengthen prevention, detection, and response capacities to health consequences of emergencies or disasters as per International Health Regulations following an all-hazard and multisectoral approach. 3. Support in development of National Policies, Strategies and Guidelines for Communicable and Non-Communicable Diseases and strengthening Disease Control & Elimination interventions. 4. Support to strengthen health systems capacities – policy, regulations, strategies, plans, guidelines, protocols on environmental health, SRHR, RMNACH health information, digital health and health system improvement including support to provincial government.	District number: all 77 District number: all 77 District number: all 77 District number: all 77	Total allocated budget of all program activities: US $ 11.1m Total expenses of all program activities: US $9.5m	Office address: Dr Rajesh SambhajiraoPandav WHO Representative WHO Country Office for Nepal UN House, Pulchowk, Lalitpur Tel: + 977-1-552199 Fax: + 977-1-5527756 Email:pandavr@who.int Phone: Web: https://www.who.int/nepal

Organization	Major program focus	Geographical coverage	Health sector budget for FY2020/21	Contact details
The World Bank	1. COVID-19 Health Response 2. Nepal Health Sector Management Reform Program for Results (Governance Reforms: Procurement / Financial Management, Data for decision making and accountability in public health sector management)	1. National scope with 77 district coverage 2. National scope with 77 district coverage	1. Total allocated budget for COVID-19 Health Response activities: US$ 104 million 2. Total allocated budget for Health Sector Reform: US$ 42.17 million Total expenses of all programs activities: US $146.17 million	Office address: The World Bank Yak & Yeti Hotel Complex Durbar Marg Kathmandu Tel: +977 1 4236000 Email: spinto@worldbank.org Web: www.worldbank.org
United Nations World Food Programme (WFP)	1. Nutrition in Emergency Preparedness and Response; with major focus of minimizing the socioeconomic impact of COVID-19, and thereby prevent malnutrition among nutritionally vulnerable groups mainly, PLW and Children 6-23 months of age. 2. Maternal and Child Health and Nutrition (MCHN) Program; with the objective to improve the nutritional status of the children 6 to 23 month of children and PLW. 3. Rice Fortification; with major focus of strengthening national capacity for the scaling up of rice fortification in Nepal, and thereby contribute for prevention of the multiple forms of micronutrientdeficiency 4. Fill the Nutrient Gap (FNG): Conduct a situational analysis of the barriers to consuming a nutritious diet and provide evidence for ongoing and planned programming for making the implementation of nutrition and food security policy more effective.	1. Nutrition in Emergency: All eight districts of Province 2 and Sunsari district in the province 1. 2. MCHN: 10 districts (Kalikot, Jumla, Mugu, Humla, Dolpa Saptari, Siraha, Jhapa, Morang, and Sunsari) 3. Rice fortification: Federal, Process for launching the programfor distribution of fortified rice through FMTC in priority districts of Karnali Province underway. 4) FNG	Total budget for all programs activitiescontribute by WFP to Health Sector: USD 1,638,751	Office address: Patandhoka Road Chakupat- 10, Lalitpur 44600 Tel: 977-01-5260607 Fax: 977-1-5260607 Email: wfp.kathmandu@wfp.org Web: www.wfp.org

11.2 BILATERAL ORGANIZATIONS

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	1) Implementing a social health protection system 2) Supporting the availability of qualified human resources for health 3) Strengthening governance in the health sector 4) Digitalizing health information systems and work processes 5) Promoting adolescent health and development (*GIZ Nepal has received additional Euro 1 Mio. from the German Government (through BMZ) for the combat of COVID-19 in Nepal. With this received fund, GIZ supported Nepal government, Ministry of Health and Population on 5 out of the 8 pillars of WHO COVID-19 Strategic Preparedness & Response Plan–specifically the Pillars (3) Surveillance, Rapid Response Teams and Case Investigation; (5) National Laboratories, (6) Infection Prevention & Control (IPC, (7) Case Management, (1) Coordination, Planning, and Monitoring)*	District number: 76(National Health Insurance Scheme from Health Insurance Board) 74 (Formal sector insurance from Social Security Fund) District number: 9 (Kathmandu, Kavrepalanchowk, Surkhet, Janakpur, Kailai, Kanchnapur, Doti, Darchula, Dadeldhura, Bajhang, Bajura, Baitadi, Achham) District number:4 ;Nuwakot, Dhading, Banke, Kailali (5 Municipalities; Bidur, Nilkantha, Nepalgunj, Dhangadhi, Godawari.) *District* number: 10 (Lalitpur, Bhaktapur, Nuwakot, Dhading, Rasuwa, Kailali, Kanchanpur, Chitwan, Kaski, Banke) District number: 1 Kailali(2 municipalities; Dhangadi, Godawari) District number: 11 (for 13 COVID-19 designated hospitals) Kathmandu, Lalitpur, Saptari, Jhapa, Dhanusa, Chitwan, Rupendehi, Dang, Banke, Kailali, Kanchanpur.	Total allocated budget of all program's activities: EURO 3.6 million Total expenses of all programs activities: EURO 3.8 million	Office address: Support to the Health Sector Programme (S2HSP) Sanepa, Lalitpur, P.O. Box 1457 Kathmandu, Nepal Tel: +977 1 5905128-30 Fax: +977 1 5905138 Email: alexandra.plueschke@giz.de Web:www.giz.de/nepal

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
KfW--German Financial Cooperation	• Sector Support/Pool Fund • Support to Social Marketing—Nepal CRS • Recovery I and II • Improvement of Maternity and Childcare in Remote Areas • COVID budget support	• National level • National level • Gorkha, Ramechhapp, Jiri | Sankhu, Bhimeshwor, Jhaukhel&Melbisauna • Province 7 National Level	Actual Disbursement Euro 15.8 Million	Office address: KfW Office/ Nepal Office of German Development Cooperation Sanepa, Lalitpur, Nepal Tel: 00977 1 5423228 Fax: 00977 1 5535693 Email: kfw.kathmandu@kfw.de Web:www.kfw.de
United States Agency for International Development (USAID)	1) Maternal Newborn and Child Health 2) Family Planning & Reproductive Health 3) HIV/AIDS and STI 4) Water Sanitation and Hygiene program	District number: 47 districts *through different projects (Suaahara II, and SSBH project)* *District number : all 75 districts through different projects (GHSC-PSM, Suaahara II, SSBH, Redbook and MPHD project)* District number: 17 districts (EpiC project) District number: 42 districts *through different projects (SUAAHARA, SafaaPani, Swachchta project)*	Total allocated budget of all programs activities: US $58,692,385 Total expenses of all programs activities: US $58,692,385	Office address: USAID/Nepal c/0 U.S. Embassy Building, Maharajgunj G.P.O Box: 295 Tel: 01-4234000 Fax: 01-4007285 http://nepal.usaid.gov

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
British Embassy Kathmandu	1) Health system strengthening, including health policy, planning and budgeting, health governance and devolution (federalism), improving quality of care, using data for decision making; 2) Improving access to medicines including safe motherhood and family planning, gender, equity and social inclusion; 3) Procurement and public financial management; 4) Social accountability in the health sector; 5) Response to COVID-19 including vaccines; and 6) Health infrastructure and hospital retrofitting (Nepal Health Sector Programme 3 and Nepal Family Planning Project)	Nationwide	Total Expenses of all programme activities: £10,886,230 financial aid disbursed, and £10,653,457 technical assistance	Office address: British Embassy Kathmandu PO Box 106 Lainchaur Kathmandu Nepal Email: BEKathmandu@fcdo.gov.uk Web: https://www.gov.uk/world/organisations/british-embassy-kathmandu

11.3 INTERNATIONAL NON-GOVERNMENT ORGANIZATIONS

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
ADRA Nepal	1) Family Planning & Adolescent Sexual and Reproductive Health program, eLMIS, and End Child Marriage 2) Women's Health & System Strengthening project related uterine Prolapse 3) Improvement of Maternal & Child Health Program 4) COVID-19 Response and Recovery	District number: 10 District number: 4 District number:1 District number: 14 hospitals and 8 districts	Total allocated budget of all programs activities: US $ 2,389,006 Total expenses of all programs activities: US $2042,848	Office address: Sanepa, Lalitpur, Nepal Tel: (977) 5455913/14 | info@adranepal.org http://adranepal.org/ https://www.facebook.com/joinADRANepal/ https://twitter.com/adranepal https://www.youtube.com/results?search_query=ADRA+Nepal
Ipas Nepal	Focus program: Sexual Reproductive Health and Rights (SRHR) including safe abortion and contraception services. Major support areas: - Agency building of women and girls on SRHR - Engagement with civil society and community for creating enabling environment for SRHR - Technical assistance for SRHR policy and advocacy - Technical support for strengthening safe abortion and post abortion family planning services - COVID 19 response support to front line health workers and volunteers	Sankhuwasabha, Terathum, Ilam, Sunsari, Gorkha, Syangja, Myagdi, Palpa, Arghakhanchi, Rolpa, Dadeldhura, Achham, Doti, Bajura and 15 hospitals	Allocated budget $1,154,992.49 Total expenses of all project's activities $1,110,118.55	Office Address: Kathmandu Metropolitan City, Ward Number-4, Baluwatar, Kathmandu Telephone: 1-4420787 Fax: 977-4425378 Email: gentlep@ipas.org Website: https://nepal.ipas.org/

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Birat Nepal Medical Trust (BNMT Nepal)	1. Tuberculosis reduction and elimination 2. Coronavirus Sequencing Surveillance in Nepal and response to COVID19 emergency 3. Sexual and Reproductive Health and Rights including mental health 4. Menstrual hygiene Management	District number: 12 District number: 7 District number: 1 District number: 1	Total allocated budget of all programs activities: US $799,030 Total expenses of all programs activities: US $779,888	Office address: Lazimpat – 2, Kathmandu, Nepal. Tel: 977 1 4436434, 4428240 Fax: 977 1 4439108 Email: bnmt@bnmt.org.np Web: www.bnmtnepal.org.np www.impacttbproject.org www.epiintelnepal.org www.drones4nepal.org
CARE Nepal	1. Reproductive, Maternal, Neonatal, Child and Adolescent Health (RMNCAH); Capacity building of health workers, construction of birthing center, equipment support to birthing center, community mobilization and awareness 2. COVID-19 response and recovery; PPE support to hub hospital and birthing centers, RCCE, WASH and technical support to local government to develop and implement health emergency response plan 3. COVID-19 vaccination program: equipment supports for cold chain, training to health workers, transportation of vaccine, community mobilization and awareness raising activities.	District number: six districts (Sindhuli, Kavre, sindhupalchok, Nuwakot, Rasuwa and Jajarkot) District number: Seven district (Nabalparasi west, Rupdendehi, Kapilbastu, Bake, Bardia, Kailali and Kanchanpur) District number: Seven district (Nabalparasi west, Rupdendehi, Kapilbastu, Bake, Bardia, Kailali and Kanchanpur)	Total allocated budget of all program's activities: US $2,374,762 Total expenses of all program's activities: US $ 2,303,980	Office address: House Number 777/34, Jhamsikhel, Lalitpur Tel: 01-5422800 Fax: 01-5421202 Email: npl.carenepal@care.org and santa.dangol@care.org Web: carenepal.org

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Helen Keller International, Nepal	1. Nutrition, Maternal and Neonatal Health, Child Health, Family planning, adolescence health, health system strengthens, WASH, GESI, and good governance. 2. Government collaboration on BMS Act amendment and monitoring 3. Expanding Neonatal and Ophthalmic Care to Prevent and Treat ROP in Nepal. (Banke and surrounding districts) 4. Feasibility of Drying Fruits and Vegetables using the Chimney Dryer and acceptability of dried fruits and vegetables among women and children.	District Number: 42 Center Level District Number: 3 District Number: 1	Total allocated budget of all program's activities: US $11,118,925 Total expenses of all program's activities: US $9,872,020	Office Address: Helen Keller International P.O. Box: 3752, Green Block, Ward No: 10, Chakupat, Lalitpur Country Director: Ms. Erin Smith Telephone: 977 1 5260247, Fax: 977 1 5260459 Email: ESmith@hki.org Web: www.hki.org
Handicap International	Program 1: USAID's Physical Rehabilitation Activities (PRA): ▪ Support MoHP (EDCD/LCDMS) to integrate rehabilitation service into public health system. ▪ Establish & strengthen government physiotherapy unit and capacity building of health workers ▪ Strengthen the sustainability of the Physical Rehabilitation Centers (PRC) ▪ COVID 19 response rehabilitation activities	Cover all 7 Provinces, focused on all 10 districts of Karnali Province and 3 districts (Banke, Bardiya& Dang) of Lumbini Province.		

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	Program 2: Health System Strengthening Program (HSSP) ▪ Strengthen the capacity of health service providers to promote appropriate health services for children and women with disabilities ▪ Strengthen the capacity of municipal level government authorities including public hospitals in inclusive health sector preparedness and response ▪ Support 7 public hospitals to respond increased prevention and health care services of people in context of COVID-19 pandemic Program 3: DID COVID Response ▪ Disability inclusive COVID- 19 related precaution / safety awareness IECs, information on relief/response schemes, and basic counseling services ▪ Disability inclusion is promoted in COVID-19preparedness plans and relief/recovery schemes of local government and humanitarian actors ▪ Support to needy households with persons with disabilities and other vulnerable group to meet their basic needs and recovery in pandemic situation Disability inclusive CoVID-19 related health services are promoted	5 districts (Dolakha, Dhading, Rasuwa, Sindhupalchowk, &Nuwakot) of Bagmati Province; 1 district (Gorkha) of Gandaki Province 2 districts (Chitwan in Bagmati Province and Surkhet in Karnali Province)	Total allocated budget of all 3 programs activities: US $ 1,008,529 Total expenses of all 3 programs activities: US $ 982,865	Office address: Sallaghari Marg, Kathmandu, PO Box: 10179- Nepal Tel: +977 1 4378482 Fax: + 977 1 4376983 Email:info@nepal.hi.org Web: www.hi.org

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Japan International Cooperation Agency (JICA)	1. Reconstruction of hospital buildings (Bir and Paropakar Maternity Women's Hospital) and Improvement of medical and diagnostic service through the upgrade/enhancement of medical equipment in tertiary hospitals (federal level). 2. Improvement of MCH at grassroot level through supporting NGO's activities at MatrishishuMiteri Hospital	Bagmati Province (Kathmandu valley) and Gandaki Province (Kaski District)	Off budget support (Grant Aid)	JICA Nepal Office np_oso_rep@jica.go.jp
International Network for Rational Use of Drugs (INRUD,Nepal)	• Rational Use of Drugs Self-assessment and Peer-group discussion • Self-assessment and Peer-group discussion	Lalitpur district.	Allocated Budget: Curative Service Division/DoHS	Office address: 304 Surya Bikram GyawaliMarg,Baneswor,Kathmandu Tel: 4115636 Fax: 4115515 E-mail: kumudkafle@gmail.com Web: www.inrud-nepal.org.np
World Vision International Nepal (WVI Nepal)	Maternal, Child Health and Nutrition based on MIYCN (Maternal, infant and young child nutrition)	7 districts (Udaypur, Mahottari, Sarlai, Rauthat, Sinduli, Doti and Kailali)	Total budget allocated for all arogramme activities excluding COVID-19 Response USD 1,379,388 Total expenses for all programme activities excluding COVID-19 Response USD 1,339,212	Office address: KC Tower, Kusunti, Lalitpur-13, P.O. Box 21969, Kathmandu, Nepal. Tel: +977-1-5548877 Fax: +977-1-5013570 Email: info_nepal@wvi.org Web: www.wvi.org/nepal

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	Improve nutrition through community based positive deviance (PD) hearth approach Support in construction of PHCORC/ handwashing corners in HFs Sexual and Reproductive Health	5 districts (Udaypur, Mahottari, Sarlai, Rauthat, and Sinduli) 5 districts (Udaypur, Mahottari, Sarlai, Rauthat, and Sinduli) 4 districts (Doti, Kailai, Udaypur, Sinduli)		
	COVID-19 Response	15 districts (Bhajang, Achham, Doti, Kailali, Kanchanpur, Jumla, Lamjung, Kathmandu, Lalitpur, Parsa, Rauthat, Sinduli, Sarlai, Mahottari, and Udaypur)		
	Research and evidence generation	1. Status of Menstrual Health and Hygiene Management among Adolescent Girls of Nepal 2. Opportunities and challenges for local government health and social protection services: lessons from COVID response 2020 Multi-sectoral of the COVID-19 Second Wave in Nepal 2021		
United Mission to Nepal (UMN)	1) Integrated components on MCH, mental health, Nutrition, WASH, FP, ASRH, and health system strengthening 2) Mental health 3) COVID response	District number: 1 District number: 1 District number: 6	Total allocated budget of all programs activities: US $ 939,000 Total expenses of all programs activities: US $ 925,000	PO Box: 126 Thapathali, Kathmandu Tel: 4228118, 4268900` Fax: 4225559 Email: communications@umn.org.np Web: umn.org.np

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
One Heart Worldwide	1) Maternal and neonatal health 2) COVID prevention support (PPE, medicines for case management, Oxygen cylinders and Oxygen concentrators)	District number: 18 District: 56	Total allocated budget of all programs activities: US $ 1,673,545 Total expenses of all programs activities: US $1,121,223	Office address: Lalitpur-4, Bagdol, Nepal Tel:+977-1-5188515/516 Fax: N/A Email: ohwnepal@oneheartworldwide.org Web: oneheartworldwide.org
NLR Nepal	1. Leprosy Control Program 2. SDR PEP Demonstration Project 3. DID Inclusive Development and Disability Prevention through I2C and C-WASH 4. PEP++ Research Project	District number:23 District number: 4 District number: 6 District number:2	Total allocated budget of all programs activities: US $ 269,217 Total expenses of all programs activities: US $ 272,521	Office address: Shankamul Marg-10, Naya Baneshwor Kathmandu, Nepal Tel: 4794296 Email: info@nlrnepal.org.np bikash@nlrnepal.org.np Web: https://nlrnepal.org.np/
Plan International Nepal	1. Promoting Nurturing Care through Gender Responsive Positive Parenting Education 2. COVID-19 Response (support health equipment's and materials including WASH Facility improvement in quarantine and public places)	District number: 05 District number: 07	Total allocated budget of all programs activities: US $518480.94 Total expenses of all programs activities: US $ 513426.46	Office address: Lalitpur Metropolitan City, MaitriMarga, Bakhundole Tel: + 977-1-5535580, 5535560 Fax: + 977-1-5535580, 5535560 . Email:shanti.upadhyaya@plan-international.org Kiran.bhandari@plan-international.org Web:www.plan-international.org/nepal

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
Population Services International Nepal	Women's Health Project (WHP) • Improve knowledge and access to Long Acting Reversible Contraception (LARC) and Safe abortion Services through private and public sector: Training on Implant, IUCD and MA to Providers onsite quality assurance, distribution of FP commodities,medical equipment, recording and reporting using HMIS, communication and counselling through community level mobilizer and mass media Adolescent Youth Project (AYP) • Increase knowledge and use of family planning products and services among adolescents and youth (15-24) from private sector adolescent youth from service sites Health and Hygiene Activity (HHA) • Support infection prevention at public facilities through provider behavior change related activities and counselling for personal WASH related hygiene behavior change among public facility clients.	Province: 1, 2, 3, 4, 5 & 7 District number: 28 Province: 5, 7 District number: 7 Province: 6 District number: 5 District Number: 33 (7 districts overlapping in WHP and AYP)	Total allocated budget of all programs activities: US $ 3,447,738 Total expenses of all programs activities: US $2,341,110	Office address: Pulchowk, Krishnagali, Lalitpur, Nepal Tel: 5553190. 5550620 Fax: 5550619 Email: info@psi.org.np Web: www.psi.org

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
FAIRMED Foundation Nepal	1. Neglected Tropical Diseases: Focus on Leprosy, LF, STH, Snakebite, and seasonal disease outbreaks such as Cholera; Intervention focus on preventive measures, case detection, and referral support to the affected persons for treatment and follow ups 2. Maternal and New Born Health: promoting safe motherhood by improving access to pregnancy care, institutional delivery, newborn care, collaboration with Municipalities to increase service centers and service quality, such as equipping/establishing/ renovating of Birthing center, PHC/ ORC, basic Laboratory services, etc 3. Health system strengthening: Capacity building of Health Workers & Volunteers, Facility improvement, system strengthening, and health governance improvement, sensitization and advocacy with Municipal Authorities to review their program priority and consider health of their population.	District number: 4 *18 Municipalities of Kapilvastu, Rupandehi and Nawalparasi* *6 Municipalities of Baglung*	Total allocated budget for program: US $ 728,667.00 Total expenditure during the FY: US $ 603,197.00	Office Address: FAIRMED Nepal Jhamsikhel Lalitpur P.O. Box: 10047 Tel: +977-01-5420612 Email:nepal@fairmed.ch Web: www.fairmed.ch.

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	4. Activating FCHVS, and Mother's groups, Behavior change and demand generation at community level, mass awareness for anti-stigma and reducing taboos and misbeliefs around women's health, leprosy, disability. 5. Disability Inclusiveness by supporting Persons with Disability for their assistive devices, treatment, and social rehabilitation through a provision of Income generating Activities, supporting them to access the government's special provisions including disability ID card, IG funds.			
Save the Children	1. Healthy Transition for Nepali Youth – Focus on Behavior Change and system strengthening for Adolescent Reproductive Health 2. Sponsorship – Adolescent friendly services, Menstrual Health program, School Health and Nutrition Program, Maternal Health system strengthening. 3. Early Start – Nutrition program for children under 3 yrs 4. Small Sick Newborn assessment and assessment on intrapartum nutrition practices	District number: 4 (Surkhet, Kalikot, Dailekh, Jajarkot) District number: 3 (Saptari, SarlahiMahottari) District number: 1 (Dialekh) District number: Federal level assessment	Total allocated budget of all programs activities: (2021) US $ 2,794,352 Total expenses of all programs activities: (2020) Budget US $ 2,545,214 Expenses $ 2,483,749	Office address: Save the Children, Airport Gate, Shabhu Marg, Sinamangal, Kathmandu Tel: 014468130 Email:info@savethechildren.org Web:www.savethechildren.net

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
FHI 360 Nepal	USAID- and PEPFAR-supported EpiC Nepal • HIV and sexually transmitted infection (STI) prevention education, referral and follow-up through online and offline platforms • Demand generation and provision of HIV pre-exposure prophylaxis (PrEP) • Condom and lubricant promotion and distribution • HIV testing and counseling (HTC) services (index testing, online-to-offline (virtual), HIV self-testing, community-led testing, enhanced peer outreach approach, recency testing) • STI examination and treatment services • Referral to and linkages with antiretroviral therapy (ART) services • Community-based ART service • Care, support and counseling for adherence and retention • Gender-based violence (GBV) screening and referral for prevention and mitigation services • Stigma and discrimination reduction • Use of client satisfaction feedback and community-led monitoring (CLM) mechanism	37 districts, – 243 *local bodies (6 metropolitan cities, 8 sub-metropolitan cities, 112 municipalities and 117 rural municipalities)*	Total allocated budget: US$ 7.9 million Total Expenditure: US$ 4.87 million	Gopal Bhawan, Anamika Galli, Baluwatar, Kathmandu-4, Nepal Tel: +977.1.4437173 Fax: +977.1.4417475 Email: bhshrestha@fhi360.org Website: www.fhi360.org/countries/nepal

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details

	• COVID-19 prevention and mitigation
	  ○ Provided PPE, masks, sanitizer, infrared thermometer
	  ○ Provided hygiene kits to key populations and people living with HIV
	  ○ Home delivery of ARV drugs			

	• Technical support to National Center for AIDS and STD Control (NCASC) and N. ational Public Health Laboratory (NPHL) • Support to national networks of key populations and people living with HIV	National level		
	USAID-supported COVID-19 emergency response plan for prevention, detection and responding COVID-19 pandemic: • Technical, logistics and management support for COVID-19 emergency response particularly on optimizing COVID-19 testing, treatment and case management, and to mitigate COVID-19 transmission, morbidity and mortality, as well as to strengthen the resilience of Nepal's health system to prevent and address future pandemics.	National level	Total allocated budget: US$ 3.5 million Total Expenditure: US$ 2.2 million	

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	• Support for COVID-19 testing including initiation of COVID-19 genome sequencing; oxygen ecosystem; COVID-19 case management; logistics supply chain management; capacity building on essential critical care; COVID-19 vaccine storage (ultra-cold chain), deployment and administration; and technical assistance for capacity building on USAID-donated ventilators.			
	UK aid- funded Fleming Fund Country Grant for Nepal • Support to Antimicrobial Resistance Multisectoral Steering Committee (AMRCSC), National Technical Working Committee-AMR (NTWC) and Technical Working Groups (TWGs) • Support to develop/update AMR National Action Plan/Protocols/ Guidelines/Standard Operating Procedures • Capacity building: hands-on skill-based trainings and onsite coaching/mentoring for lab professionals from AMR sentinel laboratories	23 laboratories/surveillance sites (15 human health, 7 animal health, and 1 food sectors, 17 districts)	Total allocated budget: US$ 0.8 million Total Expenditure: US$ 0.54 million	

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	• Support national reference laboratories (NRL) for External Quality Assurance in improving the performance and for upgrading the National External Quality Assurance System (NEQAS). • Support NRL in managing biorepository and strengthening laboratory quality management system • Procurement and supply of laboratory equipment and supplies/consumables • Renovation of selected laboratories • Strengthen AMR/AMU surveillance in AMR sentinel laboratories (Recording and reporting, Analysis and Dissemination of the results for evidence-based policy and planning) • Support to strengthen laboratory biosafety and security (BSS) and waste management at AMR surveillance sites • Promote rational use of antimicrobials through support on organizing interaction programs among lab-clinical/lab-vet professionals, national AMR data dissemination (sharing current AMR trends), panel discussion among on health experts and among policy makers.			

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	• Support to conduct antimicrobial use (AMU) survey in hospitals • Support Department of Drug Administration (DDA) for antimicrobial consumption (AMC) data management, analysis, reporting and dissemination			
	USAID-supported MOMENTUM Private Healthcare Delivery (MPHD) Nepal • Conduct a landscape analysis of global practices and evidence, local policies, and current and past programs that focus on delivering voluntary family planning (FP) services to adolescents and youth through the private sector. • Design/adapt a model to catalyze private sector provision of quality FP services to adolescents and young people (15-29 years). • Incorporate clients' voices in improving the quality of adolescent and youth FP services through Human-Centered Design. • Apply tailored Quality Improvement approaches including Provider Behavior Change Communication among selected facilities that address their clinical quality needs/gaps and responsiveness to primary audience needs	105 private pharmacies/clinics/ hospitals in 7 municipalities in 3 districts in 2 provinces	Total allocated budget: US$ 1 million Total Expenditure: US$ 0.12 million	

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
	• Engage private sector facility owners and/or providers to identify potential 'levers' that could sustain high-quality FP service delivery. • Enhance site owners and/or providers' business acumen and potential for sustaining FP service delivery • Develop provider-initiated demand generation activities. • Enhance providers' and facility owners' capacity to manage data and information • Initiate a client feedback system, which will contribute to better understanding of both client's needs and perceived quality of services provided by the sites. • Initiate public-private sector linkages at the Municipal, Provincial and Federal levels where feasible.			
WaterAid Nepal	1) Hygiene Promotion through Routine Immunization 2) Immediate COVID response WASH in Health Care Facilities	District number: 77 District number: 77 District number: 1	Total allocated budget of all programs activities: NPR: 47,922,182 US $: 406,120 Total Expenses of all program activities NPR: 47,922,182/118 US $: 406,120	Office address: WaterAid Nepal Nakhipot, Lalitpur Phone : 01-5230210, 5230864, 5230365 P.O.Box : 20214 Email:wateraidnepal@wateraid.org Web: https://www.wateraid.org/where-we-work/nepal

Organization	Major program focus	Geographical coverage	Health sector budget for FY 2020/21	Contact details
USAID's Health and Hygiene Activity (Swachchhata)	Supports to improve community health status by improved integration of hygiene in health service delivery Major support includes: • Construction and upgrade of WASH Infrastructure (Water supply schemes, Toilets, Handwashing station) in health facilities. • Train health workers on infection prevention control and provider's behavior change communication at health facilities. • Train Health workers and FCHVs on WASH Behavior Change Communication in health facilities to roll out BCC campaign in communities. • Support in providing Infection prevention materials, IEC materials, and WASH and COVID-19 message dissemination through Radio Jingles Strengthen HFOMCs through regular meetings and technical assistance.	7 Districts, 50 Municipalities, 190 health facilities. *Karnali Province (Dolpa, Jajarkot, Salyan, West Rukum, Surkhet and Dailekh) and Lumbini Province (East Rukum).*	Total Expenses of all program activities: US $ 326,616.00	Office Address: BP Chowk-12, Nepalgunj, Banke, Nepal Telephone: (977) 081-521989 Bal Bahadur Thapa (CoP) Email: bthapa@devworks.org Web: www.devworks.org

11.4 NON-GOVERNMENTAL ORGANIZATIONS

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
Nepali Technical Assistance Group (NTAG)	1) Onsite coaching events on Maternal Infant and Young Child Nutrition 2) Promotion and advocacy of National Vitamin A Supplementation Program 3) Social Behavior Change Communication (SBCC) messaging on Maternal, Infant and Young Child Nutrition (MIYCN) through Interactive Voice Response (IVR) service platform. 4) Capacity building of Female Community Health Volunteers (FCHVs) on Infant & Young Child Feeding (IYCF)-Emergency. 5) Capacity building of partners program staff on Nutrition Key Messages. Food demonstrations among community people to improve their knowledge and skills on nutritious food preparation at the household level (mothers, caregivers and male members of family).	• 40 districts (Suaahara-II) • 77 districts (National Vitamin A Program) • 6 districts (Building Hope Along the Karnali River Basin - BHAKARI)	Total allocated budget of all program activities: NPR. 41,527,418.00 US $ 347,510.00 Total expenses of all program activities: NPR. 39,751,195.00 US $ 332,645.98 *Note: Exchange rate USD 1 = NRS. 119..50, November 28, 2021, nrb.org.np*	Office address: Kathmandu Metropolitan City, House #: 193, Ukti Marga-11, Maitighar Height, Kathmandu, Nepal Tel: 977-1-5324884/ 5323477/5321133 Email: info@ntag.org.np Web: www.ntag.org.np
Nick Simons Foundation International (NSFI)	1) Training 2) Curative Service Support Program 3) Hospital Strengthening Program 4) Research/Advocacy	District number: 15 Districts Training Sites District number: 49 Districts District number: 77 Districts District number: NA	Total allocated budget of all programs activities: US $ 5,194,775 Total expenses of all programs activities: US $ 4,453,302	Office address: Sanepa 2, Lalitpur Tel: 5451978 Fax: NA Email: nsi@nsi.edu.np Web: nsi.edu.np

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
Marie Stopes International	1) Safe Abortion 2) Family Planning 3) Adolescent Reproductive Health	District number: 38	Total allocated budget of all program activities: US $ 4,057,447 Total expenses of all program activities: US $	Office address: ThirbamSadak, Baluwatar, Kathmandu 44600, Nepal Tel:+977-01-4419 371/ 01-4439 681 Fax: 01-4420416 Email: msi@mariestopes.org.np kp.upadhyay@mariestopes.org.np Web:www.mariestopes.org.np
Nepal CRS Company	• GharGhar Ma Swastha (GGMS) Project - Expansion of Sangini Franchise Network • Sales and distribution of Family Planning, Maternal Child Health and Sexually Transmission Infection Commodities • Menstrual Hygiene Management (MHM) Project, Social Marketing and Behavior Change Communication activity for Sanitary Napkin “Freedom” • MOMUNTUM Private Healthcare Delivery (MPHD) - Project for establishment of Adolescent Friendly Service Center to provide quality FP services to adolescent and emerging / young adults	49 districts (Hills and M ountain) District number : all 77 District number 4, Dadeldhura, Doti, Bajhang and Baitadi Madhesh Province and Karnali Province (in selected Municipalities)	Total allocated budget of all program activities: US $ 3,783,311 (including commodity costs) Total expenses of all program activities: US $ 3,591,006 (inlcuding commodity costs)	Office address: Tokha Road, Mahadevtar Gangabu , Kathmandu Tel : 01496207 Email: info@crs.org.np www.crs.org.np

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
Family Planning Association of Nepal (FPAN)	1. Integrated SRH services including sexuality counseling, contraceptives, obstetrics, gynecological, safe abortion, STIs, HIV, safe abortion and sexual/ gender-based violence services. 2. Comprehensive Sexuality Education/Gender Equality and Empowerment of Youth and Women. 3. Comprehensive abortion Care (Safe abortion Service). 4 Provide Minimum Initial Service Package (MISP) in disaster effected area.	District Number 32 District Number 32 District Number 31 District Number 32	Total allocated budget of program activities US $ 3,250,593 Total expenses of program activities on 2019 US $ 3,250,268	Office Address: Family Planning Association of Nepal Central Office, Pulchowk, Lalitpur P. O. Box 486, Kathmandu, Nepal Phone : 977-1-5010240, 977-1-5010104 Fax : 977-1-5010248 Email: fpandg@fpan.org.np Website http://fpan.org
Nepal Red Cross Society	1. Preventive health (Major focused: capacity building of community and community-based institutions through, CCBHP, WASH, CEHP, Psychological support, NCD, Community BASED Health and First Aid) 2. Curative health services (Major focused: Eye health through Surkhet and Janaki Eye Care Hospitals, and nationwide Blood and Ambulance Services) 3. Emergency Health services (Major focused: COVID-19 response, RRT, Red Cross Emergency Clinic, Rural Emergency Trauma System Strengthening, E-WASH and Emergency health preparedness and response Community health and reduced risks through integrated community-based health	District number: 77 District number: 67 District number: 77	Total allocated budget of all programs activities: US $ 4,896,700 Total expenses of all programs activities: US $ 4,267,159	Office address: Nepal Red Cross Society National Headquarter, Kalimati, Red Cross Road, Kathmandu Tel: 01-4278719 Fax: +977-4271915 Email: info@nrcs.org Web: https://nrcs.org/

Organization	Major program focus	Geographical coverage	Budget for health sector for FY 2020/21	Contact details
	4. Health capacity development (NRCS and Government health institutions training, medical supplies and equipment support	District number: 77		
PHASE Nepal	1. Basic Essential Primary Health care. 2. Maternal and Child Health 3. Community awareness program 4. Traditional healers Training	District number: 6 *(PHASE Nepal has been implementing its program in Sindhupalckowk, Kathmandu, Gorkha, Humla, Bajura, and Mugu districts.)*	Total allocated budget of all programs activities: US $458456.23 Total expenses of all programs activities: US $458456.23	Office address: PHASE Nepal Dadhikot, Bhatkapur Tel: 016634038/89/118 Email: info@phasenepal.org Web: www.phasenepal.org
Medic Mobile	1) Design, configuration and implementation of an open-source mHealth toolkit for community-based maternal and child health care coordination. SMS based use cases that are currently deployed in partnership with municipalities and NGO partners include a) Antenatal care b) Postnatal care c) MPDSR (in districts where Community based MPDSR has been implemented) Supporting the Nursing and Social Security Division in the design, configuration and implementation of Community Health Toolkit (open source) in Bhaktapur and Bardibas Municipalities.	District number: 25	Total expenses of all programs activities: $166,277	Office address: Medic Mobile Nepal Inc. Pvt Ltd. UN Park Lane, Lalitpur Tel: +977 5261611 Email: nitin@medic.org www.medic.org

Source: Respective EDPs, INGOs and NGOs

ANNEXES

ANNEX 1 Major activities carried out in FY 2077/78

Family Welfare Division: Child Health and Immunization section program activities:

SN	Activities	Unit	Target	Achievement	% achieved
1	Procurement: Vaccine Carrier 2.9-3.5 ltr, 0.6 ltr Ice Pack Model Capacity – 3000 Nos	Times	1	1	100
2	Vaccine and water pack freezer procurement 120- 180 ltr, 40 Nos & 270-300 ltr, 30 Nos	Times	1	1	100
3	Procurement with tax clearance of WHO PQ Gross volume75 - 85 ltr. And Net volume minimum 58 - 65 Ltr. Holdover time 43 Degree Celsius temp. for more than 55 hours capacity ILR Refrigerator – 50 Nos	Times	1	1	100
4	Ice pack 0.6 ltr – 20000 Nos	Times	1	0	0
5	Ice pack 0.4 ltr – 10000 Nos	Times	1	0	0
6	Vaccine Procurement: BCG with diluent-200000, BCG diluent syringe (2 ml) – 225000, AD Syringe (0.05 ml) – 1100000, bOPV with dropper-250000, MR with diluent – 210000, MR & JE diluent (5ml) – 650000, JE with diluent – 250000, TD-180000	Times	1	1	100
7	GAVI Commodities vaccine: IPV – 314000, Penta-109350, PCV-340550, AD syringe-4505800, diluent syringe-72000, Safety box-50400, Rota- 1193900	Times	1	1	100
8	GAVI co-financing for Penta – 41950, PCV-23700, Rota-114100	Times	1	1	100
9	GAVI Commodities: Cold chain equipment along with GoN for custom clearance	Times	1	1	100
10	Cold chain equipment damage, custom clearance and handling	Times	1	1	100
11	AEFI committee formation and orientation at provincial level	Times	1	1	100
12	Additional one day in province review and routine immunization strengthening and AEFI orientation	Times	1	1	100
13	3 days training for district focal person and statistician on DHIS	Event	7	7	100
14	Mentoring and supervision for routine immunization strengthening, full immunization declaration and sustainability	Regular	100	90	90
15	Provincial ToT on immunization program and Microplanning – 5 days	Event	7		0
16	New vaccine Rota and hygiene promotion monitoring supervision	Regular	2	2	100
17	Materials production and distribution used for routine immunization program	Times	1		0
18	For sustain and management of fund in the immunization service deposit the amount in immunization treasury	Times	1		0
19	Use of immunization card and sustainability, immunization act and routine immunization orientation to the districts with low coverage	Event	6	0	0

SN	Activities	Unit	Target	Achievement	% achieved
20	Discussion, planning with stakeholder for strengthening of routine immunization and hygiene promotion	Times	1		0
21	Interaction on immunization act, AEFI and NIP with member of parliament at central and province level	Times	1		0
22	3 days workshop for review and update on immunization related documents	Times	2	2	100
23	Full immunization card and full immunization guideline production and distribution	Times	1	1	100
24	Orientation on NIP & immunization act for elected bodies of Province II, Lumbini, Karnali and Sudurpaschim Province	Event	50		0
25	Urban immunization strategy development and branding of immunization program	Time	1		0
26	Orientation on quality immunization service conduction, recording and reporting, Cold chain management inside valley	Group	2		0
27	Immunization, hygiene promotion and cold chain management monitoring & supervision	Regular	100	92	92

Family Welfare Division: Nutrition section program activities:

SN	Activities	Unit	Target	Achievement	% achieved
1	National Nutrition Program Review (Three Days) – with participation of Nutrition Representative of all provinces	Times	3	2	66.67
2	Three-day capacity enhancement program of staff employed in the nutrition rehabilitation homes (NRH manager, Medical superintendent and Pediatric doctor of respective NRH)	Times	1	1	100
3	Capacity building of national and provincial stakeholders for promotion and promotion on breast feeding as well as implementation of breast-feeding act and bi-law.	Times	3		0
4	Celebrate National Day / Month on nutrition related Programs (Breastfeeding Week, School Health and Nutrition Week, Iodine Month etc.)	Times	4	4	100
5	Monitoring and Supervision of Nutrition Programs	Times	100	90	90
6	Support to operationalize Nutrition Rehabilitation Home for the management of acute malnutrition through federal hospitals (Bheri, Koshi, Narayani, Bharatpur, Sagarmatha, Pokhara Health Sciences Foundation, Rapti Health Sciences Academy, Dadeldhura Hospital and Kanti Children Hospital).	Times	1		0
7	Purchase of Laptops and LCD for Nutrition Section	Times	1	1	100
8	Procurement and supply of nutrition commodities (Vit A, RUTF, F75, F100, ReSoMal, Albendazole, MNP, Rapid Test Kit, Height / weight Machine, Shakir's Tape (MUAC), dummy baby and mother for breast feeding)	Times	1	1	100
9	Maternal and Baby Friendly Hospital Initiatives (MBFHI) in 10 Hospitals (assessment and review in five hospitals and orientation and assessment of five additional hospitals	Times	10	10	100

SN	Activities	Unit	Target	Achievement	% achieved
10	Capacity Building nutrition cluster members at federal and provincial levels	Times	2	2	100
11	In-patient management of severe acute malnutrition with medical complications to medical Doctors and Nurses	Times	1	1	100
12	Support NUTEC Meeting	Times	1	1	100
13	Revise Maternal Baby Friendly Hospital Initiative Guideline, Formulation of National Action Plan for school health and nutrition program jointly by MoHP and MOEST, Develop and endorse National Action Plan for Nutrition in Emergency and DRR and Develop and endorse Nutrition Friendly Health Facilities Guideline	Times	1	1	100
14	Nutrition program support during any kind of Emergency	Times	1	0	0
15	Nutrition Officer for Nutrition Section	Times	1	1	100
16	MToT on Comprehensive Nutrition Specific Intervention package for all seven Provinces and districts nutrition focal persons of District health offices.	Times	12		0

Family Welfare Division :(3) IMNCI program activities:

SN	Activities	Unit	Target	Achievement	% achieved
1	Procurement of equipment for CBIMNCI program	Times	1	1	100
2	Procurement of SNCU/ NICU equipment	Times	35	30	85.71
3	Procurement of equipment for KMC units and KMC corners	Times	1	0	0
4	Orientation of Prematurity (KMC) Guideline	Times	1	0	0
5	Development of FBIMNCI/ Newborn Coaching/ Mentoring Guideline	Times	1	0	0
6	Facility Based IMNCI (FB-IMNCI) ToT for Medical Officers	Batch	1	1	100
6	Facility Based IMNCI (FB-IMNCI) ToT for Paramedics and Nursing Staffs	Batch	7	7	100
7	Revision of national newborn health strategy and plans	Batch	2	2	100
8	FBIMNCI/Newborn Care Coaching/ Mentoring Training	Times	2	2	100
9	Development of Early Childhood Development Guideline	Times	1	1	100
10	Mentoring for SNCU/ NICU staffs	Times	5	5	100
11	IMNCI ToT for health workers	Times	2	2	100
12	Comprehensive Newborn Care (Level II) Training for MOs	Times	7	7	100
13	Free Newborn Care Program	Hospital	107	0	0
14	Research on Newborn and IMNCI related program	Times	3	0	0
15	ToT on Point of Care Quality Improvement (POCQI)	Batch	1	0	0
16	IMNCI Routine Data Quality Assessment (RDQA) ToT	batch	2	0	0

Family Welfare Division :(4) Family Planning and RH

SN	Activities	Unit	Target	Achievement	% achieved
1	Family Planning (FP) Current users	Couple	3181000	2572000	80.86
2	VSC expected new acceptors	Couple	30000	16000	53.33
3	IUCD expected new acceptors	Couple	32000	13974	43.67
4	Implant expected new acceptors	Couple	110000	102274	92.98
5	FP program strengthening through DMT, WHO MEC wheel	Times	1	1	100
6	FP Microplanning and response actions implementation in low CPR districts	Times	14	0	0
7	Support to satellite clinic for LARC methods	Times	753	0	0
8	Procurement of Depoprovera	Times	1	1	100
9	Procurement of Syringe for Depoprovra	Times	1	1	100
10	Procurement of Pills	Times	1	1	100
11	Colposcipe machine	Times	1	1	100
12	Procurement of Thermocoagulator machine	Times	1	1	100
13	Study on status and determinants of FP methods use hard to reach population	Times	1	1	100
14	Functional analysis of ongoing AFS program and recommendation for the future program strengthening	Times	1	1	100

Family Welfare Division :(5) Maternal and Newborn health

SN	Activities	Unit	Target	Achievement	% achieved
1	Hospital and community based MPDSR program strengthening (capacity enhancement of hospital and community, Review and planning coaching/mentoring)	Times	1	1	100
2	SBA coach mentor development	Times	1	0	0
3	FP,MNH related protocol, guideline development program	Times	1	1	100
4	SBA clinical review and refresher program	Times	1	1	100
5	PPH prevention orientation program expansion and strengthening	Times	1	1	100
6	Safe motherhood roadmap provincial level planning and orientation program	Times	1	1	100
7	MNH and MPDSR program mentoring, Development, revision and update of standards, guidelines and training materials on MNH, MPDSR strengthening activities.	Times	1	1	100
8	CEONC sites strengthening program	Times	3	3	100

SN	Activity	Unit	Annual Target	Achievement	% achieved
Epidemic disease control					
1	Arrangement of materials required for installation and upgrading of health desks at international airports (equipment, tools and machinery related to office operations).	Times	1	1	100
2	Construction of well-equipped health desks at border points and international airports(points of entry) bordering China and India	Times	1	0	0
3	Contract based Manpower for Epidemic (Lab Sample receive& dispatch, Risk Communication, Media Monitoring, and Store Equipment Management)	Times	3	3	100
4	Orientation on influenza etc. management to educational institutions, doctors and health worker	Times	2	2	100
5	Epidemic disaster and response preparation and testing in hospitals	Times	3	3	100
6	Discussions and meetings on various diseases with supportive bodies, governmental, non-governmental bodies, subject experts, and managers	Times	3	3	100
7	Training program for hospitals on Clinician's role in Preparedness & Response Readiness in Infectious Hazards and pandemics	Times	1	1	100
8	Training to hospitals and health workers regarding Epidemiological Preparedness & Response)OBI, EPPR, FETP etc)	Times	2	2	100
9	Outbreak Deployment Kit management	Times	1	1	100
10	Furniture and fixtures for the Health Desk established at point of entry	Times	1	0	0
Malaria control activities					
1	Financial and technical assistance from the World Health Organization for the Prevention and Prevention of NTD/ VBD and zoonotic diseases	Times	1	1	100
2	Conduct annual national review meetings	Times	1	1	100
3	Checking the quality of malaria slides and monitoring the quality of the slides to ensure the quality of the sample slides.	Times	3	3	100
4	Celebrate world malaria day	Times	1	1	100
5	Workshop on Internal QA / QC Improvement of Malaria Microscopy (Cascade System)	Times	1	1	100
6	Training & refresher training for medical doctors on treatment guidelines including management of severe malaria - engaging private and professional organizations in the public sector, malaria prevention training & refresher training, purchasing various equipment required by the program management unit, to strengthen the related Technical Working Committee (TWG)	Times	3	3	100
7	RDT for malaria diagnosis. Purchase kit (including G6PD)	Times	1	1	100
8	Purchase of Drugs, RDT kit for Diagnosis and Control of Malaria and other materials	Times	1	1	100
9	Procurement and transportation of malarial drugs, microscopy, sparing pumps & parts to reduce and control malaria	Times	1	1	100

S N	Activity	Unit	Annual Target	Achievement	% achieved
Kala azar control activities					
1	National review meeting on Kalazar	Times	1	1	100
2	Orientation to medical college, private hospitals, teaching hospitals on treatment procedure and on active case detection orientation to district with Kalazar case.	Times	1	1	100
3	Transport cost subsidy to the hospital for treatment of kala-azar patients in central hospitals (Rs. 1000 per case), various tests for kala-azar patients (up to Rs. 5000 per case)	Times	3	1	100
4	Procurement and supply of medicines and medical goods for Kala-azar contol.jgtrfgrdff (rK-39, Cap. Miltefosin, Inj. Liposomal Amphotericin B and Inj. Paramomycine)	Times	1	1	100
Natural disaster management					
1	Preparation, and printing of RRT Guideline Review for Infectious Diseases and Prevention of Infectious Diseases and Outbreak Response in accordance with the federal structure.	Times	1	1	100
2	Orientation to the provinces regarding revised RRT Guideline, Infectious Disease Prevention and Outbreak Response Guidelines.	Times	1	1	100
3	To conduct field work and mobilize experts for epidemic and disaster management	Times	3	3	100
4	RRT mobilization, multi-stakeholder interaction program for disaster management in case of epidemic and disaster	Times	2	2	100
5	Technical Assistance by WHO for Epidemic Disease Investigation, Control and Response	Times	3	3	100
6	To orient the RRT at the district level to promote reproductive health in the event of epidemics, emergencies, and natural disasters and to review the RRT reporting focal persons of the district and state health directorates on various activities related to disaster management at the state level.	Times	1	1	100
7	Epidemic Specimen Referral and Transport Capacity Development and mobilization to different Hospitals	Times	3	3	100
8	Monitoring, testing, reviewing, and upgrading PoEs by scheduling all potential public health events.	Times	2	2	100
9	Review epidemic / outbreak prevention planning and conduct alert and response activities to RRT	Times	1	1	100
10	Contract based Light vehicle driver for emergency conditions	Person	4	4	100
11	Create and operate toll free numbers, hotlines, apps for epidemic information collection and management	Times	3	3	100
12	Interact with the concerned agencies regarding disaster preparedness of chemical radiation, disaster management arising from radio nuclear and biochemicals and capacity building of working hospitals.	Times	1	1	100
13	Develop, implement, review, review and upgrade Media Communication, Risk Communication related programs and All-hazard emergency risk communication platform with media persons and stakeholders to streamline information flow in epidemic preparedness, response, and management work.	Times	3	3	100

S N	Activity	Unit	Annual Target	Achievement	% achieved
14	Accumulated program to make necessary arrangements and programs according to the situation for the upcoming epidemic	Continu-ous	3	2	66/67
15	To procure medicines and equipment / tools required for epidemic / disaster management and send them to the concerned authorities	Times	1	1	100
Lymphatic Filariasis elimination activities					
1	National Filariasis Disease Prevention Program, Free Hydrocele Surgery Program, Planning, and review meeting	Times	1	1	100
2	Printing and transportation of brochures, diagnostic cards, pamphlets, registers, and firm formats required for conducting common campaigns related to National filariasis Disease Prevention.	Times	1	1	100
3	Conducting Training of trainers for lymphatic filariasis Prevention Program, Morbidity Mapping Program	Times	1	1	100
4	Interactional program with province parliamentarians (Biratnagar, Pokhara, Nepalgunj and Dhangadi) to reduce cases of national lymphatic filariasis	Times	1	1	100
5	Technical assistance from the Center for National Filariasis Disease Prevention Program, Medicine Consumption Campaign, Morbidity Mapping Program and Free Hydrocele Surgery Program	Times	3	3	100
6	Preparation and printing of annual progress report of National filariasis Prevention Program	Times	1	1	100
7	Purchase and transportation of DEC (150,000 pills) and ALB (6,00,000 pills) required for the implementation of National Filariasis Disease Prevention Program.	Times	1	1	100
Zoonotic disease control activities					
1	Review and plan with snakebite treatment centers, medical stores and organizations using rabies vaccine	Times	1	1	100
2	To conduct manpower mobilization training etc. in the places where there is an epidemic of zoonotic diseases	Times	3	3	100
3	One health Multinational Workshop and interaction on Zoonotic Diseases, Interaction One health	Times	1	1	100
4	Programs for mapping and prioritization of zoonotic diseases	Times	1	1	100
5	Orientation to doctors and health workers against venomous snakes	Times	1	1	100
6	Celebrate public awareness day on rabies, snake bites etc.	Times	3	3	100
7	Formation, operation, preparation of guidelines, strengthening and meeting of technical working group on zoonotic diseases	Times	3	1	33.33
8	Orientation to Physicians and Health Workers on Malaria, Kala-azar Scrub Typhus, and other Infectious Diseases	Times	1	1	100
9	Preparation, Interaction, Orientation and Capacity Building Programs for Federal and Provincial Health Workers and Hospitals on Zoonotic Diseases (Brucellosis, Cysticercosis, Animal Bites, Toxoplasmosis, Scrub Typhoid, Leptospirosis, etc.)	Times	3	3	100

S N	Activity	Unit	Annual Target	Achievement	% achieved
10	Buy kits for diagnosing various diseases like dengue, scrub typhus, chikungunya	Times	1	1	100
11	Arrangement of cell culture A.R.V. including purchase and transportation for those who are at risk of rabies	Times	1	1	100
12	Purchase and transportation of ASV for people suffering from venomous snake bites.	Times	1	1	100
13	Procurement and distribution of LLIN nets for pregnant women and other groups in malaria and other pest affected districts	Times	1	1	100
Dengue control activities					
1	National review meeting on Dengue	Times	1	1	100
2	Orientation to medical college, private hospitals, teaching hospitals on management of dengue cases	Times	1	1	100
3	Management and treatment of the complications of Dengue, Scrub typhus, chikungunya fever	Times	3	3	100
Disease Surveillance and EWARS activities					
1	Technical support to operate EWARS on DHIS2	Times	5	5	100
2	Orientation for physicians, health workers, Medical Recorder and Medical Recorder Officers of new and non-operating sentinel site	Times	4	4	100
3	Data Verification program of infectious disease from various sources	Times	3	3	100
4	Training of Medical Recorder and Medical Recorder Officers on reporting of infectious diseases through DHIS 2	Times	2	2	100
5	Orientation of newly appointed Medical Recorder and Medical Recorder Officers of sentinel site	Times	1	1	100
6	EWARS TWG formation, directory revision discussion and conduction of meeting	Times	3	3	100
7	Onsite coaching for EWARS Sentinel site (technical support)	Times	3	3	100
8	Study of EWARS' effectiveness and necessary improvements	Times	1	1	100
9	Analysis, dissemination, and publication of annual data obtained from EWARS	Times	1	1	100
10	National Event Reporting system evaluation & update related program	Times	1	1	100
11	Surveillance of radiation, chemical exposure events or poisonings and increase their surveillance capability.	Times	1	1	100
12	Integrated Surveillance of Vectors Transmitting Insect Diseases including Malaria, Kala-azar, Dengue, Elephantiasis, JE, Jika	Times	3	3	100
13	WHO support for activities related to Climate Informed Early Warning monitoring various disease caused by climate change	Times	1	1	100
Water quality surveillance activities					
1	Study on water quality and safety and make necessary improvements	Times	1	1	100

S N	Activity	Unit	Target	Achieved	%
Leprosy activities					
1.	Printing and distribution of information materials on skin diseases, leprosy, disability injuries and rehabilitation	Times	4	4	100
2.	Multi-drug transportation and management	Times	3	3	100
3.	Public awareness program on occasion of World Leprosy Day and Disability Day	Times	3	3	100
4.	Publicity and public awareness program on leprosy	Times	3	3	100
5.	Meeting with the Director, Technical and Coordinating Committee and stakeholders	Times	3	3	100
6.	Operational research (In collaboration with the hospital)	Times	3	3	100
7.	Orientation on leprosy in the seminar with dermatologists	Times	1	1	100
8.	Printing and bulletin of disability policy, revision of strategy and operational guideline on disability, also printing and distribution of annual report.	Times	3	3	100
9.	Leprosy post exposure prophylaxis orientation planning and monitoring in all seven provinces.	Times	3	3	100
10.	Leprosy Prevention Campaign	Times	3	3	100
11.	Food and shelter grants for leprosy victims in Khokana, Pokhara, Kapan and Budhanilkantha	Times	3	3	100
EDCD related others activities					
1.	Purchase of Microscope, Operating Instruments, Equipment and Machine Tools	Units	11	11	100
2.	Contract based employment for sanitation, security, sweeper, and garden services.	People	2	2	100
3.	Contract based light vehicle drivers for emergency condition	People	4	4	100
4.	Create and operate toll free numbers, hotlines, apps for pandemic information collection and management	Times	3	3	100
5.	Perform various tasks as per IHR-2005 (including directory preparation, printing, JEE, capacity building etc.)	Times	2	2	100
6.	Capacity Assessment & Dissemination of Health Desk established as per IHR-2005	Times	1	1	100
7.	Programs related to preparation and implementation of Codex, Infosan and International Health Regulations	Times	1	1	100
8.	National Event Reporting system evaluation & update related program	Times	1	1	100
9.	Online coaching from medical and technical managers for various diseases including malaria, kala-azar, dengue, scrub typhus, chikungunya in various hospitals and health institutions	Times	3	3	100
10.	Establishment of microscopy quality database at central level	Times	1	1	100
11.	Purchase of vaccine with syringes for diphtheria anti-toxin, rabies immunoglobulin and tetanus gamma globulin	Times	1	1	100
12.	Vaccine purchase program for Hajj pilgrims	Times	1	1	100

Curative Service Division of all sections program activities:

SN	Activities	Unit	Targets	Achieved	%
1	Finalization of Basic Health Service Standard Treatment Protocol (BHS STP)	Times	1	1	100
2	Finalization of Emergency Health Service Standard Treatment Protocol (EHS STP)	Times	1	1	100
3	Software for Electronic Health Record	Times	1	1	100
4	Baseline Survey for Ear Diseases	Times	1	1	100
5	Private Hospital Monitoring for Registration, Renewal and Upgrading	Times	40	20	50
6	Monitoring for Basic Health Service and Free Medicine	Times	24	15	62
7	Software for Mero aspatal Apps and Hospital Profile Update	Times	1	1	100
8	Orientation for Social audit	Times	3	2	66
9	STP for Different Diseases	Times	3	2	66

Nursing and Social Security Division of all Sections program activities:

S.N.	Activities	Unit	Targets	Achieved	%
1.	Bi- Annual FCHV Review	Local levels	753	753 local levels	100
2.	Provision of free treatment to impoverished citizens " BipanaNagarikAnushadanprogramme" release of budget as per quarterly	Times	3	Budget released as per in 3 quarter	100
3.	Provision of free treatment to "JaanMndolanGaite" citizens , release of budget as per quarterly	Times	3	0	0
4.	Deployments of midwives in the Hospitals	Number	10	10	100
5.	Develop bridge course to change the nurse to midwives who are working in safe motherhood program.	Number	1	0	0
6.	Develop clinical protocol.	Times	3	3	0
7.	Regular Monitoring and evaluation of school health programme and national review	Times	1	1	100
8.	Develop five continuous professional development educational modules	Times	5	5	100
9.	Conduct Leadership and management training in e-Based modality for nursing leaders	Times	2	1	50
10.	Conduct policy dialogue in federal and provincial level bases on geriatric health services	Times	5	5	100
11.	Develop capacity of Health workers to care geriatric citizens in e- Based modality	Times	3	3	100
12.	Develop geriatric care center implementation guidelines.	Number	1	1	100
13.	Conduct workshop and interaction with stakeholders on effectiveness of BipanaNagarikAusadhiUpachar program	Times	1	1	100
14.	Conduct a training programme in Hospital running BipanaNagarikAwsadhiUpachar program 1. Biomedical technician. 2. Hemodialysis training	Times	 1 1	 0 1	 0 100
15.	Celebrate and interact Nursing, Midwives, Senior citizen and FCHV days	Times	3	3	100
16.	Conduct TOT to facilitator for basic training of FCHV	Times	2	1	50

S.N.	Activities	Unit	Targets	Achieved	%
17.	Conduct a training in e- based modality for nurses regarding infection prevention and control	Times	2	1	50
18.	Review of BipannaNagarikAusadhiUpcharkoshNirdisikha 2075	Times	1	1	100
19.	Review of female community health volunteers kosh and documents	Times	6	6	100
20.	Conduct capacity development training for nursing administrators.	Times	1	1	100
21	Regular supervision and monitoring of approved and newly approved hospital	Times	96 (total old and new Hospitals)	1	100
22	Integrated supervision of health institutions that providing SSU, OCMC, Geriatric care services.	Times	20	10	50
23	Reimbursement and payment of fund quarterly to the hospitals that is listed under impoverished citizen treatment scheme	Times	3	3	100

National Tuberculosis Control Center program activities:

SN	Activities	Unit	Target	Achievement	%
1	Procurement of Automatic PCR machine for TB diagnosis	Times	2	2	100
2	Construction of Chest Hospital	Times	1	1	100
3	Procurement of Bright Field Microscopy	Pieces	10	10	100
4	Preparation of GIS data base of TB patients	Times	1	1	100
5	Study on Infection control in TB	Times	1	1	100
6	Preparation of TB related Guideline	Times	1	1	100
7	Data Management Training	Times	2	2	100
8	Procurement of N95 Mask and personal protection equipment	Times	1	1	100
9	Supply of TB Drug to PLHMC	Times	21	18	85
10	Broadcasting of TB Related message by National level Television	Times	200	200	100
11	Revision of Guideline and Recording and Reporting form	Times	1	1	100
12	Commemoration of World TB day	Times	1	1	100
13	Conditional grant to Kalimati Chest hospital	Times	3	3	100
14	Procurement of Consumable and Chemical for sputum Microscopy	Times	1	1	100
15	Procurement of Falcon Tube	Pieces	300000	30000	100
16	Procurement of HR for National Reference Laboratory	Times	7	7	100
17	Procurement of Lab consumable for DR Survey	Times	1	1	100
18	Procurement of Consumable and Chemical for C/DST	Times	1	1	100
19	Procurement of Digital Xray Film	Pieces	12000	1200	100
20	Procurement of First Line Drug TB	Times	1	1	100
21	Procurement of Second Line Drug TB	Times	1	1	100
22	TB Training (Medical Officer, Logistic lab etc.)	Times	7	4	57
23	Procurement of Cartridge for GeneXpert Machine	Pieces	156300	15630	100

SN	Activities	Unit	Target	Achievement	%
24	Courier service for Culture /DST test	Times	5000	5000	100
25	Supervision to TB Treatment Center	Times	45	40	89
26	TB Trainer's Training	Times	2	2	100
27	National PME Workshop	Times	3	3	100
28	Printing of Annual Report and TB RR tools	Times	1	1	100

National AIDS and STI Control Center program activities:

SN	Activities	Unit	Targets	Achieved	%
1	HIV counseling training Package update and conduction of training	Times	3	1	33
2	HTC,PMTCT,STI training materials /guidelines update and printing	Times	1	1	100
3	DHIS -2 tracker training to ART counsellors	Times	7	5	71
4	HIV AIDS related programs for Inmates of Central Prison	Times	1	0	0
5	Annual HIV review for Health workers	Times	1	0	0
6	Quarterly review with Province for HIV programme	Times	1	0	0
7	EWI workshop on Seven provinces for ART counsellor	Times	7	3	43
8	Technical support on procurement	Times	1	1	100
9	Conducting workshop regarding HIV recording and reporting on seven provinces	Times	1	1	100
10	HIV lab training	Times	2	2	100
11	CMT (Clinical Management Training)	Times	2	2	100
12	STI Management training	Times	2	2	100
13	Finalization and printing of NHSP 2021-26	Times	1	1	100
14	Logistic Training as per new regimen	Times	7	1	14
15	AIDS day celebration	Times	1	1	100
16	Annual Logistic data review	Times	2	0	0
17	PMTCT Training	Times	3	1	33
18	Hepatitis B and C ToT for medical officers	Times	2	0	0
19	Interaction with Private sectors on HIV programmes	Times	1	1	100
20	Preparation of National strategy of Hepatitis	Times	1	0	0
21	Procurement of ARV Drug	Time	1	1	100
22	Procurement of STI and OI drug	time	3	1	33
23	Procurement of Test kits	Time	3	3	100
24	Procurement of reagent of CD4 and Viral load	Time	1	0	0

National Health Training Center program activities:

SN	Activities	Unit	Target	Achievement	%
1.	Training Need Identification	Times	7	7	100
2.	Health training landscape analysis	Times	1	1	100
3.	Training Priority Identification Workshop	Times	3	0	0
4.	Various new training learning resource packages development and field tests	Number	5	3	60

SN	Activities	Unit	Target	Achievement	%
5.	To prepare Standard Operating Procedure for preparation of various training packages	Times	1	1	100
6.	Timely changes and modifications in the training learning resources packages in operation	Number	5	3	60
7.	TOT on Advanced SBA training for Physicians	Person	12	12	100
8.	TOT on Rural Ultrasound Training For Staff Nurse	Times	2	1	50
9.	TOT on Pediatric Nursing Training	Person	40	30	75
10.	Induction training for health officers recruited through public service commission	Times	5	0	0
11.	Medico-Legal Training on Post Mortem Examination and Clinical Forensic Medicine for Medical officers	Times	3	1	33
12.	TOT on Operation Theater Techniques and Management Training(OTTM) for Nursing Staffs	Person	30	30	100
13.	Comprehensive New Born Care Level II and III Training for doctors/ Nursing Staffs	Times	3	2	66
14.	TOT on ICU/Critical Care Training for Nursing Staffs	Person	30	20	66
15.	Prepare trainer pool by increasing the capacity of trainers of various clinical trainings	Times	2	2	100
16.	TOT on Road Traffic Accident and Safety Training for Doctors / Health Worker / Nursing Staff	Times	3	0	0
17.	Occupational Health and Safety (TOT) Training for Doctors / Health Worker / Nursing Staff	Times	2	1	50
18.	TOT on Climate Change and Health Impact for Doctors / Health Worker	Times	2	0	0
19.	TOT on Anti-microbial Resistance Prevention for Doctors / Health Worker	Times	3	2	66
20.	TOT on Clinical Training Skills (CTS)	Times	3	2	66
21.	Anesthesia Assistant Training for HA and Staff Nurse	Person	10	0	0
22.	TOT on Palliative Care for Physician / Nursing Staff	Times	3	2	66
23.	TOT on Mental Health for Physician / Health Worker	Person	60	20	33
24.	TOT on PEN (NCD Package) for Physician / Health Worker	Times	5	0	0
25.	TOT on Gender Based Violence for Doctors / Health Worker / Nursing Staff	Person	36	18	50
26.	TOT on Burn Care Management for Doctors / Health Worker / Nursing Staff	Times	3	1	33
27.	TOT on Primary Emergency Care for Doctors / Health Worker / Nursing Staff	Times	2	1	50
28.	TOT on VIA/Cold Coagulation for Doctors / Nursing Staff	Times	4	4	100
29.	Master Mentor/Coach Development Training	Times	2	2	100
30.	Refresher training to trainers of various trainings	Times	3	2	66
31.	TOT on Infection Prevention for Doctors / Health Worker / Nursing Staff	Times	2	2	100
32	TOT on Adolescent Sexual and Reproductive Health (ASRH) for Nursing Staff / Health Workers	Times	3	2	66
33.	TOT on Second Trimester Abortion Care for Ob Gyn / MDGP	Times	1	1	100
34.	Training of health workers working in hospitals and health institutions on Infection prevention, health waste management and WASH (TOT)	Times	2	0	0

SN	Activities	Unit	Target	Achievement	%
35.	To allow, renew and regulate the operation of sites related to health training	Times	5	5	100
36.	Prepare guidelines and indexes to measure the effectiveness of training	Times	1	0	0
37.	Coordinating and review meeting on training regulation and certification with NGOs preparing training materials for various trainings and conducting training.	Times	3	0	0
38.	Interaction program with all provincial health training centers and training sites	Times	7	6	85
39.	Field testing and assessment program of QI tools	Times	2	1	50
40.	Program to measure the quality of training sites	Times	6	2	33
41.	Updating TIMS related software	Times	1	1	100
42.	Review and Refresher workshop to the trainers of various training	Times	2	2	100
43.	Follow-up Enhancement (FEP) Program for SBA, FP, MLP, OTTM, PEN and other trainings	Times	7	4	57
44.	Diploma in Biomechanical Training (24 students) and Continuation of FY 2076/77 batch	Times	1	1	100
45.	Preparation and printing of annual report	Times	1	1	100
46.	Cooperation, coordination and technical assistance (monitoring, evaluation and program implementation monitoring visit expenses)	Times	230	174	75
47.	Transport and supply of various training materials (at state, local level and training sites)	Times	4	3	75
48.	Accounting / Online Recording and Reporting / TABUCS etc.	Times	2	0	0
49.	Printing of various training materials	Times	6	6	100

National Health Education Information and Communication Center program activities:

SN	Activities	Unit	Targets	Achieved	%
1	Broadcasting andAiring of the messages regarding Smoking andTobacco product control through television and FM	Times	1	1	100
2	Airing of health messages and public health radio program through Radio Nepal.	Times	2100	2100	100
3	Publication of health messages, information and press release in national newspapers.	Times	40	40	100
4	Dissemination ofhealth news, information or messages through website, facebook, YouTube, twitter, apps etc.	Times	3	1	33
5	Communicable and epidemic disease control related communication program and daily newspaper monitoring program.	Times	6	6	100
6	Ear/Nose/Throat related health awareness and communication program.	Times	4	4	100
7	Dissemination of information and messages through online media	Times	3	3	100
8	Health literacy campaign program mobilization	Times	1	1	100
9	Communication program on smoking and tobacco control and regulation.	Times	1	1	100

SN	Activities	Unit	Targets	Achieved	%
10	Communication program on non-communicable disease prevention and control.	Times	1	1	100
11	Health promoting school campaign framework or strategy development and campaign conduction	Times	8	0	0
12	Social media, SMS, Apps and IVR service from information technology center	Times	3	1	33
13	Advocacy and strategic communication on occupational, environmental health and Air pollution, climate change	Times	12	5	42
14	Broadcasting of health messages, public health dialogue (Janaswasthya Bahas) and Jivan Chakra through Nepal television	Times	2827	2827	100
15	AMR awareness and orientation health promotion program	Times	7	7	100
16	Communication program on brain death, kidney and organ donation	Times	3	3	100
17	Communication program on fuel emission and air pollution	Times	3	2	67
18	Health message exhibition on assembly, event, sports, health camp musical and cultural program	Times	3	0	0
19	Organization of assembly, event, sports, health camp musical and cultural program	Times	1	1	100
20	Coordination program among federal, provincial and local level for the development andexpansion of health promotion activities.	Times	3	0	0
21	Awareness and communication program on mental health	Times	24	7	29
22	Awareness and communication program on IMNCI, Immunization, Diarrheal diseases pneumonia etc.	Times	12	10	83
23	Awareness and communication program on birth defect.	Piece	3	3	100
24	Awareness and communication program on family planning, safe motherhood and neonatal health.	Times	3	3	100
25	Awareness and communication program on family planning, safe motherhood, neonatal and adolescent health.	Times	12	12	100
26	Promotion of family planning and PPIUCD through inter personal communicationfor hard to reach group along with media campaign for social behavior change.	Times	3	3	100
27	Broadcasting of health related messages and information through National Televisions.	Times	2788	2788	100
28	Interaction program regarding public health for Journalist.	Times	12	2	16
29	Healthy Nepal Campaign program	Times	1	1	100
30	Airing and broadcasting of disease outbreak and epidemic related messages.	Times	5	3	60
31	Airing and broadcasting of messages regarding risk factors of NCDs through Radio Nepal and Nepal Television.	Times	1	1	100
32	Monitoring and facilitation for effective implementation of health promotion activities at provincial and local level.	Times	100	43	43
33	Covid-19 prevention and control program	Times	154	38	25
34	Health tax fund program on tobacco control and regulation.	Times	39	39	100

National Public Health Laboratory program activities:

SN	Activities	Unit	Targets	Achieved	%
1.	Construction of Laboratory building for curative center as per master plan	Number	1	0	0
2.	Procurement of RT-PCR machine for examination Hepatitis	Number	1	1	100
3.	Procurement of automatic immune analyzer for examination of HIV & down syndrome	Set	1	1	100
4.	Procurement of machine/biopsy for examination of cancer & upgradation of lab in central level hospital	Set	2	2	100
5.	Procurement of blood component machine for Karnali blood transfusion center	Set	1	1	100
6.	Procurement of point of care (CD4 machine)	Set	1	1	100
7.	Maintenance of BSL3 lab for accreditation	Time	1	0	0
8.	Conduction of ToT for quality control at NPHL & PPHL level	Time	14	14	100
9.	Orientation of laboratory related different software system	Time	30	30	100
10.	Conduction of awareness programme on laboratory service	Time	3	3	100
11.	Providing different service, integrated team mobilization during epidemic outbreak	Time	3	0	0
12.	Overall management of Quality control of public & private laboratory	Time	3	3	100
13.	Conduction of ISO, accreditation & quality control	Time	3	3	100
14.	Participation in International level for quality control of Hematology, Biochemistry, Endocrinology, HIV	Time	4	4	100
15.	Research activities of NPHL for communicable & non communicable diseases	Time	3	3	100
16.	Overall management of conduction of National beauro for quality control	Time	3	3	100
17.	Procurement of essential kits, chemical & reagents for regular lab examination	Time	3	3	100
18.	Procurement of essential kits, chemical, reagents & equipment for National Influenza center	Time	3	3	100
19.	Viral load examination of Hep B & C	Time	3	3	100
20.	Procurement of reagents for getting 50 % discount in lab/health examination for disadvantage & vulnerable group like old aged people, differently able, Jana Andolan Ghaite& Kidney patient	Time	3	3	100
21.	Procurement of essential kits, chemical & reagents for molecular lab examination	Time	3	3	100

Management Division related all Sections program activities:

SN	Activities	Unit	Target	Achievement	%
1	Central Store Support Construction Continued (Including remaining Payment)	Building	1	1	100
2	Continuation of modern central vaccine store construction (including remaining payment)	Building	1	1	100
3	Office Equipment (Computer, Photocopy, Printer, Laptop etc.)	Set	5	5	100
4	Spare parts purchase for cold chain materials	Times	1	1	100
5	Installation of equipment (rack, pallet etc.) for central and Pathalaiya store	Times	2	2	100
6	Purchase of emergency medical supplies (gloves, mask, sanitizer, butt, face shield, glasses, gown etc.)	Times	1	1	100
7	Wire and fence wall for Central Store Pathalaiya	Times	1	1	100
8	Purchase of 4 laptops and 1 printer	Set	5	5	100
9	Maintenance and improvement of physical structures that are inside the DoHS premises	Times	6	6	100
10	Upgradation of roads inside the DoHS premises - blacktop, slopes, sidewalks and drainage.	Times	2	2	100
11	Furniture and fixtures (purchase of essential furniture and fixtures)	Times	3	3	100
12	Tools, means of transportation, maintenance of vehicles	Times	1	1	100
13	Store Pharmacist, E.L.M.I.S., Medical Officer Technical Services, 2 Biomedical Engineers, 1 Computer Officer Service Contract	Person	25	25	100
14	Management of human resources (Contractual agreement): 6 loader packers, 2 drivers, 2 computer operators, 1 plumber, 1 electrician.	Person	6	6	100
15	Department of Health Services Security Services Agreement	Person	1	1	100
16	Strengthen the capacity of NLWG	Times	1	1	100
17	Plan preventive maintenance for quality vaccine and cold chain management with onsite coaching and deployment of refrigerator technician	Times	3	3	100
18	Seminar on quantification of health products	Times	1	1	100
19	Meeting of committee including bid evaluation committee	Times	100	100	100
20	Materials and fuels required for vaccine safety activities	Times	1	1	100
21	Vehicle registration, renewal, third party insurance, various service charges related to vehicle tax	Times	86	86	100
22	Quality testing of drug and equipment	Times	3	3	100
23	Medicines, vaccines and vaccine-related materials, tools, ingredients. Including transportation and redistribution	Times	1	1	100
24	Supervision, coordination and technical assistance	Times	100	100	100
25	Communication tariff	Times	6	6	100
26	Payment of internet service connected to HMIS Section	Times	1	1	100
27	Fuel and other fuels	Litter	100	100	100
28	Operation and maintenance	Times	70	70	100
29	Office operating expenses	Times	12	12	100

SN	Activities	Unit	Target	Achievement	%
30	Including the remaining payment for the maintenance and improvement of biomedical equipment as per the multi-year contract agreement	Times	1	1	100
31	Procurement of services for target population projection according to local level	Times	1	1	100
32	From Manpower Management Contract Services: 1 store assistant, 3 (including civil, mechanical and IT engineer), 1 data analyst, 3 office assistants, 1 computer assistant, 5 drivers.	Person	20	20	100
33	Management of 10 biomedical engineers and 1 public health officer in contract service for implementation of multi-year agreement related to maintenance and improvement of biomedical tools.	Person	2	2	100
34	Human resource management in DoHS Personnel Administration Section and Financial Administration Section	Person	4	4	100
35	Waste management and sanitation within the DoHS premises, including continuity from third parties	Person	1	1	100
36	Activities related to financial administration including non-compliance (Beruju)	Times	1	1	100
37	Training on Data Management, Analysis and Use - PHA Training	Times	2	2	100
38	Assistance and monitoring in state and local level reviews	Times	15	15	100
39	Preparation and printing of annual report	Times	2	2	100
40	Field work related to integrated online health information management and DHIS2	Times	2	2	100
41	HMIS and DHIS2 training and orientation for academy, central hospital, teaching hospital,hospital staff including staff of private hospitals.	Times	4	4	100
42	Onsite coaching, mentoring and micro teaching for quality health data in the hospital	Times	15	15	100
43	Updating records, reporting forms, guidelines and health indicators in HMIS	Times	2	2	100
44	Follow-up and monitoring of minimum standards of building and other physical infrastructures	Times	3	3	100
45	Training related to Health Information Management and Analysis - R / GIS / STATA for Data Managers	Times	2	2	100
46	HMIS and DHIS training orientation for health staff working in prisons	Times	2	2	100
47	Integrated supervision and monitoring of health care programs, inspection travel expenses for special nature tasks	Times	30	30	100
48	Miscellaneous expenses	Times	1	1	100

ANNEX 2: Program Targets for FY 2078/79

Family Welfare Division:Child Health and Immunization Section program activities:

SN	Activities	Unit	Target
1	Procurement of Vaccine Carrier (2.9 to 3.5 Liter capacity)	Times	1
3	Vaccination related Commodity Grant from Gavi	Piece	1
6	Procurement of Timer, Bag and Mask, Digital Thermometer resuscitation Doll and Pelvic Model Baby Weighing Scale	Times	1
7	Procurement of Equipment for SCU/ NICU service expansion	Times	1
8	Establishment of Kangaroo Mother Care unit/ corner	Times	1
10	Printing of Full immunization Certificate	Piece	1
11	Procurement of Pratt dilators, sopher forceps, canula with adaptors	Times	1
12	Procurement of Thermo coagulator	Times	1
13	Procurement of Colposcopy	Times	1
1	NIP Review and Planning Meeting	Times	1
2	Procurement of Ice packs	Piece	1
3	Procurement of BCG Vaccine with diluents	Piece	1
4	Procurement of syringe for BCG Vaccine dilution	Piece	1
5	Procurement of AD syringe for BCG Vaccine	Piece	1
6	Procurement of BOP Vaccine with Dropper	Piece	1
7	Procurement of Measles Rubella Vaccine	Piece	1
9	Procurement of JE Vaccine	Piece	1
10	Procurement of TD Vaccine 180,000 vials	Piece	1
11	Procurement of AD syringe (5,000,000)	Piece	1
13	Commodity grant Prom BAVIIPV, Syringe and Safety boxes	Piece	3
14	Commodity grant of Pentavalent Vaccine syringe and Safety box form GAVI	Piece	3
15	Commodity grant of Vaccination related Commodities (PVC Vaccine Syringe Safety Box) from GAVI	Piece	3
16	Vaccination related Commodities(Rota Vaccine) support from GAVI	Piece	3
17	Vaccination related Commodities (TCV Vaccine, syringe and safety boxes) support from GAVI	Times	2
21	Strengthening IMNCI and Newborn Care Program	Times	1
24	Immunization Vaccination and Hygiene orientation with Stakeholder for partnership	Times	1
26	Printing and distribution of vaccination guideline, ToT manual and form format	Times	0
27	Immunization related AEFI Orientation at Province level	Times	1
28	Vaccine related waste care management Program expansion	Times	1
29	AEFI Orientation to Medical Officer Pediatrician	Times	1
31	National immunization program training to Health worker	Times	1
32	Orientation on Typhoid conjugate vaccines(TCV) program to policy mater, stakeholder	Times	1
33	Preparation to TCV related SOP and guideline	Times	1
34	Training of Trainers of Typhoid conjugate vaccines and Planning Meeting	Times	1
35	Orientation to Journalists on Typhoid Vaccination	Times	1

SN	Activities	Unit	Target
36	Preparation revision and printing of CBIMNCI and New-born care related ICE Materials	Times	3
37	Monitoring and supervision to Typhoid Vaccination	Times	0
38	TCV Orientation at Province level	Times	1
41	Training of Trainer to Health worker on SNCU/NCU mentoring	Times	1
42	Point of Care Quality Improvement Project (POCQI) Tot and Review	Times	3
43	Nepal Every Newborn Action Plan (NENAP) -Implementation Plan (2016-2021) Review	Times	2
45	Trainers' training on Kangaroo Mother Care package	Times	1
47	FB-IMNCI related Recording reporting form Revision and orientation	Times	1
50	Interaction with parliamentarians, Journalist and stakeholders on National Immunization program	Times	1
51	Revision and update of Vaccination and Cold chain policy, guideline	Times	2
52	Orientation on NIP at low vaccination coverage Local Level	Times	1
53	Workshop on IEC material and urban immunization strategy preparation and branding	Times	1
54	Supervision monitoring support to hygiene program during vaccination	Times	4
55	Assessment of Nepal Every Newborn Action Plan (NENAP)	Times	1
56	ToT on New born care to Medical Officer	Times	1
57	Production and Printing of CBIMNCI related ICE Material	Times	2
58	Orientation on recording and reporting of New-born child care service	Times	2
59	Orientation on revised CBIMNIC Protocol	Times	2
60	FBMNCI training to Health Workers of various Hospital	Times	1
61	Provincial level Consultation on NENAP IP	Times	7
62	Preparation of KMC orientation guideline	Times	1
63	Tot on Vaccination and cold chain management to Municipalities	Times	1
64	Newborn care (SNCU/ NICU)/ FBIMNCI mentoring	Times	2
65	ToT on KMC to Health worker	Times	1
66	Printing, Packaging and distribution of hygiene kits on regular immunization session	Facility	1
67	ToT on New born care to Medical Officers	Times	7
68	ToT on CBIMNCI	Times	7
69	ToT on CBIMNCI to Hospital Staff	Times	8
70	Preparation of Early childhood development guideline	Times	1
71	Early childhood development orientation to Health Worker	Times	1
72	Mentoring on SNCU/NICU to health worker	Times	5
73	ToT on CBIMCI service	Times	2
75	Advocacy on National New-born care Program	Times	1
76	Stakeholders' meeting on IMNCI Program	Times	12
77	Supervision monitoring prior and during TCV campaign	Times	0
78	Covid 19 Vaccination Supervision monitoring	Times	0
79	Procurement of Inj. Oxytocin	Times	1
80	Procurement of Misoprostol Tablets	Times	1
83	MPDSR online system update	Times	1
84	Community Level MPDSR Review	Times	1

SN	Activities	Unit	Target
85	Onsite coaching on MPDSR	Times	1
86	MNH guideline, manual, protocol, strategy- update/printing	Times	1
87	MPDSR- Cause of death assignment training and orientation	Piece	1
88	Capacity Enhance Program for PNC service Expansion	Times	2
89	PPH Management by Misoprostol program Review	Times	1
90	Rural Ultrasound Program Review	Times	1
91	Strengthen of CEONCE Program	Times	3
92	Onsite coaching on Safe delivery to Hospital	Times	1
93	FP update for academician and Skill Standardization	Times	1
	Dissemination and orientation on SAS guideline, ECP, PPFP and other SRHR activities,	Times	1
94	Orientation to Health Personnel on cesarean Section	Times	1
95	Procurement of Depo and Pills	Times	1
96	Procurement of Depo Syringe	Times	1
97	Procurement of FP (IUCD Implant NSV, Minilap) commodities and other equipment	Times	1
98	Operational Grant to Khetrapati Clinic	Times	1
99	Integrated RH Morbidity Service guideline Preparation	Times	1
100	Preparation of Long acting and Postpartum Family planning guideline	Times	1
101	Preparation of FP guideline for disable person	Times	1
102	Adolescent friendly Health Institution certification guideline revision	Times	1
103	Infertility Management Guideline Preparation	Times	1
104	FP Recanalization management	Person	4
105	Integrated FPRH program	Times	4
106	Integrated Reproductive Health Morbidity Program Expansion	Times	4
107	High level advocacy program on Family Planning	Times	1
108	Post Partum Family Planning strengthen	Times	4
109	FPRH Recording Reporting Strengthen	Times	4
110	FP service capacity building to NSI support hospital Health personnel	Times	2
111	Expansion of FP service through Public Private Partnership strategy	Times	4
112	Adolescent friendly Health Institution Certification	Times	1
113	Conduction of RHCC meting	Times	4
114	Procurement of Nutrition related commodities	Times	1
115	Capacity Enhancement program for Nutrition rehabilitation center	Person	1
116	Nutrition at Health Emergency Program	Times	1
117	Nutrition Week/ Breast feeding week / Iodine month Celebration	Times	1
118	TOT on Comprehensive Nutrition Package	Times	1
119	NUTEC Meeting	Times	1
120	Maternal Baby Friendly Hospital campaign Review	Times	1
121	Nutrition Review Meeting at Province Level (PHTC, HD, Ministry, provincial medical Store)	Times	1
122	Nutrition Rehabilitation Center Review Meeting	Times	1
123	School Health and Nutrition Program	Times	1
124	Prepare Nutritional Rehabilitation center operational Guideline	Times	1

SN	Activities	Unit	Target
126	Broadcasting of Typhoid Vaccine related message on FM Radio	Times	2
127	establishment of Hand washing Station at EPI Clinic/session	Times	2
128	Printing and distribution of Hygiene Promotional IEC materials and Commodities	Times	1

Epidemiology and Disease Control Divisionprogram activities:

SN	Activity	Unit	Annual Target
Epidemic disease control			
1	Purchase of necessary tools, equipment and other health items for 7 more health desks to be set up at border points with India and China.	Times	1
2	For purchase of equipment (including thermal scan) and furniture for health desk of Pokhara and Bhairahawa International Airport (1-1 million).	Times	1
3	Purchase of essential vaccines for Haj Pilgrims	Times	1
4	Boundary health desks in operation and Tribhuvan International Airport office operating expenses	Times	1
5	To make arrangements according to the situation for the preparation, monitoring and emergency management of epidemic diseases	Times	4
6	Operation of experts and health workers from the center to manage the spread of COVID-19, influenza and other epidemic diseases (to assist in the diagnosis, research, treatment, contact tracing and other activities).	Times	1
7	Preparation, printing, and orientation of RRT field book for prevention and control of epidemic diseases to RRT (Rapid Response Group) groups formed in all 753 municipalities and provinces.	Times	0
8	o study and research infectious diseases (emerging and re-emerging) from time to time	Times	1
9	Workshops to develop guidelines and protocols for coordinating work between stakeholders in accordance with IHR-2005, as well as table top exercises / simulations and public health emergency exercises and simulation exercises for other airports, including TIA.	Times	2
10	To conduct operational research on the activities carried out to make the epidemic management of infectious diseases effective from time to time.	Times	1
11	To list / map the manpower and agencies that can be mobilized for Multi Hazard Emergency Risk Assessment and Epidemic Management at the Palika level and to prepare a blueprint for coordinated operations through interactive seminars with them.	Times	1
12	IHR support core capacity review	Times	1
Malaria control			
1	Involve private and professional organizations for malaria prevention, purchase various spices and other essentials required for program management and strengthen TWG, taskforce of insect-borne diseases.	Times	4
2	Unsightly coaching from technical managers as per revised guidelines for malaria, kala-azar, dengue, scrub typhus, chikungunya and emerging insect-borne diseases in government and non-government hospitals and health institutions, Monitoring on VL Assessment Survey in endemic doubtful districts.	Times	4
3	Mandatory testing of malaria patients with fever at health desks established at Point of Entry	Times	1
4	To make counseling and screening related to insect diseases compulsory in the help desks	Times	1

SN	Activity	Unit	Annual Target
5	Technical assistance from the Center for National Elephant Disease Prevention Program, Common Medicine Consumption Campaign, Morbidly Mapping Program and Free Hydroshill Surgery, Confirmatory Mapping Program in Himalayan District.	Times	1
7	"Prevalence of asymptomatic and sub-microscopic cases of malaria in Nepal: Systematic cluster random study"	Times	1
Natural disaster management			
1	Contract based Manpower for Epidemic (Lab Sample receive & dispatch, Risk Communication, Media Monitoring, and Store Equipment Management)	Person	3
2	Contract based Light vehicle driver for emergency conditions	Person	4
3	Preparation of annual program and guidance on epidemic and disease control, progress review, discussion and conducting of meetings	Times	1
4	Assistance from WHO for "National Action Plan on Health Securities, Joint External Evaluation, IHR, Research and Outbreak Investigation, Integrated Management of Adolescents and Adult Illness, Epidemic and Pandemic Preparedness and Response Course, International Health Regulations 2005, Rapid Risk Assessment, Health Sector Contingency Plan, Disease Prioritization, RRT field guidebook	Times	1
5	Development, revision, and printing materials related to various epidemic / epidemic diseases and program guidelines, standards, protocols	Times	1
6	Risk Communication MToT program for health workers to flow the information in epidemic response and management work	Times	1
Lymphatic filariasis elimination			
1	Training of trainers for National Filariasis Prevention Program, Morbidity Mapping Program (Promotion, Material Production, Publication and Distribution)	Times	1
2	Technical assistance from the Center for National Filariasis Prevention Program, Medicine Consumption Campaign, Morbidity Mapping Program and Free Hydrocephalus Surgery Program	Times	1
3	National Filariasis Prevention Program, Free Hydrocephalus Surgery Program, Planning and Review meetings for Hospital Surgeons and Focal Persons	Times	1
4	Purchase and transportation of DEC (150,000 pills) and ALB (6,00,000 pills) required for the implementation of National Filariasis Disease Prevention Program.	Times	1
Zoonotic Disease			
1	Conducting review seminars and planning with snake bite treatment centers, medical stores and organizations using rabies vaccine.	Times	3
2	Mapping and prioritization of programs related to zoonotic diseases	Times	1
3	Preparation, Interaction, Orientation and Capacity Building Programs for Federal and Provincial Health Workers and Hospitals for Zoonotic diseases including brucellosis, animal bites, toxoplasmosis, scrub typhus, leptospirosis etc.	Times	3
4	To prepare Standard Training Modules on Rabies and Snakebites and to conduct training of trainers for health workers.	Times	2
5	Preparing Roadmap for Elimination of Dog-mediated Rabies by 2030 and conducting various activities as per action plan.	Times	3
6	Identify diseases caused by rabies, to prepare pocketbook for diagnosis and use of intradermal vaccine and immunoglobin.	Times	1
7	Prevention of Prioritized zoonotic diseases, guideline regarding treatment and control, prepare SOP (production, preparation, and distribution of materials)	Times	1

SN	Activity	Unit	Annual Target
8	To identify potential pandemic and prevent the Emerging and Re-emerging Zoonotic Diseases in Nepal by researching their current interactions with humans, animals, and the environment.	Times	2
9	To prepare co-ordination mechanism related to IHR-PVS, conduct Bridging Workshop, conduct joint risk assessments related to zoonotic diseases and prepare integrated working guideline for risk communication	Times	2
10	Conduct public awarness program considering Adverse conditions in human health due to livestock, animal products and animal production materials and anti-microbial resistance, food borne zoonotic diseases	Times	3
11	Technical Assistance by program experts for effective surveillance of insect borne diseases regularly operating at province and local level.	Times	2
12	WTO Financial and Technical Assistance for the Prevention and Prevention of NTD / VBD and Zoonotic Diseases (Other)	Times	1
13	Procurement and transportation of drugs and kits (Test KIT, rk-39, Cap. Miltefosin, Inj. Liposomal Amphotericin B and Inj. Paromomycin) for diagnosis, treatment, and control of insect-borne diseases	Times	1
14	Provision ofcell culture ARV vaccine to those people who are in the risk of Rabies	Times	1
15	Purchase of diphtheria anti-toxin, rabies immunoglobulin and tetanus gamma globulin and other vaccines including syringes	Times	1
16	ASV for people suffering from venomous snake bites. (Per Poison) including purchase and transportation	Times	1
Dengue Control			
1	Surveillance of vector causing dengue , mapping, Estimate national representative dengue burden by sero-epidemiology and testing aedes mosquitos for dengue virus from the endemic area of Nepal	Times	1
2	Dengue disease transmission vector surveillance, mapping, Estimate national representative dengue burden by sero epidemiology and testing aedes mosquitos for dengue virus from the endemic area of Nepal	Times	1
Disease Surveillance and EWARS			
1	On-site coaching for EWARS sentinal site	Times	3
2	Neurocysticercosis, Brucellosis, Avian Influenza, Scrub typhus, Anthrax Study Research: Neuroimaging, symptom identification, and epidemiological study, triangulation, analysis, research, etc.	Times	2
3	Collaboration with World Health Organization for monitoring of different diseases caused by climate change and climate informed early warnings	Times	3
4	To collect and transport samples by identifying hotspot for surveillance of epidemic diseases	Times	3
5	Disease control for infectious diseases and preparedness plan, discussion meeting and interaction seminar	Times	1
6	Surveillance and research of various infectious, emerging, and re-emerging diseases. (Study / Survey / Research)	Times	3
7	Orientation on Infectious Diseases, Data Verification Program for Physicians, Healthcare, Medical Recorder at the New and Non-Operating Sentinel Site	Times	8
8	Training / Review of Medical Recorder, Medical Recorder Officer, Health Workers on Infectious Diseases Reporting through EWARS (Including Newly Appointed.	Times	5
9	EWARS Technical Working Group Meeting Operations, Processing, Analysis, Publication and Dissemination of Annual Data from Sentinel Site	Times	3
10	Surveillance System Strengthening, Interaction with Stakeholders on Surveillance of Various Infectious Diseases and Surveillance Work	Times	1

SN	Activity	Unit	Annual Target
Water quality surveillance			
1	)Interaction with stakeholders on Drinking Water Quality Monitoring (WQS) and formulation of action plans (dissemination, production, publication and distribution of materials)	Times	2
2	Monitoring, Development of Information System, Sample Collection Testing and Monitoring from Drinking Water Security Schemes for Various Infectious Diseases, Mapping for Water Quality.	Times	1
Non communicable and Mental Health			
1	Planning oorientation, review and planning seminar on non-communicable diseases and mental health with state level ministries, directorates, medical colleges, hospital affiliated health managers (entrepreneurship, employment oriented / empowerment / skill development and capacity building training)	Times	1
2	Guidelines on Non-Communicable Diseases and Mental Illness, Modification of necessary Action Plan and Register, FirmFormat Preparation and Printing	Times	2
3	Two batches of ToT on non-communicable diseases program	Times	2
4	NCDs Public Awareness Program (Hypertension, Diabetes, COPD, Cancer Days) Day Celebration	Times	4
5	)Trainer Training on Basic Mental Illness for Health Workers and Psychosocial Counseling for Nursing Staff (Materials production, printing and distribution)	Times	2
6	TOT for Child and Adolescence, mental health	Times	1
7	Interactional workshop on collaboration with theState Ministry of Social Development, Directorate of Health, State Training Center, Medical College, Hospital manager in community mental health programs	Times	1
8	Mental health program for prisoners	Times	2
9	WHO technical assistance for NCDs related programs	Times	1
10	Programs related to mental health	Times	1
11	Clinical Supervision of Mental Health Program (Monitoring, Evaluation and Program Implementation, Travel Expenses	Times	1
12	Purchase of medicines related to NCDs	Times	1
13	Purchase of free medicines of mental health	Times	1

Leprosy Control and Disability Management Section program activities:

S N	Activity	Unit	Target
1.	Printing and distribution of information materials related to skin diseases, leprosy, disability, injuries, and rehabilitation (promotion, material production, as well as publication and distribution)	Times	1
2.	Multi drug transportation and management (promotion, material production, as well as publication and distribution)	Times	3
3.	Awareness program on occasion of World Tuberculosis Day and International Day of Persons with Disabilities	Times	2
4.	Promotion and awareness program related to leprosy (promotion, material production, as well as publication and distribution	Times	1
5.	Development of information system related to disability, skin disease, injury, leprosy, and rehabilitation (promotion, material production, as well as publication and distribution)	Times	1
6.	MTOT for health workers related to disability, skin disease, injury, leprosy, and rehabilitation (promotion, material production, as well as publication and distribution)	Times	1

S N	Activity	Unit	Target
7.	Modification of disability regulations and strategies, printing of work operations guideline related to disability, printing and distribution of bulletin and annual report (promotion, material production, as well as publication and distribution)	Times	3
8.	Planning and monitoring in all seven provinces regarding leprosy post exposure prophylaxis orientation (promotion, material production, as well as publication and distribution)	Times	2
9.	Standard Operating Protocol (SOP) related to physiotherapy services, development and printing of guidelines related to medical practice and supplementary material distribution (promotion, material production, as well as publication and distribution)	Times	3
10.	Development and printing of training manual related to leprosy, disability, and rehabilitation (training)	Times	1
11.	Leprosy prevention program (case investigation, skill development, etc.) (Health service)	Times	1
12.	Grants for the national seminar of dermatology specialists (others)	Times	1

EDCD related others activities

S N	Activity	Unit	Target
1	Photocopy machine with A3 printer, scanner, laptop	Times	3
2	Furnitures and fixtures	Set	1
3	Furnitures and fixtures for health desks established at the point of entry (Furnitures fixtures for offices)	Set	10
4	Purchase of laptops, printers (Office operating devices, tools, and machinery tools)	Set	1
5	Contract based sweeper and gardener, guard for safety and security of garden and its cleanliness.	persons	3
6	To appoint health workers on contract at the established health desk (International Airport Check-points – Kathmandu, Pokhara, Bhairahawa) according to International Health regulation – 2005	persons	180
7	To conduct Risk (Hazard) assessment of established Health desk as per IHR-2005	Times	1
8	Programs related to Sickle cell anemia and Thalassemia	Times	3
9	Programs related to Occupational health	Times	1
10	Vaccine purchase program for Hajj pilgrims	Times	1
11	Technical monitoring, supervision, and identification of sick ones, (and materials production, publication, and distribution)	Times	3
12	Quarterly Work Progress Review (Promotion and Material Production and Publication and Distribution)	Times	3

Nursing and Social Security Division program activities:

S.N.	Activities	Unit	Target
1.	Print the documents developed by NSSD	Number	5
2.	Development of national infection prevention and control guideline	Number	1
3.	Develop clinical protocol.	Number	3
4.	Develop software for regular update of nurses and midwives	Number	1
5.	Continue support and update of software of Infection prevention and control training package, BipannaNagarikAusadhiUpchar , GOLS, FCHV.	Number	4
6.	Conduct community health nursing programme for maintenance of geriatric health, reproductive health, and control of communicable and non-communicable disease and mental health	Times	2

S.N.	Activities	Unit	Target
7.	National review of school heath and nursing programme	Times	2
8.	Conduct policy dialogue in federal and provincial level bases on geriatric health services	Times	5
9.	Conduct leadership and management training in blended modality	Times	2
10.	Develop capacity development training of medical officer to care geriatric citizens	persons	60
11.	Conduct onsite coaching and mentoring programme for quality nursing services	Times	5
12.	Review of geriatric services	Times	1
13.	Conduct policy dialogue in geriatric health care services	Times	1
14.	Review of OCMCs services with care centers hospitals	Times	6
15.	Conduct interaction programme related to OCMC with local level	Times	3
16.	Orientation of GBV clinical protocol	Times	5
17.	Orientation of SSU services.	Times	3
18.	Orientation of national documents for teachers working in nursing college	Times	8
19.	Conduct a training in blended modality for health care providers for care of geriatric population	Times	4
20.	Conduct workshop and interaction with stakeholders on effectiveness of BipanaNagarikAusadhiUpachar program	Times	1
21.	Celebrate and interact Nursing, Midwives, Senior citizen and FCHV days	Times	3
22.	Regular supervision and monitoring of approved and newly approved hospital	Times	99
23.	Integrated supervision of health institutions that providing SSU, OCMC, Geriatric care services.	Times	20
24.	Reimbursement and payment of fund quarterly to the hospitals that is listed under impoverished citizen treatment scheme	Times	3

Curative Service Division: (1) Hospital Services monitoring and strengthening program activities:

SN	Activities	Unit	Targets
1	Patient Safety Road Map	Times	1
2	Clinical Update Program for Doctors	Times	7
3	Orientation on Different Software	Times	3
4	EHR System for Federal and Provincial Hospitals	Times	8
5	Private Hospital Monitoring for Registration, Renewal and Upgrading	Times	30
6	Clinical Audit Program Implementation	Times	5
7	Telemedicine Service Strengthening	Times	1

Curative Service Division: (2) Basic & Emergency Management Section program activities:

SN	Activities	Unit	Targets
1	UHC Advocacy Program	Times	4
2	Orientation of EHS and STP	Times	1
3	Orientation of BHS and STP	Times	4
4	Monitoring of Basic Hospital Pharmacy	Times	15
5	MTOT of Social Audit Guideline	Times	1

Curative Services Division: (3) IENT and Oral Health Section program activities:

SN	Activities	Unit	Targets
1	Protocols of Eye, ENT and Oral Health departments of Hospitals	Times	1
2	STP for Orthodontics and Prosthodontics and orthodontics	Times	1
3	Orientation of Health Workers on EYE, ENT and Oral Health	Times	2
4	Artificial Dental Camp for Elderly People	Times	2

National Tuberculosis Control Center program activities:

SN	Activities	Unit	Targets
1	Procurement of laptop and printer	Pcs	4
2	Construction of Wall of NTCC	Times	1
3	Construction of store warehouse	Times	1
4	Construction of parking shade	Times	1
5	Joining CC camera	Times	1
6	GIS Mapping presentation and visualization of TB data	Times	1
7	Micro planning activities for TB free initiatives	Times	2
8	Preparation of aDSM Guideline	Times	1
9	RDQA Training	Times	7
10	Procurement of N95 Mask and personal protection equipment	Times	1
11	Measurement of MSS of TB treatment centers, sub centers etc हरु लगायतको न्यूनतम मापदण्ड मापन	Times	1
12	Expansion of NTPMIS	Times	1
13	Conduction of DR survey related activities	Times	2
14	Commemoration of World TB day	Times	1
15	Conditional grant to Kalimati Chest Hospital	Times	3
16	Procurement of Consumable and Chemical for sputum Microscopy	Times	1
17	Procurement of Falcon Tube	Pieces	300000
18	Procurement of HR for National Reference Laboratory	Times	9
19	Procurement of Lab consumable for DR Survey	Times	1
20	Procurement of Consumable and Chemical for C/DST	Times	1
21	Procurement of Digital Xray Film	Pieces	12000
22	Procurement of First Line Drug TB	Times	1
23	Procurement of Second Line Drug TB	Times	1
24	TB Training (Medical Officer, Logistic lab etc.)	Times	7
25	Procurement of Cartridge for GeneXpert Machine	Pieces	156300
26	Courier service for Culture /DST test	Times	5000
27	Supervision to TB Treatment Center	Times	45
28	TB Trainer's Training	Times	2
29	National PME Workshop	Times	3
30	Printing of Annual Report and TB RR tools	Times	1

National AIDS and STI Control Center program activities:

SN	Activities	Unit	Target
1	Procurement of ARV	Times	1
2	Procurement of STI/OI	Times	3
3	Medicine Procurement of Hepatitis	Times	3
4	Purchase of reagents including CD4 viral load and HCV viral load	Times	3
5	Purchase of test kits and related items required for HIV diagnosis	Times	2
6	Procurement of necessary test kits for the diagnosis of hepatitis C.	Times	1
7	Treatment Instructor Training on Hepatitis B and Cfor Physicians	Times	2
8	CMT MTOT	Times	1
9	Logistic management MToT	Times	1
10	Training for health workers on HIV and TV and related human rights, medical ethics	Times	1
11	National level review of HIV services and PMTCT programs	Times	1
12	STI training	Times	3

SN	Activities	Unit	Target
13	Training on PMTCT	Times	1
15	Logistics training for ART / PMTCT / STI / OI and store staff	Times	1
14	One day interaction with private hospitals on PMTCT reporting	Times	1
16	Annual logistics data review	Times	1
17	WAD Celebration	Times	1
18	Public awareness program on HIV and STI for adolescents	Times	1
19	Communication Program on Prevention of HIV / AIDS, Hepatitis and Sexually Transmitted Diseases (Production of Health Promotion Message Materials)	Times	12
20	Printing of revised HMIS tools	Times	1
21	Incorporate HIV-related stigma and discrimination into health education and school curriculum in coordination with the Curriculum Development Center.	Times	1
22	dhis-2 Tracker Mobile Health Biometric Training to Health Worker	Times	10
23	Monitoring	Times	24

National Health Training Center program activities:

SN	Activities	Unit	Target
Training Material Development			
1	Development of various new training materials and field tests	Times	5
2	Health training need identification	Times	1
3	Workshops on training strategy, training material development procedures and curriculum development in all the states	Times	7
4	To prepare and use the profile of health training materials and distribute it at the state and local level	Times	1
5	Learning resources packages development and field testing in coordination and collaboration with various partner organizations	Number	4
6	Revise / update and prepare learning resource packages as required (as demanded by the Center and the branches).	Number	7
7	Software system development for evaluation of post-training effectiveness and LRP backups	Times	1
Training Accreditation and Regulation			
1	FP, MLP, OTTM, BLS, SBA and other training follow up enhancement (FEP) programs	District	7
2	Site monitoring program to accreditation, renew and regulate the operation of sites conducting health related training.	Number	6
3	To prepare Follow up and Enhancement (FEP) tool for various training programs	Number	1
4	Prepare a checklist for various clinical training site accreditation	Number	1
5	Study on post training utilization of competencies of implant and VIA / thermal coagulation trainees and outcome on service delivery	Times	1
6	A study on Training outcome among ECCT trained doctors and nurses working in different hospitals after COVID-19 emergence	Times	1
7	Interaction program with stakeholders	Times	1
8	Various clinical training site development, strengthening and refinement (materials required for the site, hall, furniture, laptop, anatomical model and other support)	Number	5
9	SSL certification for TIMS data security	Times	1
10	Skill development and capacity building program for the NHTC personnel	Times	1
11	Organization of planning, preparation, meetings and other activities related to Continuous Professional Development (CPD)	Number	4
12	Programs to support students for study work including internship / orientation	Number	4
13	Preparation and printing of annual report	Times	1

SN	Activities	Unit	Target
14	Quality monitoring and support of ongoing training activities	Times	12
15	Program to prepare online Pre and Post Questionnaire for Medico Legal Training at the TUTH Institute and to update and host the Website.	Times	1
16	Seminar on review, action plan with various clinical training sites of the seven province	Times	7
Skill Development			
1	Advanced SBA Training	Person	4
2	Pediatric Nursing Training (PNC)	Person	20
3	Diploma in Biomechanical Equipment Engineering (DBEE) Training to 24 students with continuation of previous FY 2077/78	Times	1
4	Induction training for newly recruited health officers	Group	3
5	Medico-Legal Training on Post Mortem Examination and Clinical Forensic Medicine	Times	3
6	Operation Theater and Techniques Management Training (OTTM) for Nursing Staff	Times	1
7	Comprehensive New Born Care Training for Doctors / Nursing Staff (CNBC-II & III)	Times	3
8	Critical Care Training for Nursing Staff (ICU / CCU)	Times	3
9	ToT on Occupational Health and Safety for Doctors / Health Workers / Nursing Staff	Times	2
10	ToT on Antimicrobial Resistance Prevention for Doctors / Health Workers	Times	4
11	CTS Training to trainers of various trainings	Times	2
12	Minilap / Vasectomy training for doctors / nurses	Times	6
13	Anesthesia Assistant Course (AAC) Training for HA / Staff Nurses	Person	5
14	ToT on the role of health workers in gender based violence	Times	1
15	ToT on Burn Care Management for Doctors / Health Workers / Nursing Staff	Times	3
16	ToT on Primary Emergency Care for Doctors / Health Workers / Nursing Staff	Times	3
17	ToT on VIA / Cold Coagulation for Doctors and Nursing Staffs	Times	4
18	Refresher training to the trainers of various trainings	Times	4
19	ToT on Infection Prevention Training for Doctors / Nursing Staff / Health Workers	Times	1
20	SAS ToT for MD Educator	Times	1
21	Basic Life Support Skill Training for Health Workers	Times	4
22	Second Trimester Abortion Care Training for ObGyan / MDPG	Person	5
23	Essential Critical Care Management Training	Times	3
24	Basic psychosocial counseling training for nurses and health workers working in OCMC, mental hospitals etc.	Times	1
25	ToT on Laboratory Bio-Safety and Biosecurity for health workers from health laboratories	Times	1
26	Hemodialysis training for nursing and health workers	Times	3
27	Pre-Hospital Care (Emergency Medical Technician / Dispatcher) Training for Health Workers / Ambulance Drivers	Times	1
28	TOT on Package of Essential Non Communicable Diseases	Times	2
Bio-Medical Equipment Engineering			
1	User Maintenance of X-ray Equipment Training	Times	1
2	User maintenance of lab equipment training	Times	1
3	BMET refresher training	Times	1

National Health Education Information and Communication Center program activities:

SN	Activities	Unit	Targets
1	Broadcasting and Airing of the messages regarding Smoking and Tobacco product control through television and FM	Times	4
2	Airing of health messages and public health radio program through Radio Nepal.	Times	4
3	Publication of health messages, information and press release in national newspapers.	Times	44
4	Dissemination of health news, information or messages through website, FaceBook, YouTube, twitter, apps including social media	Times	4
5	Communicable and epidemic disease control related communication program and daily newspaper monitoring program.	Times	4
6	Health awareness and communication program for differently able people	Times	4
7	Ear/Nose/Throat related health awareness and communication program.	Times	4
8	Communication program on smoking and tobacco control and regulation.	Times	4
9	Communication program on non-communicable disease prevention and control.	Times	4
10	Federal health promotion strategy development and advocacy	Times	4
11	Health promoting school program conduction	Times	4
12	AMR awareness and orientation health promotion program	Times	6
13	Health awareness and communication program on brain death, kidney and organ donation	Times	4
14	Advocacy and strategic communication on occupational, environmental health and Air pollution, climate change	Times	12
15	Health awareness and communication program on fuel emission and air pollution	Times	4
16	Health education and communication program on IMNCI, Immunization, Nutrition, Diarrheal diseases, pneumonia etc.	Times	4
17	Broadcasting of health messages, public health dialogue (Janaswasthya Bahas) and Jivan Chakra through Nepal television	Times	4
18	Health message exhibition on assembly, event, sports, health camp musical and cultural program	Times	4
19	Health education and communication program on accident and physical injuries	Times	4
20	Health promotion program for Samriddha Nepal	Times	4
21	Development of digital technology for health promotion	Times	4
22	Health education and communication program for marginalized and deprived community or group	Times	4
23	Health awareness and communication program on mental health	Times	4
24	Health awareness and communication program on birth defect	Times	4
25	Awareness and communication program on family planning, safe motherhood and neonatal health.	Times	4
26	Demonstration of information and messages on online media	Times	4
27	Awareness and communication program on family planning, safe motherhood, neonatal and adolescent health.	Times	4
28	Promotion of family planning and PPIUCD through inter personal communication for hard to reach group along with media mobilization for social behavior change.	Times	4
29	Broadcasting of health related messages and information through National Televisions.	Times	4
30	Airing and broadcasting of disease outbreak and epidemic related messages.	Times	4
31	Monitoring and facilitation for effective implementation of health promotion activities at provincial and local level.	Times	70

National Public Health Laboratory program activities:

SN	Activities	Unit	Targets
1	Construction of Laboratory building for curative center as per master plan	Number	1
2	Procurement of Gene Sequencing Machine	Times	1
3	Procurement of small, medium Machine	Number	3
4	Procurement of machine for FlourescenceInsitu Hybridization (FISH) for test	Times	1
5	Procurement of machine/biopsy for examination of cancer & upgradation of lab in central level hospital	Times	2
6	Procurement of Software for Integrated Management to All blood transfusion Services	Times	1
7	Procurement of Software for Digitization to Internal Administration	Times	1
8	Software Upgrade & Update	Times	2
9	AMC & Maintenance of Heavy Equipment machine	Times	7
10	AMC & Maintenance of BSL lab and Biosafety Cabinet	Times	2
11	Management program for BSL III lab conduction	Times	3
12	Procurement of Server & Upgrade	Times	3
13	Training on Blood Component Preparation	Times	1
14	Management Program for AMR/JE/Measles/Rubella/Polio/Rota Virus	Times	3
15	Management & Expansion of Influenza Surveillance to Province Level	Times	3
16	Procurement of Kits & Chemical for Sickle Cell Anemia Thalassemia Cancer	Times	3
17	Refresher training on lab based waste management for federal & district level hospital	Times	1
18	Providing different service, integrated team mobilization during epidemic outbreak	Times	3
19	Viral load examination of Hep B & C	Times	3
20	Procurement of essential kits, chemical & reagents for HLA including regular lab examination	Times	3
21	Conduction of ISO, accreditation & quality control	Times	2
22	Overall management of Quality control of public & private laboratory	Times	3
23	Establishment of Bioinformatics Unit in NPHL	Number	1
24	Procurement of Kits & Chemical for lab testing of non-communicable diseases	Times	3
25	Procurement of reagents for getting 50 % discount in lab/health examination for disadvantage & vulnerable group like old aged people, differently able, Jana Andolan Ghaite & Kidney patient	Times	3
26	Procurement of essential kits, chemical & reagents for molecular lab examination	Times	3
27	Research activities of NPHL for communicable & non communicable diseases	Times	3
28	Conduction of ToT for quality control at NPHL & PPHL level	Times	14
29	Orientation of laboratory related different software system	Times	30
30	Conduction of awareness programme on laboratory service	Times	3
31	Procurement of essential kits, chemical & reagents for molecular lab examination	Times	3

Annex 2: Program Targets for FY 2078/79

SN	Activities	Unit	Targets
Management Division - All Sections program activities:			
1	Works including apron, parking, belt, wall and landscape preparation for the newly constructed central medical store.	Building	1
2	Maintenance and improvement of physical structures within the department premises	Times	3
3	To complete the fence and fence wall for the Central Store Pathlaiya	Times	1
4	Performing plumbing related works within the department premises	Times	4
5	Performing electrical related works within the department premises	Times	4
6	Continuation of payment for construction of modern central vaccine stores	Building	1
7	Printing and distribution of program operation guidelines for state and local levels	Times	1
8	Payment of internet service connected to HMRES branch	Times	1
9	Printed HMIS / LMIS forms for federal and various hospitals as well as buffer stocks	Times	1
10	Vaccine program metadata analysis since 2051	Times	2
11	Conduct ICD10 program to strengthen medical record information system	Times	1
12	Workshop on Interaction and Modality Preparation with Stakeholders on ICD11 Implementation	Times	2
13	Training of target population projection program according to local level	Times	2
14	Roadmap discussion program of HMIS at state level	Times	2
15	Targeted population projection program according to local level	Times	1
16	Orientation of modified HMRES tools for state level	Times	4
17	Prepare standard and interoperability guidelines to be adopted while operating health information related and ready to use health information related software as well as printing and distribution.	Times	3
18	Development of interoperability of hospital electronic records report	Times	3
19	Activities for linking private hospital data to DHIS through application program interface	Times	1
20	Operating expenses for monthly, quarterly, half-yearly, annual and other regular meetings of the Department of Health Services	Times	4
21	HMRES and DHRES training follow-up for health workers working in prisons and other institutions.	Times	3
22	Data Verification and Validation	Times	4
23	Roadmap finalization of IHMIS	Times	2
24	Training and follow-up for officials related to ELMIS	Times	4
25	Gender Based Cascade Assessment of National Programs	Times	2
26	Integrated review of HMIS / ELMIS as well as HIS program	Times	2
27	Material Assistance for Dashboard Extension in 15 Municipalities of Province No. 2, Karnali and Far Western Province	Event	15
28	Preparation and operation of dashboard of health service progress in 15 more municipalities of Province No. 2, Karnali and Far Western Province.	Times	4
29	Discussion on records and reports of federal and other hospitals	Times	2
30	Update HMRES records and report forms, guidelines and health indicators	Times	2
31	Antar Pradesh Exchange Visit and Observation of Medical Recorder	Person	60
32	Coordination program with the concerned ministry, department and prisons for information management of prison health services	Times	1
33	IMU system consolidation and operation	Times	3
34	Seminar on quantification of health products	Times	1

SN	Activities	Unit	Targets
35	Statistical documentation and report strengthening program of various public health programs including vaccination	Times	1
36	Assistance and coordination from the federal level in the activities conducted in the state and local level reviews	Times	4
37	HMRES and DHRS follow-up and onsite coaching for hospital staff including establishments, central hospitals, teaching hospitals and private hospitals.	Times	4
38	MTOT operation of ICD11 program	Times	1
39	Training on Data Management, Analysis and Use - PHAT_	Times	10
40	Preparation and printing of annual report	Times	3
41	Field work related to integrated online health information management and DHRES2	Times	4
42	Onsite coaching mentoring and micro teaching for quality health facts in the hospital	Times	3
43	Health Information Management and Analysis for Data Managers - R / GRES / STA Training	Times	2
44	Waste management and sanitation within department premises, including continuity from third parties	Person	4
45	For the implementation of Healthy Waste Management Standards and Procedures 2077 and for drinking water, sanitation and hygiene with stakeholders at state and local level including onsite coaching and private interaction.	Times	2
46	Onsite coaching in hospitals to strengthen health related waste management	Times	24
47	Preparation of procedures for the construction of model public health institutions for the management of health waste in every state and for the provision of drinking water, sanitation and hygiene.	Times	2
48	Preparation of roadmap on waste management and drinking water, sanitation and hygiene of health institutions	Times	1
49	Preparation of materials related to sanitary waste management, drinking water sanitation, hygiene and other environmental health	Times	3
50	Coordinating activities with stakeholders for the production of audio and video materials on topics related to sanitary waste management, drinking water sanitation, hygiene and other environmental health.	Times	3
51	Training and follow-up for HIV related officials	Times	4
52	Update details of physical infrastructure of health sector and publication of booklet	Times	4
53	Specification Bank, Plums Update and Operations	Times	4
54	Expenses related to bill, advertisement and publication of information	Event	2
55	Procurement of Health Materials Master Plan Finalization Seminar	Times	1
56	Technical testing sub-committee meeting operating expenses	Times	2
57	Purchasing old and new file management and operating expenses	Times	2
58	Integrated Annual Procurement Plan Monitoring Committee Meeting Operating Expenses	Times	8
59	Revision and printing of Pharmaceutical Goods Procurement and Supply Management Facilitation Booklet 2074	Times	2
60	Meeting of committee including bid evaluation committee	Times	2
61	Drug and equipment quality testing	Times	1
62	Medicines, vaccines and vaccine-related materials, tools, ingredients. Including transportation and redistribution	Times	4
63	Conducting meeting of organ transplant coordination committee and construction of web site	Times	24

SN	Activities	Unit	Targets
64	Payment of taxes including VAT on donor assistance	Times	4
65	Conducting necessary meetings and workshops for the work related to the health sector	Times	12
66	Technical assistance for timely implementation of Cold Chain Equipment (CCEOP) plan connectivity, management and monitoring functionality received through UNICEF	Times	20
67	Capacity building of other staff including vaccine management	Times	2
68	Development and implementation of National Vaccine and Cold Chain Management Action Plan, multilateral budget	Times	4
69	IP of effective vaccine management. Preparation and EVMA Technical assistance for improvement plan	Times	4
70	Orientation of Effective Vaccine Management to Healthcare Employees Receiving Cold Chain Equipment through CCEOP - 1 in-charge and 1 Cold Chain Handler from each healthcare organization	Times	3
71	Review of annual vaccination and cold chain management work at national and state level	Times	8
72	Capacity strengthening of NLWG	Times	4
73	Past balance payment of telemedicine service to Nepal Telecom	Times	1

ANNEX 3: Raw data and Indicators FY 2077-78

Total number of Public and Non-public Health Facilities, Fiscal year 2077/78

Organization unit	Public health facilities								Non-public health facilities			Total health facilites (public + non-public)	Outreach clinics-conducted	Immuniza-tion clinics-conducted	Fchvs report submitted
	Hospital	Primary health centre	Health post	Urban health centre	Community health unit	Basic health service centre	Other health facility	Total public health facility	Hospital	Other private health facility	Total non-public health facility				
Nepal	201	189	3794	557	690	1136	113	6680	470	1612	2082	8762	9227	16615	47235
1 Province 1	31	39	639	85	101	208	7	1110	74	67	141	1251	1741	2818	7815
101 TAPLEJUNG	1	2	50	1	15	7		76	2	2	4	80	124	149	612
102 SANKHUWASABHA	2	4	33	12	12	29		92	2	3	5	97	61	191	282
103 SOLUKHUMBU	3	2	31		8	3		47	2		2	49	53	85	275
104 OKHALDHUNGA	1	1	54	3		6	1	66	1	2	3	69	151	175	650
105 KHOTANG	1	2	73	5	3	1		85	1		1	86	177	239	867
106 BHOJPUR	1	3	60	3	3	7		77	1	3	4	81	152	201	541
107 DHANKUTA	1	2	35	7	10	4		59	2	3	5	64	92	153	336
108 TERHATHUM	3	2	27	2				34			0	34	59	124	374
109 PANCHTHAR	2	1	40	2	12	6	1	64	2		2	66	137	220	368
110 ILAM	1	4	44	5	11	4	1	70		2	2	72	180	204	864
111 JHAPA	3	6	42	16	13	43	3	126	26	26	52	178	103	259	511
112 MORANG	6	5	59	7	2	54	1	134	27	14	41	175	186	350	691
113 SUNSARI	3	4	48	9	9	35		108	5	7	12	120	114	260	1029
114 UDAYAPUR	3	1	43	13	3	9		72	3	5	8	80	152	208	415
Madhesh Pradesh	16	33	743	32	17	183	16	1040	42	130	172	1212	1659	3657	7163
201 SAPTARI	3	4	111	5		20		143	3	4	7	150	328	478	1015
202 SIRAHA	3	4	103	3	1	14	1	129	10	52	62	191	222	481	928
203 DHANUSA	1	5	98	5	6	28	4	147	6	19	25	172	206	570	859
204 MAHOTTARI	2	4	71	3	1	22	3	106	3	11	14	120	149	358	639
205 SARLAHI	1	5	94	1	3	46	1	151	3	10	13	164	167	471	1256
206 RAUTAHAT	2	3	93	3	1	21	2	125	3	4	7	132	222	434	883
207 BARA	1	5	94	7	3	29	2	141	5	13	18	159	186	516	882
208 PARSA	3	3	79	5	2	3	3	98	9	17	26	124	179	349	701
Bagmati Province	63	36	638	175	165	164	35	1276	219	1187	1406	2682	1387	2406	8104
301 DOLAKHA	5	1	52	5	19	12	1	95	5	4	9	104	102	151	1017
302 SINDHUPALCHOK	4	3	74	7	23	14	4	129	3	7	10	139	147	246	667
303 RASUWA	1	1	17		11		1	31		2	2	33	22	53	237
304 DHADING	4	2	46	1	21	31	5	110	6	8	14	124	103	229	448
305 NUWAKOT	1	3	64	4	12	3		87	5	8	13	100	121	208	961
306 KATHMANDU	23	6	58	64		8	7	166	110	833	943	1109	77	203	1078
307 BHAKTAPUR	3		19	10	2		6	40	15	31	46	86	15	51	255
308 LALITPUR	5	3	38	7	3	12	3	71	23	186	209	280	66	130	456
309 KAVREPALANCHOK	4	4	88	14	14	18	2	144	9	28	37	181	262	338	930
310 RAMECHHAP	3	3	51	17	14	3		91	3	3	6	97	121	185	688
311 SINDHULI	2	4	51	11	26	5	2	101	4	11	15	116	136	204	479
312 MAKWANPUR	3	3	43	16	15	26	1	107	5	5	10	117	159	217	452
313 CHITAWAN	5	3	37	19	5	32	3	104	31	61	92	196	56	191	436
Gandaki Province	19	25	486	71	73	66	16	756	44	52	96	852	1023	1798	5662

401 GORKHA	2	3	65	4	10	8	3	95	1	7	8	103	169	250	603
402 MANANG	1		13		2			16			0	16	3	13	107
403 MUSTANG	1	1	15					17			0	17	15	25	127
404 MYAGDI	1	1	39	4	12			57		1	1	58	58	90	369
405 KASKI	4	4	43	13			9	73	21	7	28	101	97	245	1013
406 LAMJUNG	2	2	57	15	12	8	2	98	5	5	10	108	131	205	667
407 TANAHU	3	2	46	11	17	37		116	7	10	17	133	128	229	429
408 NAWALPARASI EAST		4	34	2	2	1		43	4	14	18	61	59	149	359
409 SYANGJA	3	3	64	14	4	4	1	93	4	2	6	99	147	241	606
410 PARBAT	1	2	52	4	9	4		72		3	3	75	108	182	484
411 BAGLUNG	1	3	58	4	5	4	1	76	2	3	5	81	108	169	898
Lumbini Province	30	28	569	102	103	168	20	1020	58	110	168	1188	1515	2827	8831
501 RUKUM EAST	1	1	15		2			19			0	19	32	53	126
502 ROLPA	2	2	48	5	11	20		88	3	1	4	92	148	213	449
503 PYUTHAN	1	2	46	3	4	11	4	71		3	3	74	166	271	443
504 GULMI	1	4	76	7	17	7	2	114	2	3	5	119	209	325	966
505 ARGHAKHANCHI	1	2	39	1	4	9		56	1	9	10	66	65	161	813
506 PALPA	2	2	62	9	18	4	3	100	3	4	7	107	164	231	643
507 NAWALPARASI WEST	2	1	37	4	3	16		63	5	9	14	77	105	171	355
508 RUPANDEHI	5	5	64	14	6	24	6	124	15	28	43	167	128	292	1532
509 KAPILBASTU	5	2	72	6	5	9	4	103	4	9	13	116	181	399	1048
510 DANG	4	2	36	33	27	14	1	117	12	11	23	140	44	203	878
511 BANKE	4	3	44	8	1	25		85	13	27	40	125	106	291	756
512 BARDIYA	2	2	30	12	5	29		80		6	6	86	167	217	822
Karnali Province	27	12	342	18	110	240	6	755	14	43	57	812	708	1365	3824
601 DOLPA	1		23		6	6		36			0	36	52	68	129
602 MUGU	2	1	24		10	20		57			0	57	30	88	142
603 HUMLA	2		26		16	8		52	1		1	53	26	67	165
604 JUMLA	1	1	29	1	4	2	1	39			0	39	74	93	454
605 KALIKOT	3	1	29		9	45	1	88		2	2	90	25	114	278
606 DAILEKH	2	2	56	4	12	20	1	97		8	8	105	185	257	796
607 JAJARKOT	3	3	33		14	39	1	93			0	93	51	137	258
608 RUKUM WEST	8	1	25	1	1	36	1	73	4	2	6	79	42	104	210
609 SALYAN	1	1	48	4	7	31		92	4		4	96	132	231	422
610 SURKHET	4	2	49	8	31	33	1	128	5	31	36	164	91	206	970
Sudurpashchim Province	15	16	377	74	121	107	13	723	19	23	42	765	1194	1744	5836
701 BAJURA	1	1	26	9	10	16	1	64			0	64	25	112	271
702 BAJHANG	1	2	45	4	22	15	1	90	1		1	91	70	141	415
703 DARCHULA	2		40	1	3	10		56			0	56	127	143	369
704 BAITADI	1	2	65	8	12	6	1	95		1	1	96	272	326	817
705 DADELDHURA	2		24		4	15	9	54		1	1	55	65	100	446
706 DOTI	2	2	50	4	33	9		100	3	4	7	107	188	248	662
707 ACHHAM	1	2	72	5	10	8		98	1	2	3	101	202	241	933
708 KAILALI	3	4	37	22	20	10		96	13	6	19	115	197	290	1157
709 KANCHANPUR	2	3	18	21	7	18	1	70	1	9	10	80	48	143	766

Source: IHIMS/DoHS

Reporting coverge of Public and Non-public Health Facilities, Fiscal year 2077/78

Organisation unit	Hospital	PHCC	HP	UHC	CHU	Public HFs	Non public	PHC/ ORC	EPI clinic	FCHV
Nepal	46.5	100	99.9	100	100	100	86.7	87.5	90.6	89.5
Province 1	85.1	100	99.9	100	100	100	100	91.4	94.5	92.8
101 TAPLEJUNG	100	100	98.3	100	95.3	97.9	100	87.9	88.3	88.5
102 SANKHUWASABHA	63.9	100	99.8	99.5	99.2	100	100	93.6	95.9	96.6
103 SOLUKHUMBU	70.8	100	100	100	100	100		88.6	95.3	92
104 OKHALDHUNGA	72.9	100	99.8	100		100		98.8	100	99.2
105 KHOTANG	95.8	100	99.4	100	100	99.5		95.7	98	97.5
106 BHOJPUR	56.7	100	99.7	100	100	100		97.8	100	100
107 DHANKUTA	100	100	100	100	100	100	100	97.5	100	91.3
108 TERHATHUM	77.1	100	100	100		100		95.8	98.3	96
109 PANCHTHAR	75	100	99.6	100	100	100		95.9	99.1	96.6
110 ILAM	100	100	100	98.3	100	99.6	100	99	100	100
111 JHAPA	83.7	100	100	100	100	100	98.3	81.6	86.8	84.8
112 MORANG	95.2	100	100	100	100	100	100	84.4	88.8	85.2
113 SUNSARI	92.4	100	100	100	100	100	100	96.1	96.8	98.4
114 UDAYAPUR	67.6	100	100	100	100	100	100	82.3	88.2	83.9
Madhesh Pradesh	44.6	99.5	99.7	100	100	100	100	95.5	99.1	97.9
201 SAPTARI	60.4	100	99.8	100		100	100	100	99.6	100
202 SIRAHA	26.1	100	99.1	97.9	100	100	100	93.2	93.6	93.5
203 DHANUSA	42	100	99.9	100	100	100	90	96.4	99.6	97.5
204 MAHOTTARI	27.5	100	100	100	100	100	100	92.4	95.6	97.7
205 SARLAHI	77.1	100	99.6	100	100	100	100	100	100	100
206 RAUTAHAT	70.8	97.2	99.3	100		100	100	92.2	99	96.8
207 BARA	14.9	98.3	99.8	97.5	100	100	100	95.2	97.1	96
208 PARSA	97.8	100	100	100	100	100	100	93.2	100	96.3
Bagmati Province	31.5	100	100	98.6	100	100	62	62.9	66.7	64
301 DOLAKHA	27.6	100	100	100	100	100		91.8	92.3	92.2
302 SINDHUPALCHOK	70.4	100	100	100	100	100	100	91.2	93.8	92
303 RASUWA	100	100	100		98.5	99.4	66.7	94.5	97.2	96.6
304 DHADING	52.3	100	100	100	100	100	100	95.5	98	96.8
305 NUWAKOT	25	100	99.5	100	100	100	100	84.7	89.3	87.9
306 KATHMANDU	23.4	100	99	92.7		97.2	27.1	18.1	22.8	19
307 BHAKTAPUR	75.6	100	100	99.1	66.7	100		85.2	100	100
308 LALITPUR	42	100	99.8	99	95.8	100	41.3	57.4	62.4	57.9
309 KAVREPALANCHOK	67.5	100	99.2	100	100	100		94.3	96	94.6
310 RAMECHHAP	53.6	100	98.9	100	100	100	83.3	96.1	95.5	96.2
311 SINDHULI	83.3	100	100	100	100	100		88.7	97.5	88
312 MAKWANPUR	28.1	100	100	100	100	100	66.7	95.9	96.7	97.2
313 CHITAWAN	42.4	100	99.5	100	100	100	100	75.8	78.6	78.3
Gandaki Province	90.9	99.7	99.7	100	100	100	97.5	95.7	97.6	96.4
401 GORKHA	100	100	99.9	100	100	100	83.3	97.6	97.8	98.4
402 MANANG	100		100		100	100		98.3	99	99.4
403 MUSTANG	100	91.7	97.2			96.9		94.1	96.6	92.2
404 MYAGDI	100	100	99.4	100	100	100	100	97.8	100	100
405 KASKI	95.7	100	100	99.6		99.9	100	78.6	86.9	81.9
406 LAMJUNG	95.2	100	100	100	100	100	100	100	100	100
407 TANAHU	79.5	100	100	100	100	100	88.9	96.2	97.8	97.6
408 NAWALPARASI EAST	75.8	100	99.3	100	100	100	100	98.9	99.5	99.3
409 SYANGJA	95.8	100	99.6	100	97.9	99.6	100	98.9	99.1	99.5
410 PARBAT	100	100	100	100	100	100	100	99.2	99.6	97
411 BAGLUNG	95	100	99.9	100		100	100	97	99.9	96.6
Lumbini Province	93	99.4	99.9	100	100	100	50.8	100	100	100
501 RUKUM EAST	100	100	100		100	100		100	100	99

Organisation unit	Hospital	PHCC	HP	UHC	CHU	Public HFs	Non public	PHC/ ORC	EPI clinic	FCHV
502 ROLPA	100	100	100	100	100	100	50	99.7	100	100
503 PYUTHAN	100	100	100	100	100	100	50	100	100	100
504 GULMI	100	100	99.9	100	100	100	8.3	98.7	100	100
505 ARGHAKHANCHI	91.7	100	100	100	100	100		100	100	100
506 PALPA	98.6	95.8	99.5	100	100	100		100	100	100
507 NAWALPARASI WEST	100	100	100	100	100	100	70.8	93.6	100	100
508 RUPANDEHI	78.5	98.3	100	100	100	99.5	40	100	98.2	100
509 KAPILBASTU	100	100	99.9	100	100	99.9	84.7	97.4	100	97.9
510 DANG	71.9	100	99.8	100	100	100	37.5	100	100	100
511 BANKE	94.9	100	100	100	100	100	11.1	100	100	99.9
512 BARDIYA	100	100	100	100	100	100	69.4	100	100	100
Karnali Province	94.3	100	100	100	100	100	100	98	98.5	100
601 DOLPA	100		100		100	100		100	99.4	100
602 MUGU	100	100	100		100	100		91.8	98.6	95.2
603 HUMLA	100		100		100	100		93.5	100	97.6
604 JUMLA	100	100	100		100	100		95.1	97.5	93.8
605 KALIKOT	77.8	100	100		100	100		98.4	99.4	98.1
606 DAILEKH	91.7	100	100	100	100	100	100	95.3	95.5	96.6
607 JAJARKOT	50	100	100		100	100		97.6	100	100
608 RUKUM WEST	100	100	100	100		100		100	100	100
609 SALYAN	100	100	100	100	100	100		99.2	80.6	100
610 SURKHET	94.6	100	100	100	100	100		100	100	100
Sudurpashchim Province	90.3	99.5	100	100	100	100	100	97.6	100	98.8
701 BAJURA	100	100	100	100	100	100		100	100	100
702 BAJHANG	45.8	100	100	100	100	100		97	98.6	96.7
703 DARCHULA	100		100	100	100	100		95.5	100	95.8
704 BAITADI	50	100	100	100	100	100		100	100	100
705 DADELDHURA	86.1		100	100	100	100		88.8	99.2	97.3
706 DOTI	100	100	100	100	100	100	100	100	99.8	100
707 ACHHAM	100	100	100	100	100	100		98.4	100	98.9
708 KAILALI	100	97.9	99.8	100	99.6	100	100	92.3	100	96.5
709 KANCHANPUR	52.1	100	100	100	100	100	100	94.9	100	95.1

Major indicaors of Immunization services, FY 2077/78

Indicator	EPI Coverage (% of children under one year Immunized)												% of children 12-23 month	
		DPT-Hep B-Hib			OPV			PCV			IPV	MR	MR	JE
	BCG	1st Dose	2nd Dose	3rd Dose	1st Dose	2nd Dose	3rd Dose	1st Dose	2nd Dose	3rd Dose		1st Dose	2nd Dose	
Nepal	90.7	88.2	86.6	87.3	83.8	81.7	81.6	86.7	84.6	80.2	81.6	82.3	80.9	84.4
Province 1	78.9	78.5	77.5	79.4	75.1	73.7	74.7	74.4	72.7	72.2	77.1	75.5	77.3	80.2
TAPLEJUNG	72.2	71	71.1	72.3	71.1	70.8	72.9	71.1	71.4	71.5	71.6	72.2	76.7	80.1
SANKHUWASABHA	71.5	72	75.9	79.9	70	74.3	77.2	71.8	75.6	75.4	76.9	75.3	82.4	82.3
SOLUKHUMBU	70.8	81.5	84.6	87.6	80.3	83.2	88.6	76	77.2	75.4	91.9	81.2	82.1	81.2
OKHALDHUNGA	73.1	67.1	67.1	70.3	64	64	66.7	66.2	66.7	68.3	69.6	70.2	75	74.5
KHOTANG	67.8	75.3	75.2	78.2	73.6	72.6	75.7	75.4	74.8	81.8	76.3	82.3	86.7	91.4
BHOJPUR	66.8	75.3	75	78.9	70	70.3	71.6	72.3	71.9	73.4	77.5	77.5	81.1	83.1
DHANKUTA	66.1	69.7	71.6	74.3	68.9	70.8	73	69.8	71.6	69.6	74.1	70.1	76.6	76.1
TERHATHUM	60.7	62.9	63.3	66.9	59.4	59.8	62.1	63.2	63.8	61.2	66.1	62	68.9	69.5
PANCHTHAR	69.3	74.1	73.1	75.5	73.7	72.8	75.3	73.4	72.7	73.5	68	74.5	73.6	76.8
ILAM	56.9	60.1	61.7	64	58.2	60.3	62.2	59.2	60.7	60.6	62	61.8	61.8	64.4
JHAPA	84.9	84.1	82.8	83.8	78.9	77	77.1	81.4	79.8	77.5	82.4	80.2	87.8	88.2
MORANG	87.9	81.3	79.2	81	77.6	75	75.8	71.2	67.8	70.6	80.2	77.2	75.1	80.1
SUNSARI	84.1	83.9	81.6	82.9	79.7	76.5	76.2	79.9	76.7	72.7	77.2	75.9	71.2	77.3
UDAYAPUR	79.7	80.6	78.2	79.9	78	75.4	76	76.1	72.6	70.2	77.7	73.9	81.9	82.3
Madesh Pradesh	117.9	115.1	110.1	107.6	99.7	92.4	87.5	110.8	105.4	91.5	86.6	96.9	83.3	90.3
SAPTARI	102.4	103.7	102.7	103.4	96.3	94.5	94.4	103.7	102.7	93.3	95.4	95.9	88.9	93.1
SIRAHA	112.7	109.5	105.7	107.8	94.4	89.2	87.6	105.9	99.5	93	83.1	96.9	92.2	99.4
DHANUSA	134.2	124.5	120.3	120.2	102.9	95	91.2	115.8	110.8	94.4	92.2	104.9	91.9	102.3
MAHOTTARI	115.6	115.4	112.6	110.1	102	94.9	90.3	114.1	109.6	94.7	86.1	98.7	85.3	95.1
SARLAHI	114.4	110.3	98.7	90.5	97.9	85.7	76.3	103.6	92.4	77.4	68.8	85.6	71	75.6
RAUTAHAT	131.8	129.4	119.7	111.5	117	106.3	97.5	118	109.4	89.5	85.3	100.8	73.8	85.3
BARA	113.4	113	111.2	110.2	97	92.7	90.1	112.9	110.3	96.4	89.2	96.9	80.9	87
PARSA	115.5	112.9	109.6	107.6	87.8	79	71.7	112.2	109.5	95.4	96.5	96.4	86.4	89
Bagmatis Province	78.3	69.8	69.3	71.3	69	68.9	70.2	70.9	68.8	69.7	69.5	70.2	66.3	71.4
DOLAKHA	59	67.7	68.9	70.7	67.6	69	70.7	67.2	68.6	68.1	70.6	67.2	73.5	75.6
SINDHUPALCHOK	55.1	77.2	79.6	81	77.5	79.6	81.2	76.8	79.4	78.4	81.1	78.3	79	79.7
RASUWA	84.7	103.6	103.6	105.9	103.9	103.1	105.7	103.6	101.6	101.8	105.5	102.7	104.8	103.6
DHADING	58.2	78.3	77.6	76.5	78.2	77.5	76.4	78.9	77.3	73.2	76.1	73.6	78.2	79.1
NUWAKOT	61.5	78.3	78.4	79.6	78.3	83.5	79.7	77.7	77.6	74.3	78.1	74.2	76.4	79.4
KATHMANDU	88.6	56.4	55.4	57.6	56.3	55.4	58	60.1	54.4	57.9	53.9	58.7	50.9	56.1
BHAKTAPUR	43.4	74.5	75.2	78.7	73.6	75.5	78.7	73.7	75.4	82.9	78.6	83.4	72.7	78.6
LALITPUR	96.6	68.7	67.6	70.8	68.6	67.6	67.7	69.1	67.3	70.5	70.9	70.7	58.8	78.9
KAVREPALANCHOK	98.8	85.2	86.6	85.6	85.3	86.6	85.4	84.2	85.7	80.6	83.4	83.4	83.1	83.8
RAMECHHAP	45.6	58.3	60.7	64.1	57.6	61.1	63.9	57.7	60.5	59.8	63.4	60.3	69.3	73.9
SINDHULI	79.8	86.9	88.5	90.8	86.3	87.6	89.6	86.7	88.1	82.2	88.6	82	80.2	83.7
MAKWANPUR	79.4	85.1	81.3	83.9	81.6	77.6	80.2	85	81.2	81.5	82.8	81.9	81.1	82.2
CHITAWAN	80.4	72.4	71.3	73	69.1	67.4	68.5	72.4	71.3	72.1	72.7	72.1	74.2	77.8
Gandaki Province	63.1	68.1	69	71.5	68.1	68.9	71.4	68	68.9	69.8	71.2	69.9	79.6	79.7
GORKHA	65.9	78.6	80.7	82.5	78.5	80.5	82.3	78.5	80.6	77.7	82.2	77.4	89.4	90.3
MANANG	14.1	27.3	36.4	34.3	27.3	36.4	33.3	27.3	35.4	35.4	34.3	37.4	34.8	33.3
MUSTANG	47.7	56.9	62	68.5	57.4	63.4	68.5	57.4	64.4	69.9	63.9	75	70.4	65.2
MYAGDI	61.4	66.7	70.6	74.8	66.7	70.5	74.8	66.6	70.5	73.8	74.7	73.8	83.8	83.7
KASKI	77.1	63.7	63.9	67.3	63.8	63.6	67.2	63.7	63.9	70	67.1	70	71.5	71.4
LAMJUNG	59.1	64.9	67.4	69.2	64.9	67.4	69.2	64.9	67.4	65.4	69.2	65.4	75.2	76.1
TANAHU	46.7	59.9	60.9	62.9	59.9	60.9	62.8	59.9	60.8	60.6	63	60.7	71.7	72.4
NAWALPARASI EAST	66.9	75.4	76.3	79.6	75.6	76.4	78.9	75.4	76.2	77	78.3	77.2	92.4	92.3
SYANGJA	57.2	71.5	71.6	72.8	71.6	71.5	72.9	71.6	71.4	71	72	71.3	85.1	85.4
PARBAT	49.2	63.6	63.9	67.6	63.5	63.9	67.4	63	63.3	62.7	67.2	63.4	74.3	75

Annex 3: Raw data and Indicators FY 2077-78

Indicator	EPI Coverage (% of children under one year Immunized)												% of children 12-23 month	
		DPT-Hep B-Hib			OPV			PCV			IPV	MR	MR	JE
	BCG	1st Dose	2nd Dose	3rd Dose	1st Dose	2nd Dose	3rd Dose	1st Dose	2nd Dose	3rd Dose		1st Dose	2nd Dose	
BAGLUNG	66.2	71	71.1	72.6	71.1	71.3	72.6	71.1	71.2	69	72.6	69.1	83.3	81.3
Lumbini Province	94.4	92.9	92.6	93.5	92.2	91.6	92.7	92.8	92.5	87.8	91.6	88	94.2	94.2
RUKUM EAST	95.8	101.2	100.8	108.9	100.9	100.7	107.1	101.4	99.8	97.5	105.7	101.4	113.9	114.8
ROLPA	96.7	101.5	99.8	101.6	100.8	98.9	100.9	100.9	99.3	97	99.5	97.5	109.6	111.5
PYUTHAN	91.8	92.4	92.2	92.1	92.4	92.2	92.1	92.4	92.3	83	92.2	83.1	104	101.9
GULMI	70.4	82.5	84	85	82.7	83.9	84.9	82.3	83.6	75.8	83.1	76.2	94.1	92.5
ARGHAKHANCHI	66.8	77	75.4	75.2	76.9	75.3	75.1	76.9	75.3	71.7	76.5	71.6	87.8	83.4
PALPA	70.2	73.3	72.7	73.2	73.3	72.7	73.1	73.4	72.5	71.1	72.8	71.2	87.1	87
NAWALPARASI WEST	72.3	86	85.4	89.5	86	85.4	89.6	86	85.3	83.1	89.2	83.4	86.1	86.8
RUPANDEHI	113.8	92.1	92.6	95.1	90.7	90.5	93.6	92	92.3	90.3	93.5	90	92.4	92.8
KAPILBASTU	107.3	115.6	116.7	113.6	114.7	115.3	111.8	115.8	116.6	102.2	106.8	103.4	102.5	99.5
DANG	89.2	90.1	88.6	90.6	90	88.1	90.6	89.4	88.5	89	88.7	89.2	93.8	96.7
BANKE	111.8	100.9	98.9	98.3	98.5	96.4	95.8	101	99.3	92.1	94.4	92.2	92.2	93.8
BARDIYA	77.4	82.9	83.1	84.2	82.7	82.9	84	82.9	83.2	79.8	86.2	79.9	87.3	87.4
Karnali Province	106.9	103.9	100.6	101.1	97	93	92.9	102.4	98.6	92.1	95.4	94.9	91.9	95.5
DOLPA	95.9	96.8	87.4	86.7	98	87.9	85.3	97.8	88.2	82.5	84.7	85.3	79.3	87.6
MUGU	111	114.4	108.5	108.4	104.8	100.2	97.5	114.6	109.8	103.6	99.8	104.1	101.1	103.4
HUMLA	126.4	130.2	121.6	112.8	131.1	122.1	115.5	129.5	120.7	108.7	92.5	114.5	93.9	113
JUMLA	104.4	102.7	99.6	101.8	101.2	97.8	100.2	104.7	100.6	88.3	98.9	89.2	82.2	88.1
KALIKOT	122.8	124.8	123.2	123.6	115.4	114.3	113.1	123.3	119.1	103.2	109.4	108.2	92.5	99.6
DAILEKH	106.3	104.7	103.5	101.4	89.4	85.6	81.3	104.1	103.7	91.7	96	92.8	84.9	88.6
JAJARKOT	126.6	116.3	111.1	109.3	95.6	88.6	86.7	105.8	99.6	92.4	93	104.4	91.1	96.8
RUKUM WEST	99.4	102.3	98.3	98.6	102.4	99.1	99.2	100.5	95.4	93	94.2	97.4	103.5	105.6
SALYAN	91.2	89.6	87.2	89.8	85.5	81.9	84.4	88.9	85.6	86.2	89.6	87.2	95.1	95.6
SURKHET	104.9	96.7	93.5	96.3	94.9	91.7	94.4	96.8	93.4	89.9	95.2	90.2	92.7	93.2
Sudurpashchim Province	90.2	88.7	88	88.5	88.7	88	88.3	88.7	87.7	82.3	88	82.7	85.3	87.3
BAJURA	106.4	102.4	101.4	101.1	102.3	101.2	101	103	99.9	91	97	92.2	84.5	95.7
BAJHANG	95.7	94.7	92.1	92.6	94.3	91.7	92.4	94.1	91.7	84.3	91.6	85.1	80.9	86.9
DARCHULA	83.7	82.9	83.8	85.8	82.9	83.8	85.7	82.7	83.8	75	85.1	75.2	79.5	79.4
BAITADI	101	100.9	99.2	98.7	101	99.4	98.7	101.1	99.4	88	98.3	88.2	93.3	95.1
DADELDHURA	90.5	90.1	90.3	91	90.1	90.3	91.2	90.3	90.1	83.5	91.2	83.4	87.6	87
DOTI	109.5	106.7	101.6	100.2	107	102.1	100.1	106.4	100.2	94.5	99.1	95	108.2	113
ACHHAM	94.9	94.1	91.7	90.5	94	91.4	90.4	93.9	91.3	89	90.2	88.9	94.7	94.4
KAILALI	82.3	80	80.3	81.1	80	80.5	80.9	80.1	80.3	76	81	76.6	76.6	78.8
KANCHANPUR	82.9	82.3	83	85.2	82.1	82.8	84.7	82.3	83	80	85.1	80	86.2	84.8
Sourc: IHIMS/MD,DoHS														

Major indicators of Immunization services, FY 2077/78

Indicator	Dropout Rate (%)				Wastage Rate (%)							
	BCG vs Measles/ Rubella1	DPT-HepB-Hib 1 vs 3	DPT-HepB-Hib1 vs MR1	Measles/ rubella 1 vs 2	BCG	DPT-HepB-Hib	OPV	PCV	IPV	Measles/ Rubella	JE	TD
Nepal	9.3	0.95	6.7	5.5	78.8	22.2	23.2	14.3	26.8	48.3	46.5	36
Province 1	4.3	-1.1	3.8	4.4	80.3	24.6	25.4	16.6	29.6	50.5	48.8	36.6
TAPLEJUNG	0	-1.8	-1.7	0.76	88.5	40.9	41.1	31.7	47.8	66.4	67.7	53.9
SANKHUWASABHA	-5.3	-11	-4.6	-2.3	88.9	34	34.4	21	48.5	70	62.5	48.9
SOLUKHUMBU	-14.7	-7.5	0.35	1.7	87.7	45.6	45	31.5	41.1	61.1	62.9	49.6
OKHALDHUNGA	4	-4.7	-4.6	2.9	92.1	45	45	33.6	55.6	75.1	74.8	58.9
KHOTANG	-21.4	-3.9	-9.3	2.8	91.6	48.1	47.2	32.7	50.2	67.8	66.3	54.9
BHOJPUR	-16.1	-4.8	-2.9	1.3	89.1	53.2	54.3	35.9	52.6	73	71.1	63.2
DHANKUTA	-6.1	-6.6	-0.62	1.6	88.1	29.4	28.4	15.8	40.1	62.4	57.4	46.4
TERHATHUM	-2	-6.4	1.5	0.45	91.1	44.3	46.7	23.8	50.9	73.5	67.3	57.3
PANCHTHAR	-7.5	-1.8	-0.45	9.6	91.2	36.5	39.7	26.2	48.3	69.5	68.4	44.5
ILAM	-8.6	-6.5	-2.8	4	89.7	34.6	35.9	26.6	42.5	64.3	62.4	45.3
JHAPA	5.4	0.34	4.5	-0.15	64.3	9.5	9.8	6.9	11.5	24.2	24.9	16.3
MORANG	12.2	0.4	5.1	7.4	64.5	13.1	13.4	8.9	16.4	29.4	29.1	23.5
SUNSARI	9.8	1.2	9.6	10.1	60	11.5	12.3	7.4	14.2	27.3	27.8	20.2
UDAYAPUR	7.3	0.97	8.3	0.92	84.6	31.1	31.2	24.2	34	56.7	55.9	46.3
Madhesh Pradesh	17.8	6.5	15.8	13.2	74.3	17.9	18.9	13.4	19.6	43.3	43.9	34.9
SAPTARI	6.3	0.31	7.5	10.7	82	23.4	25.1	16.8	23	49.1	49.5	44.2
SIRAHA	14.1	1.6	11.5	11.1	78.8	19.2	19.7	14	22	47.8	47.2	35.7
DHANUSA	21.8	3.5	15.7	12.9	69.5	18.9	18.4	14.1	18.3	43.5	41.9	35.9
MAHOTTARI	14.6	4.6	14.5	16.9	70.9	15.1	15.8	12	16.4	40.4	41	29.2
SARLAHI	25.2	17.9	22.4	14.6	70.3	17.6	17.5	12.6	18.9	42.1	44.7	34.5
RAUTAHAT	23.5	13.8	22.1	22.5	72.3	20	20.5	17.7	21.1	41.3	46.6	35.6
BARA	14.6	2.5	14.3	11.8	74.9	13.9	16.9	10.5	19.9	43.2	41.1	29.3
PARSA	16.5	4.7	14.7	2.3	73.7	14	15.5	8.8	16.8	37	38.2	31.2
Bagmatis Province	10.4	-2.1	-0.62	5.5	75.7	20.8	22.1	11.9	26.7	46.2	42.7	29.3
DOLAKHA	-13.9	-4.3	0.77	1.9	89.7	34.8	35.2	25.2	43.2	64.8	62.1	51.2
SINDHUPALCHOK	-42.1	-4.9	-1.4	4.3	88.9	30.4	33.4	18.2	37.8	60.4	56.1	50.6
RASUWA	-21.2	-2.3	0.83	2.2	89.5	45	45.1	31	44.4	63.6	63.6	54.3
DHADING	-26.4	2.2	6	3	87.6	28.7	29.6	20.5	31.1	56.6	56.2	39.8
NUWAKOT	-20.8	-1.6	5.2	2.9	88.9	35.5	35.3	26.4	40	60.3	59.7	51.1
KATHMANDU	33.7	-2.1	-4	7.1	41.7	0.19	2.2	-6.8	7.3	21.2	21.2	-21.1
BHAKTAPUR	-92.1	-5.6	-11.8	8.4	82.9	9.5	11.7	6	21.5	37	32.8	13.8
LALITPUR	26.8	-3.1	-2.9	12.7	61.1	16.3	19.7	8	26.1	41.2	29.2	24.3
KAVREPALANCHOK	15.5	-0.44	2	4.5	79.2	29.1	29.7	15.7	34.6	58.7	54	42.5
RAMECHHAP	-32.1	-10	-3.4	-4.3	90.4	48.1	48.7	37	49.5	66.5	62.1	59.6
SINDHULI	-2.8	-4.5	5.6	7.8	86.9	35.6	36.2	27.9	37.7	57.5	57.9	57.3
MAKWANPUR	-3.2	1.3	3.7	3.2	77.9	19.4	19.5	11.7	23.3	42.5	41	30.4
CHITAWAN	10.3	-0.81	0.42	2.4	71.7	15	15.6	9.8	19.9	34.2	29.2	26.8
Gandaki Province	-10.7	-5.1	-2.7	-0.35	85.6	32.3	33.3	18.6	36.8	58.5	53.8	51.6
GORKHA	-17.5	-4.9	1.6	0.62	88.5	33.8	34.6	20	41.4	64.1	59.5	51.2
MANANG	-164.3	-25.9	-37	-27	94.2	84.4	85.1	59.6	74.6	82.7	73.5	82
MUSTANG	-57.3	-20.3	-31.7	0	92.8	73.8	73.8	48.8	64.5	77.8	71.2	76.8
MYAGDI	-20.3	-12.2	-10.7	-1.2	89	40.6	40.5	25.1	44	66	58.6	60
KASKI	9.2	-5.6	-9.9	1.9	75.5	18.5	19.5	9.2	25.9	43.7	40.5	46.9
LAMJUNG	-10.6	-6.6	-0.78	-0.93	87.3	44.5	45.3	25.6	46.9	69.5	60.5	66.5
TANAHU	-29.8	-4.9	-1.2	-0.36	89.5	38.5	38.5	27.3	42.3	63.4	61.5	57.9
NAWALPARASI EAST	-15.4	-5.6	-2.4	-1.9	79.7	15.6	16.7	9	22	37.6	38	28.8
SYANGJA	-24.6	-1.9	0.2	-0.52	89.7	37.2	38.9	19.1	41.4	65.6	59.1	48
PARBAT	-29	-6.4	0.24	-1.4	91.2	46.8	49.6	28.7	48.6	71.8	65.1	64.9
BAGLUNG	-4.4	-2.2	2.7	-1.9	85.3	31.6	32.2	18.8	35	54.9	53.1	48.8
Lumbini Province	6.8	-0.66	5.3	0.25	79.2	16.3	17.7	9.2	24.2	44.9	41	29.8
RUKUM EAST	-5.9	-7.7	-0.25	0.41	88	34.8	37.5	22.8	38	60	57.4	39.1
ROLPA	-0.79	-0.11	3.9	1.4	85.5	24.2	25.2	14.3	29.9	54.8	52	32.5
PYUTHAN	9.6	0.35	10.1	-4.4	87.3	20.8	21.5	10.1	36.7	61.3	54	38.7
GULMI	-8.2	-3	7.7	-2.8	89.6	37.9	39.3	21.5	42.7	67.8	60.1	59
ARGHAKHANCHI	-7.2	2.3	7.1	-1.2	88.6	26	26.6	12.7	35.9	64	59.4	45
PALPA	-1.3	0.15	2.9	-3.9	87.4	31.5	32.8	15.8	40.6	64.9	56.3	49.8
NAWALPARASI WEST	-15.3	-4	3.1	-0.34	82.4	13	17.8	8.2	23.8	41.9	37.7	29.8
RUPANDEHI	20.9	-3.2	2.3	0.56	63.4	9	9.9	5.7	13.8	24.4	24.4	18.8
KAPILBASTU	3.6	1.8	10.6	0.8	79.2	12.6	14.2	8	21.3	42	43	26.9

Annex 3: Raw data and Indicators FY 2077-78

Indicator	Dropout Rate (%)				Wastage Rate (%)							
	BCG vs Measles/ Rubella1	DPT-HepB-Hib 1 vs 3	DPT-HepB-Hib1 vs MR1	Measles/ rubella 1 vs 2	BCG	DPT-HepB-Hib	OPV	PCV	IPV	Measles/ Rubella	JE	TD
DANG	0.04	-0.61	1	4.1	69.3	10	10.8	5.7	14.3	27.4	23.6	18.6
BANKE	17.6	2.6	8.7	1	74.5	13.5	14.4	9.2	21	40	38.4	23.9
BARDIYA	-3.2	-1.6	3.6	-1.7	81.6	11.9	13.7	6	23	41.4	37.2	24.4
Karnali Province	11.2	2.7	8.7	5.1	84.2	35.1	34.4	25.7	35.8	56.1	58.3	50.5
DOLPA	11.1	10.4	11.9	4.1	90.7	60	60.3	45	57.9	72.6	72.8	72.3
MUGU	6.2	5.3	9	-3.2	91.7	60.6	60	43.6	54.3	72	71	70.4
HUMLA	9.4	13.3	12.1	14.5	84	45.6	45.7	29.8	48.8	61.8	62.7	62.7
JUMLA	14.5	0.87	13.1	5.1	85.4	35.6	36	26.6	39.6	58.4	61.1	55
KALIKOT	11.9	0.98	13.3	10.4	82.9	34.9	35.8	28.6	37.5	55.4	60.5	55.8
DAILEKH	12.7	3.1	11.3	9.2	87.8	42.4	41.6	36.5	42.5	64.8	68.2	59
JAJARKOT	17.5	6	10.3	11.1	81.1	35.4	33.9	27.5	38.2	54	61.4	54.8
RUKUM WEST	2	3.6	4.8	4.6	81.9	19.7	19.1	13	21.3	45.6	44.7	27.1
SALYAN	4.4	-0.29	2.7	-1.2	86.4	28.8	28.9	18.3	32.4	56.6	55.5	37.2
SURKHET	14	0.47	6.8	0.68	75.6	23.3	22.4	14.5	23.1	41.6	41.6	34.7
Sudurpashchim Province	8.4	0.24	6.8	3.6	79.3	22.4	23.5	14.1	26.3	48.7	47	33.8
BAJURA	13.3	1.3	10	9.2	82.7	32.7	34.3	24.4	35.3	56.5	56.3	47.2
BAJHANG	11	2.3	10.2	8.9	81.3	30.1	30.3	21.3	29.9	52.1	54.4	43.5
DARCHULA	10.1	-3.5	9.2	-0.26	88.8	40.2	40.7	26.1	41.8	66.9	65.1	53.3
BAITADI	12.7	2.2	12.6	2.9	87.8	32.5	33.3	23.5	41.8	68.5	65.5	48.1
DADELDHURA	7.8	-1.1	7.4	3.2	82.3	25	25.4	12.7	24.1	50.9	45.2	38.5
DOTI	13.2	6.1	11	4.9	80.2	28.7	29.3	17.4	29.7	55.1	52.1	40.7
ACHHAM	6.3	3.8	5.5	-0.2	81.2	24.4	24.6	14.4	29.1	52.1	48	35.5
KAILALI	7	-1.4	4.2	4	67.8	13	15.4	7.8	16.7	30.8	29.8	19.3
KANCHANPUR	3.5	-3.5	2.8	2	70.7	7.4	8.5	4	14.4	29.6	32.2	13.9

Sourc: IHIMS/MD,DoHS

Major indicators of Nutrition services, FY 2077/78

Indicators	% of newborns with low birth weight (<2.5kg) among total delivery by HWs	% of children aged 0-11 months registered for growth monitoring	% of children aged 12-23 months registered for growth monitoring	% of children aged 0-23 months registered for growth monitoring	Average number of visits among children aged 0-11 months registered for growth monitoring	Average number of visits among children aged 12-23 months registered for growth monitoring[a]	Average number of visits among children aged 0-23 months registered for growth monitoring[a]	% of children 0-11 months registered for Growth Monitoring (New) who were Underweight	% of children 12-23 months registered for Growth Monitoring who were Underweight	% of children aged 0-23 months registered for Growth Monitoring (New) who were Underweight
Nepal	11.2	84.2	60.8	72.7	3.3	3.2	3.3	2.5	3.4	2.9
Province 1	13.7	73.5	50	62.1	3.4	3.4	3.4	1.1	1.4	1.2
TAPLEJUNG	7.2	87.7	47.8	68.4	3.7	4	3.8	1.3	0.9	1.2
SANKHUWASABHA	4.6	86	48.8	68	4	4.3	4.1	2.5	1.1	2
SOLUKHUMBU	4.2	104.1	101.7	102.9	4.4	5.3	4.9	1.2	1.8	1.5
OKHALDHUNGA	7	116.8	77.4	98.1	3.4	3.6	3.5	0.7	1.7	1
KHOTANG	4.4	97.8	114.6	105.9	4	3.4	3.7	0.8	1	0.9
BHOJPUR	1.2	82.3	58.4	70.7	4.6	4	4.4	0.9	1.6	1.2
DHANKUTA	5	83.3	74.4	79.1	3.9	2.7	3.4	0.4	0.2	0.3
TERHATHUM	6.6	64.5	38.8	52.3	3.9	4.2	4	1.9	1.9	1.9
PANCHTHAR	6.6	76.5	46.4	62.1	3.8	4.9	4.2	0.6	1	0.7
ILAM	3.4	65.3	54.4	60	4.2	3.3	3.8	2.3	0.1	1.3
JHAPA	10.8	78.7	45.3	62.7	2.8	3.4	3	1	1.7	1.3
MORANG	27	63.4	38.6	51.3	3.5	3.4	3.4	0.9	2.1	1.3
SUNSARI	15.3	54.8	36.6	45.9	2.5	2.4	2.5	1.1	1.6	1.3
UDAYAPUR	3.4	87.2	62.2	75.4	3.6	3.1	3.4	1.4	1.7	1.5
Madesh Pradesh	10	90.4	70.2	80.3	2.2	2.2	2.2	4.4	6.5	5.3
SAPTARI	14.3	102.5	96.1	99.4	2.8	2.3	2.5	1.9	6.6	4.1
SIRAHA	11.2	77.1	61.1	69.4	2.1	2.2	2.2	4.2	6.1	5
DHANUSA	4.6	52.8	41.9	47.4	2.1	2.1	2.1	4.1	3.7	3.9
MAHOTTARI	10.5	88.3	73.5	81.1	2.4	2.3	2.3	4.1	7.3	5.5
SARLAHI	9.4	95.7	72.4	83.9	2	1.8	1.9	2.4	2.8	2.6
RAUTAHAT	7.7	85.7	71.9	78.6	2	2.1	2	4.5	4.5	4.5
BARA	3.7	90.9	59	74.5	2.6	2.4	2.5	2.9	4.3	3.5
PARSA	18	139.7	91.6	114.6	2	2.1	2	9.7	14.7	11.8
Bagmatis Province	13.3	71.4	48.1	59.8	3.1	2.7	2.9	1.8	1.5	1.7
DOLAKHA	6.7	82.3	59	71.3	3.9	3.3	3.6	0.6	1	0.8
SINDHUPALCHOK	4.9	104.8	78.3	91.9	3.7	3.2	3.5	1.1	1.3	1.2
RASUWA	2.8	125	104.2	114.8	3.7	2.6	3.2	0.2	0.6	0.4
DHADING	4.1	99.4	90.4	95.1	3.2	2.7	3	2.6	4.4	3.4
NUWAKOT	4.9	90.9	58	74.9	2.6	2.7	2.7	0.8	0.2	0.6
KATHMANDU	21.3	37.5	27.2	32.1	3.2	2.6	2.9	0.8	0.2	0.5
BHAKTAPUR	8.2	73	54.4	63.5	2.9	2	2.5	1	0.2	0.7
LALITPUR	16	81.6	49.1	65	2.8	2.2	2.6	7.2	0.9	4.7
KAVREPALANCHOK	7.2	67.4	46.2	57.1	3.4	3.2	3.4	0.7	0.7	0.7
RAMECHHAP	4.2	70.4	59.6	65.3	4.1	3.2	3.7	0.6	1.5	1
SINDHULI	4.5	91.2	69.2	80.5	3.2	3	3.2	1.4	1.2	1.3
MAKWANPUR	10.5	101.1	56.8	79.2	3.1	2.8	3	1.3	1.3	1.3
CHITAWAN	13.1	94.9	51.8	73.9	2.5	2.4	2.5	1.5	4.5	2.5
Gandaki Province	9.5	78.5	69.6	74.3	4.2	3.3	3.8	0.7	0.9	0.8
GORKHA	4.2	86.6	97.6	91.7	5.4	4.2	4.8	0.7	0.8	0.8
MANANG	6.7	44.4	29.6	36.1	4.6	4.8	4.7	0	0	0
MUSTANG	5.3	80.6	39.1	59.2	5	6.2	5.4	0.6	2.2	1.1
MYAGDI	4.9	59.6	79.1	68.8	6.1	3.6	4.7	0.1	0.2	0.2

Indicators	% of newborns with low birth weight (<2.5kg) among total delivery by HWs	% of children aged 0-11 months registered for growth monitoring	% of children aged 12-23 months registered for growth monitoring	% of children aged 0-23 months registered for growth monitoring	Average number of visits among children aged 0-11 months registered for growth monitoring	Average number of visits among children aged 12-23 months registered for growth monitoring[a]	Average number of visits among children aged 0-23 months registered for growth monitoring[a]	% of children 0-11 months registered for Growth Monitoring (New) who were Underweight	% of children 12-23 months registered for Growth Monitoring who were Underweight	% of children aged 0-23 months registered for Growth Monitoring (New) who were Underweight
KASKI	15.4	86.5	46.5	66.9	2.7	2.5	2.6	0.6	0.8	0.6
LAMJUNG	5.7	92.2	79.3	86.2	4.4	3.9	4.2	0.5	0.6	0.5
TANAHU	4.4	72.1	66.7	69.6	3.6	2.5	3.1	0.8	0.9	0.8
NAWALPARASI EAST	4.8	68.2	59.9	64.4	3.9	3.1	3.5	1.4	2.5	1.9
SYANGJA	5.1	70.9	90.4	79.8	6.1	3.5	4.8	1.3	1.2	1.2
PARBAT	1.8	81.4	90.2	85.5	4.4	3.1	3.7	0.2	0.3	0.2
BAGLUNG	5.3	81.3	74.7	78.3	4.6	3.4	4.1	0.2	0.5	0.3
Lumbini Province	12.1	89.6	63.3	76.9	3.7	3.6	3.6	2.6	3.1	2.8
RUKUM EAST	1.4	120.4	99.5	110.6	3.1	2.5	2.8	0.8	2	1.3
ROLPA	3.9	109.6	87.7	99.4	4.3	4.2	4.3	1	1.9	1.4
PYUTHAN	6.1	109.4	89.6	100.4	4.8	4.7	4.7	2.3	1.8	2.1
GULMI	6.1	102.6	102	102.3	4.9	4.5	4.7	1	0.9	1
ARGHAKHANCHI	5.8	90.4	86.5	88.7	4.1	3.1	3.7	1.4	0.7	1.1
PALPA	11.8	76.8	74.6	75.8	6.7	6	6.4	1.4	1.1	1.3
NAWALPARASI WEST	8.3	96.7	82.9	89.9	4.6	3.5	4.1	2	3.1	2.5
RUPANDEHI	14.6	83.2	62.9	73.2	3	2.6	2.8	2.7	2.2	2.5
KAPILBASTU	14.3	97	64.8	80.9	3.4	3.7	3.5	4.1	5.2	4.5
DANG	8.1	81.5	44.8	64	2.3	2.5	2.4	1.8	3.6	2.4
BANKE	16.5	76.9	37.1	57.1	2.8	3.3	2.9	3.6	5.8	4.3
BARDIYA	8.1	89.5	41.1	66.2	3.8	4.8	4.1	4.6	7.8	5.5
Karnali Province	7	118.1	81.7	100.1	3.4	4	3.6	3	4.5	3.6
DOLPA	1.6	161.8	193.8	178.3	2.9	3.4	3.2	0.8	2.4	1.7
MUGU	6.3	185.4	234.9	210.9	1.9	1.8	1.8	4.7	5.6	5.2
HUMLA	4.3	169.7	203.4	186.9	3.9	4	4	5.1	5	5
JUMLA	9.1	111.1	45.1	77.6	5.2	14.4	7.9	2	5.2	2.9
KALIKOT	7.2	168.8	146.9	157.6	3.7	4.7	4.2	5.1	7.1	6.1
DAILEKH	6	122.8	44.6	83.9	3.4	4.6	3.8	3.8	4.9	4.1
JAJARKOT	4.8	120.7	77.4	98.8	2.8	2.8	2.8	3.5	5.7	4.3
RUKUM WEST	7.5	105.9	76.1	91.8	3.6	3.1	3.4	1.8	2.7	2.1
SALYAN	8.1	115.5	81.5	99.1	3.5	3.6	3.5	1.7	2.4	2
SURKHET	7.7	83.7	45.5	65	3.3	3.6	3.4	1.9	2.9	2.2
Sudurpashchim Province	8.8	91.7	62.3	77.5	4.4	5	4.6	2.2	3.8	2.8
BAJURA	6.3	128.1	94.6	111.5	3.7	3.8	3.7	4	6.4	5
BAJHANG	5.8	118.9	94	106.7	4	3.3	3.7	1.5	3.6	2.4
DARCHULA	5.3	87.2	69.8	78.7	6.2	6.8	6.5	1.2	2	1.5
BAITADI	5.1	109.3	78.7	94.7	6	6.7	6.3	1.6	2.8	2.1
DADELDHURA	8.7	104	82.7	93.8	6	6.8	6.3	2	3.6	2.7
DOTI	6.1	116.4	91.8	105.2	4.8	5.8	5.2	2.5	4.5	3.3
ACHHAM	5.8	100.7	73.4	87.5	6.3	7.8	6.9	3.1	4.4	3.6
KAILALI	13.2	74.1	35.7	55.3	3.5	4.2	3.7	2.3	3.2	2.6
KANCHANPUR	9.3	74.6	53.8	64.7	2.7	2.3	2.5	1.8	3.6	2.5
Source: HIMS/DoHS										

Corona Virus Disease (COVID-19) pandamic outbreak status, FY 2077/78

Indicators	District wise details of COVID-19 as of Asar 31, 2078				
	Total RT PCR Positive	Recovered	Death	Active	CFR
Nepal	662570	626468	9463	26639	1.4
Province 1	78304	72203	1276	4825	1.6
TAPLEJUNG	820	702	9	109	1.1
SANKHUWASABHA	1247	1115	16	116	1.3
SOLUKHUMBU	468	417	24	27	5.1
OKHALDHUNGA	1300	1192	24	84	1.8
KHOTANG	1004	867	22	115	2.2
BHOJPUR	473	372	24	77	5.1
DHANKUTA	1470	1280	41	149	2.8
TERHATHUM	566	470	20	76	3.5
PANCHTHAR	696	598	25	73	3.6
ILAM	1058	913	44	101	4.2
JHAPA	17193	15524	327	1342	1.9
MORANG	30891	29220	319	1352	1
SUNSARI	19526	18127	331	1068	1.7
UDAYAPUR	1592	1406	50	136	3.1
Madesh Pradesh	44085	41849	737	1499	1.7
SAPTARI	4375	4040	97	238	2.2
SIRAHA	4287	4012	82	193	1.9
DHANUSA	9135	8808	85	242	0.9
MAHOTTARI	4779	4599	53	127	1.1
SARLAHI	4724	4480	103	141	2.2
RAUTAHAT	4521	4342	71	108	1.6
BARA	4788	4424	108	256	2.3
PARSA	7476	7144	138	194	1.8
Bagmatis Province	338302	322913	4039	11350	1.2
Dolakha	2508	2273	73	162	2.9
Sindhuplanchowk	5640	5234	93	313	1.6
Rasuwa	1003	880	10	113	1
Dhading	6353	5891	94	368	1.5
Nuwakot	6457	5930	93	434	1.4
Kathmandu	209389	202010	1921	5458	0.9
Bhaktapur	22999	21565	372	1062	1.6
Lalitpur	38858	37122	563	1173	1.4
Kavreplanchowk	11357	10736	243	378	2.1
Ramechhap	2332	2151	81	100	3.5
Sindhuli	2752	2459	73	220	2.7
Makawanpur	10295	9684	193	418	1.9
Chitwan	18359	16978	230	1151	1.3
Gandaki Province	57315	52467	992	3856	1.7
Gorkha	4969	4665	72	232	1.4
Manang	156	98	3	55	1.9
Mustang	132	105	15	12	11.4
Myadgi	1774	1550	27	197	1.5
Kaski	24830	22885	379	1566	1.5
Lamjung	2861	2594	56	211	2
Tanahu	4693	4294	122	277	2.6
Nawalparasi East	7014	6495	99	420	1.4
Syngja	3420	3018	110	292	3.2
Parbat	1970	1724	39	207	2
Baglung	5496	5039	70	387	1.3
Lumbini Province	88811	84672	1568	2571	1.8
Rukum East	194	171	14	9	7.2

Indicators	District wise details of COVID-19 as of Asar 31, 2078				
	Total RT PCR Positive	Recovered	Death	Active	CFR
Rolpa	1347	1225	28	94	2.1
Pyuthan	1476	1319	63	94	4.3
Gulimi	3222	2951	64	207	2
Arghakhanchi	2327	2126	55	146	2.4
Palpa	6218	5779	87	352	1.4
Nawalparasi West	3838	3524	98	216	2.6
Rupandehi	29309	28334	498	477	1.7
Kapilvastu	4526	4290	73	163	1.6
Dang	12699	12155	267	277	2.1
Banke	17720	17286	206	228	1.2
Bardiya	5935	5512	115	308	1.9
Karnali Province	19669	17974	410	1285	2.1
Dolpa	113	94	8	11	7.1
Mugu	93	68	6	19	6.5
Humla	96	81	5	10	5.2
Jumla	1129	900	11	218	1
Kalikot	726	651	17	58	2.3
Dailekh	3115	2901	54	160	1.7
Jajarkot	801	717	11	73	1.4
Rukum West	940	792	41	107	4.4
Salyan	1956	1754	80	122	4.1
Surkhet	10700	10016	177	507	1.7
Sudurpashchim Province	36084	34390	441	1253	1.2
Bajura	791	770	10	11	1.3
Bajhang	1163	1134	9	20	0.8
Darchula	942	863	16	63	1.7
Baitadi	2546	2443	16	87	0.6
Dadeldhura	2027	1894	11	122	0.5
Doti	2686	2514	14	158	0.5
Aacham	3903	3795	15	93	0.4
Kailali	16433	15779	218	436	1.3
Kanchanpur	5593	5198	132	263	2.4
Sourc: HMIS/DoHS					

Major indicators of IMNCI program, FY 2077/78

Indicator	Diarrhoea children U5 years						ARI		
	Diarrhoea incidence rate	% of dehydration among U5 years registered diarrhoeal cases (facility & outreach)	% of children U5 years with diarrhea suffering from Severe dehydration	% of children U5 years with diarrhea suffering from dysentery (blood in stool)	% of children U5 years with diarrhea treated with zinc and ORS	% of children U5 years with diarrhoea treated with IV fluid	Incidence of ARI among children U5 years (per 1000)	Incidence of pneumonia among children U5 years (per 1000)	Incidence of pneumonia (HF & Outreach) among children U5 years (per 1000)
Nepal	339	13.02	0.19	6.9	96.2	0.24	533	45	27
Province 1	298	15.16	0.19	4.4	92.1	0.25	549	52	32
TAPLEJUNG	399	27.02	1.4	1.7	99.6	0.22	798	92	69
SANKHUWASABHA	294	12.92	0.05	0.9	95.2	0.04	749	75	64
SOLUKHUMBU	496	10.89	0.1	3	89.2	1.2	989	104	74
OKHALDHUNGA	561	20.49	0.18	5.9	93.8	0.1	1333	154	78
KHOTANG	531	15.31	0.17	4.4	89.7	0.16	954	82	39
BHOJPUR	521	12.36	0.1	1.6	89.5	0.24	996	14	40
DHANKUTA	287	9.6	0	4.5	97.7	0.22	731	58	43
TERHATHUM	459	19.81	0.67	5	98.4	0.29	903	89	53
PANCHTHAR	204	24.72	0	1.8	92.8	0.51	730	75	56
ILAM	235	8.67	0	2.1	92.4	0	567	46	32
JHAPA	252	8.32	0.15	4.6	96.6	0.17	430	58	32
MORANG	220	14.85	0.16	4.1	93.9	0.44	360	31	13
SUNSARI	307	16.38	0	5.2	86.5	0.08	415	36	21
UDAYAPUR	287	21.04	0.46	9.5	86.8	0.43	460	44	26
Madesh Pradesh	339	15.73	0.26	7.5	97.1	0.41	458	40	23
SAPTARI	400	14.57	0.08	4.7	99.5	0.23	487	19	12
SIRAHA	404	22.03	0.08	7.2	95.4	0.69	602	59	34
DHANUSA	304	14.9	0.06	5.8	100.3	0.18	476	44	23
MAHOTTARI	284	17.74	0.26	7.1	96.5	0.27	449	41	26
SARLAHI	350	15.15	0.15	10.1	90.8	0.23	561	51	29
RAUTAHAT	385	16.16	0.48	9.6	98.2	1.4	430	67	32
BARA	329	10.83	0.28	6.6	103.4	0.11	404	22	15
PARSA	253	14.65	0.78	6.6	92.1	0.14	242	15	13
Bagmatis Province	213	10.67	0.16	5.4	94.4	0.11	385	31	18
DOLAKHA	449	15.77	0.22	8.4	86.4	0.25	976	42	47
SINDHUPALCHOK	429	11.35	0.04	4.7	103.9	0.1	885	85	57
RASUWA	847	2.86	0.18	2.9	98.6	0	1118	66	57
DHADING	281	13.73	0.18	5.6	96	0.05	543	69	50
NUWAKOT	319	8.71	0.39	5	90.3	0.26	535	31	22
KATHMANDU	68	9.55	0	6.4	93.1	0.05	111	6	3
BHAKTAPUR	108	4.35	0.14	2	92.6	0	148	9	4
LALITPUR	173	10.67	0.26	6.1	79.2	0.1	311	36	16
KAVREPALANCHOK	347	10.17	0.06	3	101.7	0.04	719	50	29
RAMECHHAP	478	6.79	0	3.8	94.1	0.2	1006	76	31
SINDHULI	382	17.41	0.24	7.7	107	0.34	638	80	53
MAKWANPUR	384	8.21	0.13	4.3	88.3	0.02	557	45	14
CHITAWAN	164	6.84	0.22	6.5	94.5	0.01	308	20	13

Gandaki Province	235	7.81	0.05	3.3	102.4	0.06	507	28		17
GORKHA	322	7.27	0	2.2	97.2	0.2	663	33		23
MANANG	435	9.33	0	0	97.4	0	709	-34		13
MUSTANG	305	10.6	0	0.91	116.1	0	941	32		27
MYAGDI	310	4.03	0	1.5	105.1	0.16	505	20		12
KASKI	179	7.98	0.09	3.3	118.3	0	347	19		8
LAMJUNG	220	8.63	0	0.8	100	0	474	23		24
TANAHU	172	15.99	0	2.5	98.7	0.07	328	31		12
NAWALPARASI EAST	187	2.15	0	2.2	99.2	0	398	16		13
SYANGJA	241	2.96	0.07	2.9	98.7	0.02	724	38		22
PARBAT	271	10.03	0	2.8	97.8	0	804	29		38
BAGLUNG	364	10.1	0.18	7.8	97	0.15	717	55		21
Lumbini Province	357	8.02	0.12	7.9	96.8	0.22	515	38		22
RUKUM EAST	762	24.09	0.46	5.6	93.4	0	761	126		102
ROLPA	811	9.41	0.05	9.3	97	0.09	921	162		95
PYUTHAN	540	11.79	0.11	10.3	101.1	0.73	867	103		65
GULMI	347	6.72	0.3	8.9	96.8	0.53	973	51		26
ARGHAKHANCHI	326	8.68	0	5.1	95.8	0	871	44		25
PALPA	252	10.4	0.5	4.1	97.3	0.72	491	27		26
NAWALPARASI WEST	281	5.6	0.16	6.4	94.6	0.03	361	20		10
RUPANDEHI	243	5.77	0.13	8.2	95.1	0.12	310	14		7
KAPILBASTU	345	5.28	0.02	8.1	94	0.73	350	23		9
DANG	354	8.17	0.27	10	97.8	0.24	463	30		16
BANKE	426	8	0	7.4	99	0	478	34		20
BARDIYA	313	6.79	0.02	5	97	0.06	669	38		22
Karnali Province	653	16.66	0.25	8.3	96.3	0.34	889	95		66
DOLPA	660	19.76	0.51	5.5	77.1	0.59	839	104		74
MUGU	604	23.58	0.98	15.7	85.5	4	748	135		127
HUMLA	685	24.83	0.17	12.4	76.3	2.7	836	200		129
JUMLA	849	21.53	0.2	4.5	83.2	0.07	1296	140		84
KALIKOT	832	23.64	0.32	9.4	100.6	0.22	1063	115		94
DAILEKH	841	13.28	0.11	4.1	100.4	0.49	1118	83		42
JAJARKOT	646	20.5	0.35	9	99.4	0.16	772	110		72
RUKUM WEST	549	12.57	0.17	9.3	96	0.36	752	108		92
SALYAN	619	12.9	0.02	6.3	99.9	0.01	836	90		60
SURKHET	464	8.14	0.21	9.4	98.7	0.18	718	51		38
Sudurpashchim Province	547	13.08	0.19	7.6	97.2	0.2	832	64		35
BAJURA	759	25.42	0.31	7.4	97.8	1.8	1204	191		114
BAJHANG	583	21.35	0.27	7.6	100.2	0.18	850	71		45
DARCHULA	270	21.17	0.11	4.6	93	0.1	845	64		49
BAITADI	535	15.27	0.04	6.2	99.3	0.07	1123	75		50
DADELDHURA	666	5.04	0.04	9.1	95.9	0.1	935	81		52
DOTI	750	18.3	0.27	7.2	101.7	0.24	1087	128		31
ACHHAM	990	6.61	0.25	6.8	100.6	0.33	1633	97		82
KAILALI	339	7.56	0.13	9.3	88.7	0.02	434	25		10
KANCHANPUR	568	6.75	0.04	10	99.6	0.02	715	41		14
Source: IHIMS/DoHS										

Major indicators of Safe Motherhood Programme, FY 2077/78

Indicator	% of at least one ANC checkup	% of four ANC check-ups as per protocol	% of women who received a 180 day of Iron	% of institutional deliveries	% of births attended by SBA	% of births attended by a health worker other than SBA	% of normal deliveries	% of assisted (Vaccum or Forceps) deliveries	% of deliveries by caesarean section	% of PNC check-up within 24 hours of delivery	% of women who had 3 PNC check-ups as per protocol
Nepal	101	55.4	44.8	64.9	60.9	4.4	77.8	2.16	20	60	25.1
Province 1	102	52.5	35.4	59.7	58	2	62.7	2.84	34.5	57.4	22.4
TAPLEJUNG	64.3	37	36.7	38.8	37.3	2.7	90.6	2.86	6.5	44.4	24.3
SANKHUWASABHA	76.4	43.9	42.4	56.3	53.8	3	84.8	0.84	14.4	57.4	30.6
SOLUKHUMBU	98	63.7	50.6	48.9	47.2	3.4	91.3	0.19	8.5	49.6	42.3
OKHALDHUNGA	66.6	43.6	48.6	66.1	65.5	1.5	90.7	0.89	8.4	65.9	34.6
KHOTANG	83.6	58.7	57.6	41.7	35.2	8.9	89.3	2.11	8.6	39.3	38.6
BHOJPUR	68.9	43	42.7	38	27.8	11.4	94.6	1.01	4.4	39.2	30.9
DHANKUTA	92.4	45.4	44.8	25.2	22.9	2.3	93.4	4.58	2	28.9	9.7
TERHATHUM	54.8	35.2	36.4	33.5	31	2.6	93.9	0.13	6	33.6	12
PANCHTHAR	72.1	43.2	40.2	50.7	49.3	1.6	80.6	4.49	14.9	51.4	19.8
ILAM	58.9	35.6	31.1	24.8	24.3	0.68	79	1.98	19.1	26	6.5
JHAPA	148	51.8	33.7	69.8	69.5	0.3	37.4	0.78	61.8	64.4	38
MORANG	102.1	47.2	25.7	81.5	80.1	1.4	55.5	6.05	38.5	78.9	16.4
SUNSARI	120	79.7	35.4	61.7	61.1	0.86	72.5	2.23	25.3	56.2	5.9
UDAYAPUR	71.2	41.3	38.5	49.1	45.6	4	85.6	1.34	13	47.5	38.2
Madesh Pradesh	119.8	43.7	43.7	54.4	50.3	5.2	89.3	1.63	9	43.3	14.5
SAPTARI	105.5	65.7	64.5	57.1	56.2	1.3	91.6	0.8	7.6	47.7	20.4
SIRAHA	103.3	41.7	39.8	48.7	47.2	1.7	88.4	0.49	11.1	38.5	9.6
DHANUSA	91.9	25	26.7	53.7	53.7	1.3	84.2	1.47	14.4	13.5	5.1
MAHOTTARI	128.2	46.6	41.6	29.7	25.3	5.6	92	1.22	6.7	27.2	15.8
SARLAHI	131.9	47.6	47.5	56.3	43.7	13.2	94.3	3.08	2.6	54.9	18.4
RAUTAHAT	128.3	47.2	48.4	57.5	53.3	7.4	98.4	1.24	0.38	55.3	20.4
BARA	119.5	32.7	34.2	46.1	42.6	4.4	95.3	2.13	2.5	46.7	14.7
PARSA	154	45.9	49.9	89	84.5	5.5	75.7	2.02	22.3	64.7	11.5
Bagmatis Province	90.6	56.7	27.6	61.7	60.4	1.4	63.6	1.79	34.6	54.1	22
DOLAKHA	66.7	51.4	51.9	51.1	47.8	3.6	87.6	0.97	11.4	51.5	23.6
SINDHUPALCHOK	73.5	44.6	44.6	32.1	31.8	0.67	96.7	0.1	3.2	33.7	21.1
RASUWA	91.8	53.4	51.7	36.5	26.8	10.6	100	0	0	37.7	29.2
DHADING	70.8	42.5	42.2	44.7	42.9	1.8	93.7	0.2	6.1	45.3	21.7
NUWAKOT	64.7	36.2	33.5	48.5	48	0.63	85.6	1.77	12.7	47.9	13.2
KATHMANDU	100.6	85.3	9.1	72.7	72.7	0.13	51.5	1.86	46.6	57.5	19.6
BHAKTAPUR	95.9	43.3	10.9	26.8	26.9	0.01	55	0.34	44.7	27	12.6
LALITPUR	92	58.1	47.4	55.7	51.1	4.6	44.9	0.91	54.2	47.5	23.1
KAVREPALANCHOK	87.5	29.2	31.2	69.6	64.1	5.8	73.3	3.02	23.7	47.1	19.1
RAMECHHAP	53.1	36	35.1	28.8	28.5	0.67	97.7	1.59	0.72	30.1	21.9
SINDHULI	84.7	38.3	36.2	45.1	42.1	3.4	85.2	2.92	11.9	43.9	12.9
MAKWANPUR	75.9	42.9	40.2	53.4	53.1	0.45	85.2	2.64	12.2	53.2	25
CHITAWAN	118	40.4	32.7	100.4	100.5	0.11	60.8	2.06	37.2	96.5	39.4
Gandaki Province	74.5	48.1	44.5	42.3	41.4	1.2	77.3	1.16	21.6	43.5	19.6

GORKHA	71.1	46.1	45.2	32.1	28.6	4.7	96.3	0.16	3.6	31.2		24.7
MANANG	59.8	22.5	19.6	13.7	14.7	0.98	100	0	0	15.7		15.7
MUSTANG	71.2	21.2	25.2	34.2	33.3	1.4	100	0	0	34.7		22.1
MYAGDI	65.2	52.6	53.2	49.6	48.2	2.5	89.2	0.96	9.9	51.3		29.1
KASKI	103.1	76.6	64	85.5	85.5	0.06	59.1	1.59	39.3	89		19.7
LAMJUNG	60.9	42.1	41.8	42	42	0.05	84.4	3.85	11.7	42.8		19.2
TANAHU	52	21.9	20.4	20.1	20.1	0.1	98.9	0.25	0.87	20.2		13.7
NAWALPARASI EAST	73.7	50.2	47.5	19.3	19.3	0.79	99.5	0.18	0.3	20.3		17.9
SYANGJA	80.7	38.9	38.4	27.2	25.7	1.6	90.6	0	9.4	30.5		19.7
PARBAT	55.9	37.7	37.3	24.7	24.7	0.12	90.6	1.54	7.8	24.9		24.2
BAGLUNG	67.9	42.1	41	45.1	42.7	2.7	89.8	0.36	9.8	44.6		19
Lumbini Province	97.8	60.7	54.9	79.7	77	2.7	79.8	3.25	17	77		29.2
RUKUM EAST	76.1	45.1	44.8	55.6	50.3	6.6	99.3	0.71	0	56.3		46.8
ROLPA	90.7	62.2	61.7	68.2	40.5	28.1	97.8	0.6	1.6	68.8		56.9
PYUTHAN	86.2	63.8	63.8	74.7	72.1	2.6	94.2	0.97	4.8	75.7		46.1
GULMI	68.1	56	54.7	45	43.1	2.2	92.9	0.78	6.4	47.2		37.8
ARGHAKHANCHI	65.6	45.6	45.8	29.1	28.9	0.27	95.7	0	4.3	31.2		24.5
PALPA	85.9	64.9	57.4	88.2	87.3	0.94	78.4	2.26	19.4	83.3		29.8
NAWALPARASI WEST	87.7	56.7	56	41.7	41.4	0.32	91.1	0.03	8.8	42.6		24
RUPANDEHI	118.8	73.4	54.2	118.8	117.9	0.89	65.4	5.69	28.9	117.7		22
KAPILBASTU	122.6	54.9	51.8	59.5	59.6	0.33	95.4	0.63	4	60.1		16.9
DANG	83.1	50.6	49.9	60.8	60.2	0.71	82.4	3.49	14.2	59.9		26.5
BANKE	115.9	66.7	59.6	139	137	2	75.8	4.3	19.9	117.1		36.4
BARDIYA	76	57.1	57.1	53.7	49.1	4.6	93.2	0.39	6.4	53.7		30.7
Karnali Province	124.7	76	73.7	87.1	69.6	17.8	92.7	1.37	5.9	83		40
DOLPA	112.2	34.8	42.5	56	48.1	9.9	94.1	0.2	5.7	55.2		16.4
MUGU	165.7	74	82.8	101.3	87.8	15.3	95.6	1.05	3.3	95.7		47.2
HUMLA	148.6	72.7	54.2	83.5	65.8	17.9	97.4	1.42	1.2	80.2		51.2
JUMLA	128.1	75.8	66	83.7	59.8	24.1	92.1	0.8	7.1	83.5		53.4
KALIKOT	162.1	99	99.4	112.1	98.7	13.8	98.2	0.44	1.4	110.7		72.5
DAILEKH	113.5	84.5	75.1	92.1	64.2	27.9	98.3	0.47	1.3	92.3		55.7
JAJARKOT	112.1	55.8	54.9	68	51.4	16.7	98.4	0.76	0.79	68.1		40.4
RUKUM WEST	174.3	76.8	71.2	81	67.1	14.2	90.5	4.51	5	81.3		29.5
SALYAN	100.9	70.4	69.8	68.4	44.7	23.6	94.5	1.81	3.7	67.7		24.8
SURKHET	110.6	78.9	82.5	101	91.6	9.4	84.2	1.45	14.3	85.4		27.8
Sudurpashchim Province	97.5	66.8	63.8	82.5	71.6	10.9	91.4	1.77	6.8	81.7		46.2
BAJURA	106	70.9	72.2	101.4	90.7	10.8	97.1	0.6	2.3	97.9		60.1
BAJHANG	107.8	67.9	66.6	92.3	78.6	14.1	97.6	0.38	2	92		57
DARCHULA	86.9	65.3	67.2	77.9	66.1	11.9	98.5	0.29	1.2	78.4		49
BAITADI	109.6	79	78.2	85.1	46.2	38.9	99	0.68	0.36	85.3		73.9
DADELDHURA	129	81.1	84.4	98.2	89.9	8.4	87.2	0.29	12.5	99.8		59.3
DOTI	121.8	75.2	74.6	90.3	77.9	12.4	94.9	1.26	3.8	91		50.3
ACHHAM	105.3	80.1	78.5	88.6	73.5	15.3	96	0.38	3.6	89.8		68.3
KAILALI	86.7	59.7	51.4	82.9	76.1	6.8	83.5	4.43	12	80.6		34.8
KANCHANPUR	82.5	57	55.5	61.2	60.8	0.47	92.2	0.32	7.5	60.4		26.1

Source: IHIMS/DoHS

Safe Motherhood Program- Abortion services, FY 2077/78

Raw Data	Obstetric Abortion Complication	Abortion Number of Women < 20 Years-Medical	Abortion Number of Women < 20 Years-Surgical	Abortion Number of Women ≥ 20 Years-Medical	Abortion Number of Women ≥ 20 Years-Surgical	Post Abortion Care (PAC) This facility-Medical	Abortion Post Abortion Complication Medical	Abortion Post Abortion Complication Surgical
Nepal	5525	4415	2509	52935	20093	11115	540	855
Province 1	614	934	348	10107	4015	1634	50	122
101 TAPLEJUNG	1	26	8	172	77	38	1	0
102 SANKHUWASABHA	18	96	1	1001	20	106	16	0
103 SOLUKHUMBU	9	11	0	137	27	16	0	0
104 OKHALDHUNGA	86	5	0	57	1	92	0	0
105 KHOTANG	4	21	0	224	0	6	1	0
106 BHOJPUR	2	13	2	149	13	53	1	0
107 DHANKUTA	5	29	3	360	76	11	5	0
108 TERHATHUM	0	58	1	669	14	5	1	0
109 PANCHTHAR	58	263	13	1030	103	18	3	0
110 ILAM	85	115	144	1250	78	97	3	0
111 JHAPA	95	64	34	995	1048	483	16	0
112 MORANG	223	34	25	1553	771	378	1	3
113 SUNSARI	1	170	108	2304	1498	279	2	119
114 UDAYAPUR	27	29	9	206	289	52	0	0
Madhesh Pradsh	294	281	431	4060	1384	695	32	13
201 SAPTARI	132	24	2	614	13	44	0	2
202 SIRAHA	28	49	18	893	179	65	3	3
203 DHANUSA	40	45	16	470	200	96	8	0
204 MAHOTTARI	6	35	0	49	28	40	1	0
205 SARLAHI	13	89	312	1304	364	63	8	0
206 RAUTAHAT	26	24	73	197	90	132	2	0
207 BARA	1	11	1	149	0	68	0	0
208 PARSA	48	4	9	384	510	187	10	8
Bagmati Province	2076	795	649	8632	4547	2254	94	71
301 DOLAKHA	11	18	8	167	85	75	0	1
302 SINDHUPALCHOK	13	8	1	92	50	40	0	0
303 RASUWA	2	5	1	44	2	0	0	0
304 DHADING	47	54	3	684	87	115	39	12
305 NUWAKOT	244	7	1	185	25	239	0	0
306 KATHMANDU	1239	256	385	1936	1395	932	21	2
307 BHAKTAPUR	79	1	15	327	121	138	2	6
308 LALITPUR	1	96	44	827	694	29	7	1
309 KAVREPALANCHOK	42	70	35	896	260	46	1	1
310 RAMECHHAP	2	16	2	366	31	24	1	0
311 SINDHULI	34	11	11	137	129	85	3	1
312 MAKWANPUR	2	60	12	923	198	159	0	0
313 CHITAWAN	360	193	131	2048	1470	372	20	47
Gandaki Province	221	798	258	8595	1653	828	41	11
401 GORKHA	20	71	1	1031	99	85	1	0
402 MANANG	0	0	0	2	1	1	0	0
403 MUSTANG	0	0	0	0	0	1	0	0
404 MYAGDI	16	76	0	1112	29	67	0	0
405 KASKI	100	240	141	1670	872	378	7	6
406 LAMJUNG	17	13	20	159	29	70	2	0
407 TANAHU	16	49	66	633	433	24	4	2
408 NAWALPARASI EAST	10	102	6	1444	32	22	4	1
409 SYANGJA	22	137	19	1151	47	68	2	0
410 PARBAT	1	54	1	699	45	18	0	0
411 BAGLUNG	19	56	4	694	66	94	21	2
Lumbini Province	1275	845	482	10844	5326	2844	83	448
501 RUKUM EAST	12							2
502 ROLPA	3	57	9	612	101	145	2	1
503 PYUTHAN	5	39	17	444	262	149	0	6
504 GULMI	19	47	7	642	82	110	1	16
505 ARGHAKHANCHI	2	14	8	526	109	86	1	0
506 PALPA	44	93	2	1198	30	44	1	0

Raw Data	Obstetric Abortion Complication	Abortion Number of Women < 20 Years-Medical	Abortion Number of Women < 20 Years-Surgical	Abortion Number of Women ≥ 20 Years-Medical	Abortion Number of Women ≥ 20 Years-Surgical	Post Abortion Care (PAC) This facility-Medical	Abortion Post Abortion Complication Medical	Abortion Post Abortion Complication Surgical
507 NAWALPARASI WEST	122	31	11	945	460	141	10	141
508 RUPANDEHI	487	96	103	1841	1513	559	3	53
509 KAPILBASTU	4	132	37	1558	520	246	55	142
510 DANG	171	132	161	1172	881	415	3	3
511 BANKE	319	107	123	917	1301	670	0	71
512 BARDIYA	87	97	4	989	67	279	7	13
Karnali Province	732	350	146	3079	1313	1160	146	65
601 DOLPA	0	2	0	53	0	0	0	0
602 MUGU	0	52	1	249	2	27	0	1
603 HUMLA	38	50	20	103	28	18	42	5
604 JUMLA	2	30	13	376	77	77	1	1
605 KALIKOT	44	4	1	242	63	66	2	0
606 DAILEKH	245	29	23	312	216	313	0	0
607 JAJARKOT	13	5	0	39	0	31	1	0
608 RUKUM WEST	146	0	12	0	97	87	3	0
609 SALYAN	135	9	3	217	69	141	75	37
610 SURKHET	109	169	73	1488	761	400	22	21
Sudurpashchim Province	313	412	195	7618	1855	1700	94	125
701 BAJURA	42	71	4	1025	31	121	20	26
702 BAJHANG	4	5	1	114	158	135	0	0
703 DARCHULA	7	5	63	69	214	87	2	2
704 BAITADI	24	8	3	512	42	66	7	0
705 DADELDHURA	55	62	2	1107	90	123	4	14
706 DOTI	51	34	1	1014	61	223	5	1
707 ACHHAM	23	38	3	878	21	217	33	0
708 KAILALI	87	104	113	1384	1028	472	6	81
709 KANCHANPUR	20	85	5	1515	210	256	17	1
Source: HMIS/DoHS								

Major Indicator of Family Planning, Fiscal Year 2077/78

Indicator	Temporay Method												CPR (Unadjusted)
	New Acceptors as % of MWRA						Current Users as % of MWRA						
	Condom	Pills	Depo	IUCD	Implant	Total	Condom	Pills	Depo	IUCD	Implant	Total	
Nepal	2.5	2.4	4.5	0.2	1.5	11.1	2.5	2.6	5.4	2.2	6.8	19.5	39.3
Province 1	1.8	2.1	4.3	0.2	1.6	9.9	1.8	3.0	6.2	1.9	7.7	20.6	41.2
TAPLEJUNG	3.6	1.9	6.0	0.1	2.6	14.3	3.6	2.0	7.6	4.4	10.3	28.0	33.2
SANKHUWASABHA	2.2	2.7	8.1	0.7	4.4	18.1	2.2	2.0	9.0	3.2	15.9	32.4	39.1
SOLUKHUMBU	2.0	4.4	10.7	0.2	2.3	19.6	2.0	5.0	17.5	1.1	9.6	35.1	38.6
OKHALDHUNGA	2.1	2.1	5.4	0.3	2.6	12.4	2.1	3.5	11.8	2.6	16.9	36.8	43.7
KHOTANG	3.3	2.4	6.5	0.2	3.0	15.4	3.3	2.9	8.1	0.7	12.4	27.4	33.0
BHOJPUR	2.9	2.2	6.1	0.1	4.2	15.6	2.9	4.1	11.1	1.0	13.4	32.5	39.2
DHANKUTA	2.7	2.0	15.5	0.1	0.9	21.2	2.7	3.0	9.2	1.5	4.7	21.1	28.2
TERHATHUM	3.7	1.9	5.2	0.1	1.9	12.8	3.7	1.3	5.4	1.4	9.6	21.4	27.7
PANCHTHAR	2.6	2.7	5.5	0.2	1.8	12.7	2.6	3.8	11.4	2.9	12.4	33.2	37.7
ILAM	3.5	3.1	5.8	0.1	2.2	14.8	3.5	5.6	9.9	2.7	9.2	30.9	40.7
JHAPA	1.2	2.0	2.2	0.2	0.7	6.3	1.2	2.9	3.1	1.0	2.7	11.0	40.5
MORANG	0.9	1.8	2.5	0.1	1.1	6.4	0.9	2.9	5.2	1.5	7.4	17.8	54.8
SUNSARI	1.2	2.0	3.2	0.2	1.2	7.8	1.2	2.7	4.0	1.9	6.5	16.3	38.7
UDAYAPUR	2.2	1.6	3.6	0.3	1.4	9.1	2.2	2.2	4.7	3.8	8.4	21.3	29.5
Madhesh Province	1.4	1.9	3.2	0.1	0.7	7.4	1.4	1.7	3.4	0.7	2.2	9.4	44.4
SAPTARI	1.5	2.1	3.3	0.1	0.5	7.6	1.5	3.4	5.4	0.9	1.8	12.9	46.8
SIRAHA	1.6	2.3	4.2	0.1	0.4	8.5	1.6	1.9	4.4	0.8	1.9	10.6	43.8
DHANUSA	1.3	2.1	3.4	0.1	0.2	7.2	1.3	1.3	2.8	0.6	0.6	6.7	46.8
MAHOTTARI	1.1	1.7	2.8	0.1	0.2	5.9	1.1	1.4	3.2	0.1	1.0	6.8	36.7
SARLAHI	1.2	2.4	3.9	0.3	1.7	9.5	1.2	1.9	3.2	1.0	4.3	11.7	47.2
RAUTAHAT	1.7	1.7	2.9	0.1	0.9	7.2	1.7	1.2	2.4	0.4	2.5	8.1	39.6
BARA	1.6	1.4	2.7	0.1	0.6	6.3	1.6	1.2	2.4	0.5	2.2	7.9	30.9
PARSA	1.2	1.8	2.3	0.1	0.9	6.3	1.2	1.3	3.6	1.1	3.2	10.4	66.4
Bagmati Province	1.4	1.4	3.3	0.3	1.7	8.1	1.4	1.8	5.2	3.1	8.3	19.9	34.6
DOLAKHA	1.7	1.9	6.6	0.1	1.7	12.0	1.7	1.6	8.4	1.0	6.8	19.3	33.9
SINDHUPALCHOK	2.0	2.5	6.0	0.1	2.8	13.4	2.0	2.2	9.6	1.1	12.3	27.2	38.6
RASUWA	2.8	2.8	9.0	0.2	3.5	18.3	2.8	1.7	9.0	2.3	17.3	33.2	55.5
DHADING	2.5	2.2	5.9	0.2	2.1	13.0	2.5	1.6	6.7	2.3	8.9	22.0	34.0
NUWAKOT	1.8	1.6	5.5	0.1	1.5	10.6	1.8	1.1	5.5	0.6	5.7	14.7	33.8
KATHMANDU	0.7	0.8	1.4	0.3	0.8	4.0	0.7	1.8	3.3	4.5	6.6	16.9	26.7
BHAKTAPUR	1.3	0.9	2.2	0.1	0.8	5.3	1.3	1.1	3.1	3.3	4.8	13.6	26.6
LALITPUR	1.4	1.5	2.4	0.2	1.4	7.0	1.4	2.0	7.8	5.0	9.0	25.2	45.8
KAVREPALANCHOK	1.7	1.8	4.8	0.6	3.6	12.6	1.7	2.1	7.8	2.9	16.4	31.0	48.6
RAMECHHAP	3.3	1.1	4.1	0.2	3.5	12.2	3.3	1.4	6.3	3.7	14.3	29.0	34.9
SINDHULI	2.7	2.3	5.0	0.3	2.7	13.0	2.7	2.9	6.8	2.4	12.3	27.1	39.2
MAKWANPUR	1.4	2.0	5.2	0.2	3.0	11.8	1.4	2.4	5.9	0.6	9.5	19.9	45.1
CHITAWAN	1.2	1.5	2.4	0.4	1.1	6.7	1.2	1.6	2.8	2.5	4.5	12.7	33.7
Gandaki Province	2.7	2.0	3.1	0.2	1.6	9.6	2.7	2.2	3.6	2.9	6.5	17.8	34.0
GORKHA	3.5	2.7	5.9	0.2	2.4	14.6	3.5	2.7	8.7	1.0	10.0	25.9	44.4
MANANG	11.2	2.6	5.3	0.0	5.9	25.0	11.2	4.7	9.4	0.9	18.3	44.4	58.4
MUSTANG	9.9	5.0	11.6	0.0	5.2	31.8	9.9	3.8	12.1	0.5	15.1	41.3	61.4
MYAGDI	4.1	2.2	5.5	0.2	3.1	15.2	4.1	2.3	5.6	5.3	14.4	31.7	46.2
KASKI	2.0	1.6	2.2	0.3	1.4	7.5	2.0	1.5	1.7	4.7	6.1	15.9	33.3
LAMJUNG	4.3	1.0	2.6	0.3	1.1	9.2	4.3	2.0	4.2	2.7	4.9	18.2	35.5
TANAHU	1.4	2.6	2.9	0.2	1.4	8.5	1.4	1.8	2.8	3.8	5.9	15.9	29.0
NAWALPARASI EAST	2.0	2.1	2.8	0.3	1.2	8.3	2.0	2.6	2.8	2.3	3.5	13.1	33.2
SYANGJA	2.7	1.8	2.4	0.2	1.1	8.2	2.7	2.8	3.0	1.0	4.6	14.0	31.9
PARBAT	3.7	1.6	3.1	0.2	1.7	10.4	3.7	2.3	3.6	2.3	8.7	20.6	32.5
BAGLUNG	3.1	2.0	3.2	0.2	2.2	10.7	3.1	2.4	3.6	1.7	6.9	17.8	29.6
Lumbini Province	3.7	3.5	5.3	0.3	1.9	14.7	3.7	3.7	6.3	3.0	8.5	25.3	39.9
RUKUM EAST	3.1	3.0	9.0	0.1	2.1	17.4	3.1	2.2	9.5	0.3	12.9	27.9	33.3
ROLPA	5.2	3.4	9.6	0.1	2.7	21.0	5.2	2.6	9.7	1.6	15.7	34.9	40.0
PYUTHAN	6.2	3.3	6.0	0.2	3.2	19.1	6.2	5.4	10.8	1.6	10.6	34.6	42.1
GULMI	3.1	3.1	4.3	0.2	1.6	12.3	3.1	3.0	4.5	1.5	5.7	17.8	30.1
ARGHAKHANCHI	4.4	1.8	3.0	0.1	1.5	10.8	4.4	2.2	3.6	0.8	6.5	17.6	27.4
PALPA	3.9	1.8	3.5	0.3	2.3	11.9	3.9	3.2	5.2	6.1	8.9	27.4	48.6

Indicator	Temporay Method												CPR (Unadjusted)
	New Acceptors as % of MWRA						Current Users as % of MWRA						
	Condom	Pills	Depo	IUCD	Implant	Total	Condom	Pills	Depo	IUCD	Implant	Total	
NAWALPARASI WEST	2.8	2.0	2.8	0.3	1.7	9.6	2.8	2.6	3.4	2.1	7.6	18.5	42.6
RUPANDEHI	4.1	7.1	8.7	0.6	1.3	21.8	4.1	7.0	9.0	2.6	6.6	29.3	42.9
KAPILBASTU	2.6	3.3	3.6	0.2	2.7	12.5	2.6	2.2	3.8	3.3	12.3	24.2	34.2
DANG	3.7	2.2	3.8	0.2	1.7	11.5	3.7	3.2	6.5	6.4	9.2	29.0	42.7
BANKE	3.4	2.9	4.7	0.2	1.4	12.6	3.4	2.9	4.7	1.7	5.7	18.5	33.5
BARDIYA	3.3	1.8	4.8	0.2	1.8	12.0	3.3	2.4	5.9	3.4	7.4	22.5	48.8
Karnali Province	3.3	4.1	9.7	0.1	2.0	19.2	3.3	2.6	8.0	1.3	8.2	23.5	36.5
DOLPA	2.9	6.9	12.6	0.0	3.3	25.7	2.9	4.6	12.1	0.2	6.7	26.5	37.1
MUGU	2.0	5.4	15.7	0.1	5.9	29.0	2.0	2.3	7.8	0.4	8.0	20.4	34.8
HUMLA	2.6	7.7	17.5	0.0	1.3	29.1	2.6	5.6	11.5	0.0	2.1	21.9	37.0
JUMLA	2.8	2.8	8.6	0.0	1.2	15.4	2.8	1.7	6.6	0.2	3.7	15.0	38.3
KALIKOT	4.0	2.4	9.3	0.2	2.4	18.3	4.0	2.2	12.2	0.7	8.2	27.4	36.7
DAILEKH	3.4	3.7	9.6	0.2	1.5	18.4	3.4	2.6	6.7	1.4	4.8	19.0	28.2
JAJARKOT	1.9	5.0	13.1	0.0	1.8	21.8	1.9	3.0	9.5	0.8	8.7	23.9	33.2
RUKUM WEST	3.9	5.6	11.5	0.1	1.9	23.0	3.9	2.9	7.9	0.6	10.5	25.8	31.1
SALYAN	4.6	2.4	7.1	0.1	1.9	16.1	4.6	2.0	7.9	3.3	10.7	28.6	37.2
SURKHET	3.0	4.3	7.3	0.2	2.1	16.9	3.0	2.6	6.5	1.5	9.7	23.3	45.4
Sudurpashchim Province	5.7	2.8	6.4	0.2	2.0	17.1	5.7	3.4	6.8	2.2	8.1	26.2	40.6
BAJURA	4.5	3.2	9.4	0.2	2.2	19.5	4.5	2.9	8.4	0.3	8.2	24.3	38.1
BAJHANG	7.4	2.3	6.7	0.1	2.7	19.1	7.4	1.7	6.6	1.1	8.0	24.8	35.9
DARCHULA	6.1	2.4	8.4	0.1	2.7	19.7	6.1	2.4	8.5	1.4	14.8	33.3	42.1
BAITADI	7.5	4.3	7.7	0.2	2.2	21.9	7.5	3.3	8.4	2.5	11.9	33.7	42.2
DADELDHURA	6.0	2.6	9.3	0.0	2.0	19.9	6.0	2.6	9.4	0.7	7.4	26.1	36.7
DOTI	7.2	1.7	6.6	0.2	1.6	17.2	7.2	1.9	8.7	2.0	7.7	27.6	37.8
ACHHAM	5.8	5.0	7.6	0.1	3.0	21.5	5.8	4.2	6.8	1.0	10.2	28.0	33.5
KAILALI	4.5	2.1	4.6	0.3	1.9	13.4	4.5	4.4	5.9	2.1	7.7	24.6	45.1
KANCHANPUR	5.4	3.0	5.6	0.5	1.3	15.7	5.4	3.2	5.2	4.4	4.5	22.7	40.2
Source: IHIMS/DoHS													

Major Indicator of Family Planning, Fiscal Year 2077/78

Indicator	Permanent Method							
	New Acceptors as % of MWRA	Current Users as % of MWRA	% of VSC New Cases		Proportion of VSC New Acceptors at		Proportion of VSC provided (New) by	
			Female	Male	HF	Camp	Public	Non-Public
Nepal	0.25	19.79	78.07	21.93	0.38	0.62	0.73	0.27
Province 1	0.33	20.65	84.04	15.96	0.39	0.61	0.56	0.44
TAPLEJUNG	0.00	5.22						
SANKHUWASABHA	0.27	6.71	83.33	16.67	0.73	0.27	0.94	0.06
SOLUKHUMBU	0.00	3.47						
OKHALDHUNGA	0.13	6.86	95.65	4.35	1.00	0.00	0.00	1.00
KHOTANG	0.04	5.56	0.00	100.00	0.57	0.43	0.93	0.07
BHOJPUR	0.00	6.65						
DHANKUTA	0.00	7.09						
TERHATHUM	0.05	6.28	45.45	54.55	1.00	0.00	0.45	0.55
PANCHTHAR	0.71	4.52	34.78	65.22	0.14	0.86	1.00	0.00
ILAM	0.01	9.82	100.00	0.00	1.00	0.00	1.00	0.00
JHAPA	0.47	29.51	99.00	1.00	0.77	0.23	0.31	0.69
MORANG	0.68	37.01	79.63	20.37	0.19	0.81	0.48	0.52
SUNSARI	0.29	22.43	100.00	0.00	0.32	0.68	0.96	0.04
UDAYAPUR	0.00	8.19						
Madhesh Province	0.34	35.08	97.08	2.92	0.36	0.64	0.70	0.30
SAPTARI	0.18	33.85	100.00	0.00	0.02	0.98	1.00	0.00
SIRAHA	0.32	33.15	100.00	0.00	0.03	0.97	0.99	0.01
DHANUSA	0.41	40.10	99.74	0.26	0.93	0.07	0.80	0.20
MAHOTTARI	0.06	29.90	100.00	0.00	0.13	0.87	0.85	0.15
SARLAHI	0.28	35.46	99.44	0.56	0.52	0.48	0.17	0.83
RAUTAHAT	0.36	31.49	82.33	17.67	0.05	0.95	0.98	0.02
BARA	0.32	23.03	100.00	0.00	0.01	0.99	0.58	0.42
PARSA	0.82	56.03	98.65	1.35	0.50	0.50	0.57	0.43
Bagmati Province	0.15	14.65	53.28	46.72	0.71	0.29	0.70	0.30
DOLAKHA	0.00	14.56						
SINDHUPALCHOK	0.01	11.43	0.00	100.00	0.00	1.00	1.00	0.00
RASUWA	0.56	22.26	16.07	83.93	0.00	1.00	0.88	0.13
DHADING	0.25	11.98	4.50	95.50	0.34	0.67	0.72	0.29
NUWAKOT	0.01	19.11	0.00	100.00	0.00	1.00	0.00	1.00
KATHMANDU	0.24	9.75	81.34	18.66	0.94	0.06	0.86	0.14
BHAKTAPUR	0.01	12.98	0.00	100.00	0.00	1.00	1.00	0.00
LALITPUR	0.13	20.58	8.81	91.19	0.79	0.21	0.19	0.81
KAVREPALANCHOK	0.19	17.57	37.50	62.50	0.26	0.74	0.15	0.85
RAMECHHAP	0.00	5.91						
SINDHULI	0.16	12.16	74.78	25.22	0.14	0.86	0.95	0.05
MAKWANPUR	0.02	25.20	0.00	100.00	0.11	0.89	1.00	0.00
CHITAWAN	0.14	21.00	5.75	94.25	0.76	0.24	0.43	0.57
Gandaki Province	0.15	16.20	54.02	45.98	0.48	0.52	0.78	0.22
GORKHA	0.14	18.47	26.51	73.49	0.08	0.92	1.00	0.00
MANANG	0.00	13.95						
MUSTANG	0.00	20.10						
MYAGDI	0.21	14.47	16.98	83.02	0.15	0.85	1.00	0.00
KASKI	0.35	17.36	80.13	19.87	0.85	0.15	0.58	0.42
LAMJUNG	0.13	17.31	11.76	88.24	0.06	0.94	1.00	0.00
TANAHU	0.06	13.09	0.00	100.00	0.00	1.00	1.00	0.00
NAWALPARASI EAST	0.20	20.04	38.92	61.08	0.07	0.93	0.98	0.02

Indicator	Permanent Method							
	New Acceptors as % of MWRA	Current Users as % of MWRA	% of VSC New Cases		Proportion of VSC New Acceptors at		Proportion of VSC provided (New) by	
			Female	Male	HF	Camp	Public	Non-Public
SYANGJA	0.01	17.88	100.00	0.00	1.00	0.00	1.00	0.00
PARBAT	0.01	11.89	100.00	0.00	1.00	0.00	1.00	0.00
BAGLUNG	0.01	11.80	14.29	85.71	0.14	0.86	1.00	0.00
Lumbini Province	0.23	14.63	89.57	10.43	0.25	0.75	0.85	0.15
RUKUM EAST	0.10	5.34	35.71	64.29	0.00	1.00	1.00	0.00
ROLPA	0.03	5.10	25.00	75.00	0.19	0.81	1.00	0.00
PYUTHAN	0.13	7.48	82.67	17.33	0.00	1.00	1.00	0.00
GULMI	0.05	12.40	55.88	44.12	0.00	1.00	1.00	0.00
ARGHAKHANCHI	0.03	9.82	76.92	23.08	0.00	1.00	1.00	0.00
PALPA	0.33	21.22	81.96	18.04	0.73	0.27	0.31	0.69
NAWALPARASI WEST	0.70	24.02	98.63	1.37	0.12	0.88	1.00	0.00
RUPANDEHI	0.38	13.64	87.00	13.00	0.43	0.57	0.92	0.08
KAPILBASTU	0.06	9.99	100.00	0.00	0.11	0.89	0.97	0.03
DANG	0.15	13.72	82.65	17.35	0.00	1.00	0.22	0.78
BANKE	0.05	14.99	71.67	28.33	0.73	0.27	0.52	0.48
BARDIYA	0.42	26.36	97.61	2.39	0.00	1.00	0.98	0.02
Karnali Province	0.21	13.08	23.64	76.36	0.41	0.59	0.91	0.09
DOLPA	0.00	10.60						
MUGU	0.90	14.41	0.00	100.00	0.05	0.95	0.51	0.49
HUMLA	0.93	15.16	0.00	100.00	0.00	1.00	1.00	0.00
JUMLA	0.20	23.29	3.77	96.23	0.51	0.49	1.00	0.00
KALIKOT	0.14	9.28	0.00	100.00	0.69	0.31	1.00	0.00
DAILEKH	0.18	9.18	6.09	93.91	0.00	1.00	1.00	0.00
JAJARKOT	0.00	9.26	0.00	100.00	0.00	1.00	0.00	1.00
RUKUM WEST	0.04	5.26	21.43	78.57	1.00	0.00	0.00	1.00
SALYAN	0.11	8.59	17.39	82.61	0.55	0.45	1.00	0.00
SURKHET	0.32	22.12	58.50	41.50	0.75	0.25	1.00	0.00
Sudurpashchim Province	0.25	14.39	64.83	35.17	0.16	0.84	0.94	0.06
BAJURA	0.26	13.84	50.00	50.00	0.02	0.98	0.33	0.67
BAJHANG	0.51	11.05	5.58	94.42	0.02	0.98	0.91	0.09
DARCHULA	0.13	8.77	54.76	45.24	0.00	1.00	0.90	0.10
BAITADI	0.15	8.51	69.89	30.11	0.00	1.00	1.00	0.00
DADELDHURA	0.31	10.57	52.68	47.32	0.08	0.92	1.00	0.00
DOTI	0.81	10.20	68.01	31.99	0.07	0.93	0.97	0.03
ACHHAM	0.06	5.42	54.76	45.24	0.05	0.95	0.95	0.05
KAILALI	0.15	20.46	90.80	9.20	0.15	0.85	1.00	0.00
KANCHANPUR	0.24	17.47	92.76	7.24	0.59	0.41	1.00	0.00
Source: IHIMS/DoHS								

Major Indicator of Malaria and Kala-azar, Fiscal Year 2077/78

Indicator	MALARIA					KALA-AZAR		
	Annual blood examination rate of malaria	Slide positivity rate of malaria	Annual Parasite Incidence (per 1,000 population)	% of P. Falciparum (PF) cases	% of imported cases among positive cases	Number of Kala-azar cases in at risk districts	Incidence of Kala-azar per 10,000 population in at risk districts	Kala-azar case fatality rate in at risk districts
Nepal	1.32	0.24	0.03	13.5	82.5	204	0.07	17.6
Province 1	1.64	0.02	0.00	0	100	45	0.10	0
TAPLEJUNG	1.25	0	0.00			0	0.00	
SANKHUWASABHA	0.62	0	0.00			1	0.05	0
SOLUKHUMBU	0.00	0	0.00			0	0.03	
OKHALDHUNGA	1.31	0	0.00			37	0.02	0
KHOTANG	0.26	0	0.00			2	0.01	0
BHOJPUR	0.63	0	0.00			0	0.00	
DHANKUTA	1.16	0	0.00			0	0.00	
TERHATHUM	0.24	0	0.00			0	0.00	
PANCHTHAR	0.00	0	0.00			2	0.19	0
ILAM	0.13	0	0.00			0	0.00	
JHAPA	5.98	0.05	0.03	0	100	3	0.00	0
MORANG	9.91	0.01	0.01	0	100	0	2.18	
SUNSARI	0.92	0	0.01			0	0.41	
UDAYAPUR	0.93	0	0.00			0	0.06	
Madesh Pradesh	1.05	0.05	0.01	27.3	90.9	3	0.01	233.3
SAPTARI	5.52	0	0.00			0	0.00	
SIRAHA	1.59	0.1	0.02	0	50	0	0.01	
DHANUSA	1.39	0.03	0.00	100	100	0	0.04	
MAHOTTARI	1.58	0.09	0.01	50	100	2	0.06	0
SARLAHI	1.37	0	0.00			1	0.00	0
RAUTAHAT	0.80	0.21	0.02	25	100	0	0.00	
BARA	2.15	0.08	0.02	0	100	0	0.00	
PARSA	0.48	0	0.00			0	0.00	
Bagmatis Province	0.71	0.08	0.01	70	80	27	0.02	92.6
DOLAKHA	7.89	0	0.00			0	0.10	
SINDHUPALCHOK	0.13	0	0.00			0	0.05	
RASUWA	0.17	0	0.00			0	0.00	
DHADING	0.18	0	0.00			0	0.00	
NUWAKOT	0.09	0	0.00			0	0.00	
KATHMANDU	0.23	0.1	0.00	80	100	25	0.02	100
BHAKTAPUR	0.04	0	0.00			0	0.00	
LALITPUR	8.04	0	0.00			2	0.01	0
KAVREPALANCHOK	0.52	0.55	0.03	100	50	0	0.03	
RAMECHHAP	0.68	0	0.00			0	0.00	
SINDHULI	0.71	0.06	0.00	100	0	0	0.00	
MAKWANPUR	0.07	0.32	0.00	0	100	0	0.09	
CHITAWAN	0.37	0.04	0.00	0	100	0	0.00	
Gandaki Province	0.42	0.25	0.01	25	100	0	0.02	

GORKHA	0.12	0	0.00					0	0.08				
MANANG	0.00		0.00					0	0.00				
MUSTANG	0.00	0	0.00					0	0.03				
MYAGDI	0.33	0	0.00					0	0.08				
KASKI	0.23	0.43	0.01	75		100		0	0.00				
LAMJUNG	1.44	0.09	0.01	0		100		0	0.00				
TANAHU	0.12	0.3	0.00	0		100		0	0.00				
NAWALPARASI EAST	3.47	0.21	0.07	0		100		0	0.00				
SYANGJA	0.24	0.94	0.02	0		100		0	0.00				
PARBAT	0.44	0	0.00					0	0.04				
BAGLUNG	0.63	0	0.00					0	0.00				
Lumbini Province	2.71	0.16	0.04	31		91.7		41	0.04	4.9			
RUKUM EAST	0.00	0	0.00					0	0.04				
ROLPA	0.00	0	0.00					0	0.20				
PYUTHAN	0.61	0.12	0.04	0		100		0	0.00				
GULMI	1.22	0.25	0.04	0		100		0	0.03				
ARGHAKHANCHI	1.71	0.06	0.02	0		100		0	0.00				
PALPA	1.67	0.18	0.01	0		100		5	0.00	0			
NAWALPARASI WEST	14.40	0.11	0.08	33.3		100		0	0.21				
RUPANDEHI	55.61	0.07	0.16	14.3		100		17	0.04	5.9			
KAPILBASTU	4.41	0.22	0.10	15.4		100		0	0.00				
DANG	0.55	0.18	0.01	25		50		0	0.05				
BANKE	4.12	0.23	0.10	42.9		90.5		19	0.00	5.3			
BARDIYA	2.07	0.12	0.02	33.3		88.9		0	0.06				
Karnali Province	0.52	0.47	0.02	5.9		50		72	0.30	1.4			
DOLPA	0.00	0	0.00					0	0.06				
MUGU	4.09	0.4	0.16	0		33.3		0	0.07				
HUMLA	11.74	0.4	0.47	14.3		0		0	0.28				
JUMLA	0.00	0	0.00					1	0.17	0			
KALIKOT	0.53	1.9	0.10	16.7		33.3		43	0.15	2.3			
DAILEKH	0.11	0	0.00					0	0.23				
JAJARKOT	0.03	0	0.00					0	0.24				
RUKUM WEST	0.91	0.15	0.01	0		100		0	1.55				
SALYAN	0.00	0	0.00					0	0.15				
SURKHET	0.59	0.64	0.04	0		75		28	0.34	0			
Sudurpashchim Province	1.52	0.53	0.08	4.5		82.5		16	0.20	6.3			
BAJURA	0.57	1.6	0.09	0		100		7	0.83	0			
BAJHANG	0.09	0.87	0.01	0		100		0	0.00				
DARCHULA	0.30	0	0.00					0	0.45				
BAITADI	0.94	0.64	0.06	6.7		20		0	0.19				
DADELDHURA	1.95	0.35	0.07	0		45.5		0	0.07				
DOTI	0.51	1.2	0.06	0		100		1	0.21	100			
ACHHAM	0.49	1.7	0.09	0		100		7	0.19	0			
KAILALI	1.45	0.74	0.11	8.7		94.2		1	0.22	0			
KANCHANPUR	3.49	0.25	0.09	0		68.1		0	0.14				

Source: IHIMS/DoHS

Major indicataors of Leprosy program, FY 2077/78

Indicator	New Case Detection Rate/100000	Incidence of Leprosy/ 100000	Total Leprosy New Cases	Child proportion among new	% of New Leprosy Cases- MB	Defaulter proportion	Female proportion among new
Nepal	7.1	0.71	2143	5.13	73.3	3.29	40.78
Province 1	7	0.7	348	6.9	77.9	2.74	43.39
TAPLEJUNG	0	0	0				
SANKHUWASABHA	0.64	0.06	1	0	100	0	0
SOLUKHUMBU	0	0	0				
OKHALDHUNGA	0	0	0				
KHOTANG	0.58	0.06	1	0	100	0	0
BHOJPUR	0	0	0				
DHANKUTA	0	0	0				
TERHATHUM	0.99	0.1	1	0	100	0	0
PANCHTHAR	0	0	0			0	
ILAM	0.32	0.03	1	0	100	0	0
JHAPA	10.2	1	95	0	78.9	1.98	40
MORANG	11.6	1.2	128	14.06	73.4	4.48	42.97
SUNSARI	12.3	1.2	114	3.51	79.8	0.87	47.37
UDAYAPUR	2	0.2	7	28.57	100	12.5	57.14
Madesh Pradesh	11.9	1.2	752	3.72	64.2	3.47	40.29
SAPTARI	7.5	0.75	54	7.41	85.2	0	38.89
SIRAHA	11.7	1.2	83	6.02	55.4	3.26	40.96
DHANUSA	14.3	1.4	121	3.31	64.5	4.84	45.45
MAHOTTARI	12	1.2	86	0	55.8	3.49	44.19
SARLAHI	11.8	1.2	107	5.61	70.1	0.88	35.51
RAUTAHAT	13.1	1.3	112	7.14	60.7	4.39	48.21
BARA	10.4	1	87	0	60.9	0.96	36.78
PARSA	14.1	1.4	102	0.98	67.6	8.41	30.39
Bagmatis Province	1.5	0.15	98	5.1	88.8	5	40.82
DOLAKHA	0.53	0.05	1	0	100	0	0
SINDHUPALCHOK	0	0	0			0	
RASUWA	0	0	0				
DHADING	0.28	0.03	1	0	100	0	0
NUWAKOT	0.69	0.07	2	0	100	0	50
KATHMANDU	0.4	0.04	9	0	88.9	0	22.22
BHAKTAPUR	1.6	0.16	6	0	83.3	0	16.67
LALITPUR	2.1	0.21	12	41.67	100	0	41.67
KAVREPALANCHOK	0.99	0.1	4	0	100	0	25
RAMECHHAP	0	0	0				
SINDHULI	1.6	0.16	5	0	80	0	80
MAKWANPUR	3.2	0.32	15	0	100	0	73.33
CHITAWAN	6.1	0.61	43	0	81.4	4.26	34.88
Gandaki Province	4.2	0.42	106	8.49	93.4	4.42	44.34
GORKHA	1.2	0.12	3	0	100	0	33.33
MANANG	0	0	0				
MUSTANG	0	0	0				
MYAGDI	6.3	0.63	7	0	100	0	42.86
KASKI	3.9	0.39	23	8.7	100	16.67	43.48
LAMJUNG	1.7	0.17	3	0	100	33.33	66.67
TANAHU	8.9	0.89	31	0	100	0	35.48
NAWALPARASI EAST	5.9	0.59	21	19.05	66.7	0	57.14
SYANGJA	2.8	0.28	7	14.29	100	0	14.29
PARBAT	5.4	0.54	8	25	100	0	75
BAGLUNG	1.1	0.11	3	0	100	0	33.33
Lumbini Province	10.9	1.1	561	6.6	69.5	2.52	41.89
RUKUM EAST	1.7	0.17	1	0	100	0	100

Annex 3: Raw data and Indicators FY 2077-78

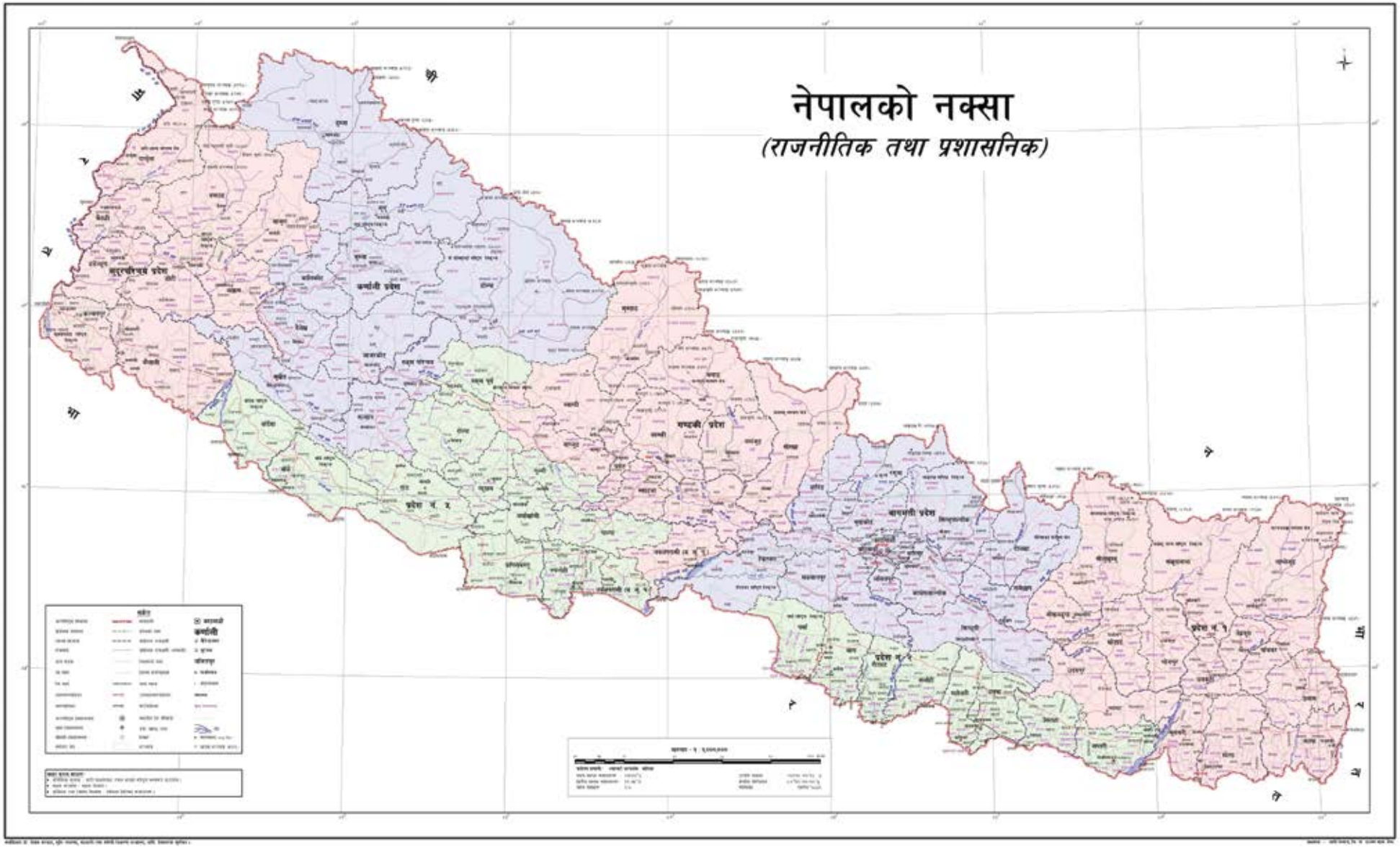
Indicator	New Case Detection Rate/100000	Incidence of Leprosy/ 100000	Total Leprosy New Cases	Child proportion among new	% of New Leprosy Cases- MB	Defaulter proportion	Female proportion among new
ROLPA	3.8	0.38	9	0	100	0	33.33
PYUTHAN	1.6	0.16	4	0	100	0	50
GULMI	0.79	0.08	2	0	100	0	50
ARGHAKHANCHI	0	0	0				
PALPA	3.6	0.36	9	0	88.9	0	33.33
NAWALPARASI WEST	13.7	1.4	52	19.23	63.5	3.85	42.31
RUPANDEHI	14.6	1.5	158	6.96	81	1.75	37.34
KAPILBASTU	18.9	1.9	128	2.34	71.9	1.49	48.44
DANG	2.6	0.26	17	0	88.2	0	23.53
BANKE	20.3	2	125	7.2	54.4	5.93	41.6
BARDIYA	11.6	1.2	56	7.14	53.6	0	46.43
Karnali Province	3.7	0.37	67	1.49	92.5	5.41	11.94
DOLPA	0	0	0				
MUGU	0	0	0				
HUMLA	1.7	0.17	1	0	100	0	0
JUMLA	3.2	0.32	4	0	100	12.5	0
KALIKOT	3.7	0.37	6	0	100	0	33.33
DAILEKH	4	0.4	12	0	75	0	8.33
JAJARKOT	5	0.5	10	0	80	10	10
RUKUM WEST	5.3	0.53	9	0	100	22.22	11.11
SALYAN	4.7	0.47	13	7.69	100	0	15.38
SURKHET	2.8	0.28	12	0	100	0	8.33
Sudurpashchim Province	7.1	0.71	211	2.84	84.8	3.42	42.65
BAJURA	0.64	0.06	1	0	100	0	100
BAJHANG	1.3	0.13	3	0	100	25	66.67
DARCHULA	0.69	0.07	1	0	100	0	100
BAITADI	1.9	0.19	5	20	100	0	40
DADELDHURA	0	0	0				
DOTI	2.3	0.23	5	0	100	0	20
ACHHAM	6.9	0.69	20	0	95	12	45
KAILALI	14.3	1.4	138	2.9	81.2	2.04	42.75
KANCHANPUR	7.1	0.71	38	2.63	86.8	2.27	39.47

Source: IHIMS/DoHS

Major Indicators of Tuberculosis and OPD/Morbidity Services, FY 2077/78

Indicator	Tuberculosis				OPD/Morbidity Visit			
	PBC_ CNR New	PBC_CNR_ Relapse	CNR_TB	Total TB Cases	% of OPD New Visits	Total New OPD Visits Female	Total New OPD Visits Male	Total New OPD Visits
Nepal	48.3	4.4	94.7	28800	77	13108444	10168891	23277335
Province 1	35.6	3.7	71.7	3582	80	2215232	1742964	3958196
TAPLEJUNG	14.5	0	25.2	33	80	57005	48208	105213
SANKHUWASABHA	16.1	3.2	34.7	55	104	89509	72783	162292
SOLUKHUMBU	19.6	2	34.3	36	111	64172	48536	112708
OKHALDHUNGA	25.7	2	54.1	86	130	115041	82091	197132
KHOTANG	8.8	1.2	18.7	33	87	82087	66645	148732
BHOJPUR	19.5	1.3	32.5	53	87	75160	58397	133557
DHANKUTA	9.3	2.3	24.5	46	65	62434	48929	111363
TERHATHUM	11.9	0	20.9	23	78	43836	34757	78593
PANCHTHAR	9.1	1	15.7	34	57	61163	51688	112851
ILAM	23.9	1.3	41.2	129	67	118592	89978	208570
JHAPA	57.3	6.3	106.2	993	102	527105	426744	953849
MORANG	40.9	5.2	87.8	968	90	550599	446179	996778
SUNSARI	42	3.9	96.3	891	47	249063	182659	431722
UDAYAPUR	34.6	2.8	56	202	57	119466	85370	204836
Madesh Pradesh	59.3	2.7	105.3	6653	61	2053540	1804251	3857791
SAPTARI	36.2	1.3	61.6	442	53	205747	171767	377514
SIRAHA	46.9	0.99	80.7	575	57	222369	179015	401384
DHANUSA	65	2.6	138.2	1173	55	253316	216425	469741
MAHOTTARI	67.5	2.4	114.1	816	57	222438	185561	407999
SARLAHI	78.1	3.7	117.7	1064	66	326141	270425	596566
RAUTAHAT	64.4	3.2	106.4	909	53	240547	209653	450200
BARA	59.7	3.7	105.6	888	63	282691	249028	531719
PARSA	49.8	3	108.7	786	86	300291	322377	622668
Bagmatis Province	45.7	4.6	102.6	6782	70	2555241	1990147	4545388
DOLAKHA	24.1	1.1	48.1	91	105	111916	84074	195990
SINDHUPALCHOK	31.9	5.1	57.4	172	123	204924	158688	363612
RASUWA	31	2.2	68.7	33	142	32604	31591	64195
DHADING	31.8	3.1	58.8	305	93	189349	139948	329297
NUWAKOT	32.6	3.8	68.4	199	74	120754	93092	213846
KATHMANDU	49.4	3.4	130.9	2983	38	487426	384656	872082
BHAKTAPUR	53.4	6.4	120.8	454	70	149657	112570	262227
LALITPUR	40.8	4	95.3	557	60	194117	152788	346905
KAVREPALANCHOK	34.9	2.2	63.2	255	112	254762	199138	453900
RAMECHHAP	20.1	1.4	40.2	85	104	124769	92327	217096
SINDHULI	42.7	5.5	71.2	223	84	147267	112990	260257
MAKWANPUR	68	6	114.1	532	47	125300	90716	216016
CHITAWAN	59	10.8	126.6	893	106	412396	337569	749965
Gandaki Province	32.9	4.5	73.9	1871	97	1373632	1063483	2437115
GORKHA	40.1	4.9	76	186	126	176782	131270	308052
MANANG	0	0	0	0	199	6079	6439	12518
MUSTANG	35.3	0	35.3	5	237	13224	13702	26926
MYAGDI	22.6	0.9	43.4	48	95	59722	45586	105308
KASKI	29.5	5.6	78.4	465	91	294203	245983	540186
LAMJUNG	37.2	1.2	58.7	102	125	122117	92654	214771
TANAHU	30.8	5.5	69.3	242	89	175975	133492	309467
NAWALPARASI EAST	52.3	5.3	117	417	66	131391	102188	233579

Indicator	Tuberculosis				OPD/Morbidity Visit			
	PBC_ CNR New	PBC_CNR_ Relapse	CNR_TB	Total TB Cases	% of OPD New Visits	Total New OPD Visits Female	Total New OPD Visits Male	Total New OPD Visits
SYANGJA	29.4	3.2	71.7	179	104	146903	112491	259394
PARBAT	20.9	2.7	40.4	60	105	89304	66242	155546
BAGLUNG	23.6	5.3	58.4	167	95	157932	113436	271368
Lumbini Province	62	5.8	114.2	5872	82	2426550	1788915	4215465
RUKUM EAST	42.6	3.4	90.3	55	77	27149	18163	45312
ROLPA	46.5	5.9	92.6	222	90	132776	81975	214751
PYUTHAN	57.2	6.2	105.3	256	112	160577	110869	271446
GULMI	33.4	4.3	73.2	187	150	224570	155612	380182
ARGHAKHANCHI	33.6	2.5	87.9	178	98	112404	85220	197624
PALPA	66.4	16.6	137.2	339	127	180313	133714	314027
NAWALPARASI WEST	62.7	5.8	111.3	422	64	139982	101068	241050
RUPANDEHI	63.7	4.7	114.5	1241	75	447833	361643	809476
KAPILBASTU	58.6	3.7	93.6	633	66	247392	197442	444834
DANG	75.8	5	137.6	904	72	276338	194486	470824
BANKE	69.8	7.8	136.3	839	72	248290	193750	442040
BARDIYA	70.7	6.4	123.2	596	79.4	228926	154973	383899
Karnali Province	29.7	3.9	65.3	1204	102.7	1091467	782438	1873905
DOLPA	28.1	0	60.8	29	115.5	27852	21550	49402
MUGU	23.2	1.5	57.2	37	133.8	48181	38348	86529
HUMLA	5.1	0	37	22	165.2	54159	43968	98127
JUMLA	23.7	0.79	62.5	82	98.9	67930	57003	124933
KALIKOT	15.5	1.9	37.2	60	95.7	85455	68727	154182
DAILEKH	24	2.3	42.6	129	81.0	144822	98496	243318
JAJARKOT	28.9	4.5	50.4	103	92.8	103059	83039	186098
RUKUM WEST	39.7	4.7	77	133	150.1	153429	103735	257164
SALYAN	29.9	5.5	64.1	177	91.7	155447	96333	251780
SURKHET	41.6	6.4	101.6	432	99.8	251133	171239	422372
Sudurpashchim Province	53.2	6.7	95.7	2836	80.9	1392782	996693	2389475
BAJURA	40.1	4.5	88.5	141	104.7	91199	73206	164405
BAJHANG	38	5.4	69.7	157	72.2	89505	72075	161580
DARCHULA	31	6.9	59.9	88	99.9	78522	66610	145132
BAITADI	31.4	8.2	61.7	167	76.5	113368	91019	204387
DADELDHURA	39.5	11.9	82.1	131	109.3	100370	74036	174406
DOTI	54.3	3.7	82.4	176	127.1	165688	105584	271272
ACHHAM	31.4	4.5	50.7	147	108.6	183860	131114	314974
KAILALI	62.3	4.3	112.7	1087	58.0	335848	222557	558405
KANCHANPUR	79.2	12.5	138.5	742	73.8	234422	160492	394914
Source:HMIS/DoHS								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