

Existing practices of research-based evidence collection, its synthesis, and its application into policy making : Perspectives from DoHS

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Importance of Research in Health

- Determining the magnitude and distribution of the health problem;
- Developing solutions or interventions that will help to prevent or mitigate public health issues;
- Informing policies, strategies, decision and health services (interventions)
- Implementing/delivering solutions through policies and programs;
- Monitoring and evaluation of the impact of the solutions on public health issues
- Evidence yielded are critical for improving health, policies and practices
- Helps to prioritize limited resources for optimum benefits



Sources of Evidence in DoHS

- **Periodic Surveys**

- Pilot and pre implementation studies;
- Base line, endline & other evaluation studies and programme effectiveness studies;
- National level surveys: Nepal Demographic and Health Survey (NDHS); Multiple Indicator Cluster Survey (MICS)
- Studies of specific programs e.g., SNCU Level II assessment, EmONC assessment
- Post campaign coverage assessments & surveys (IPV; TCV PCCS, MR PCCS)



Sources of Evidence in DoHS

- **Routine Health Information System**

- Health Management Information System (HMIS), Logistics Management Information System (LMIS)
- Public Management Assessment System (PAMS)
- Vaccine Preventable Disease (VPD) Surveillance
- Surveillance systems like Maternal and Perinatal Death Surveillance and Response (MPDSR), Newborn Birth Defect Surveillance, Early Warning and Reporting System (EWARS), Sentinel Surveillance (Rota and Invasive Bacterial Disease Surveillance), Adverse Event Following Immunization (AEFI) Surveillance etc.

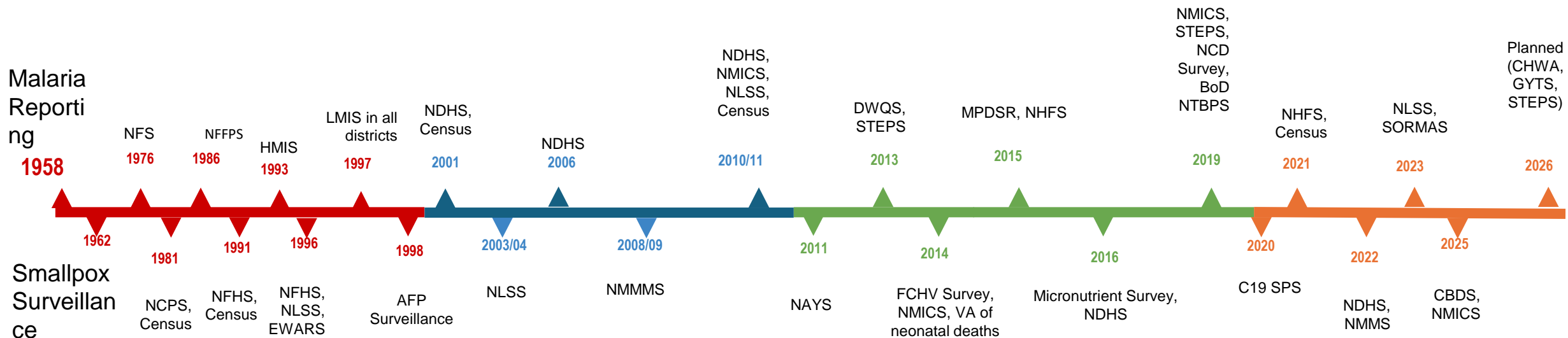


Sources of Evidence in DoHS

- **Research in collaboration with Research Institute, Academic institutions, Medical colleges, NGOs/INGOs.**
 - Pilot studies (BRAT tool pilot Implementation in Nepal)
 - Base line studies and project effectiveness studies (HPV/TCV PIE)
 - Implementation research (Immunization microplanning, waste management)
 - Studies of specific programs e.g., SNCU Level II studies.



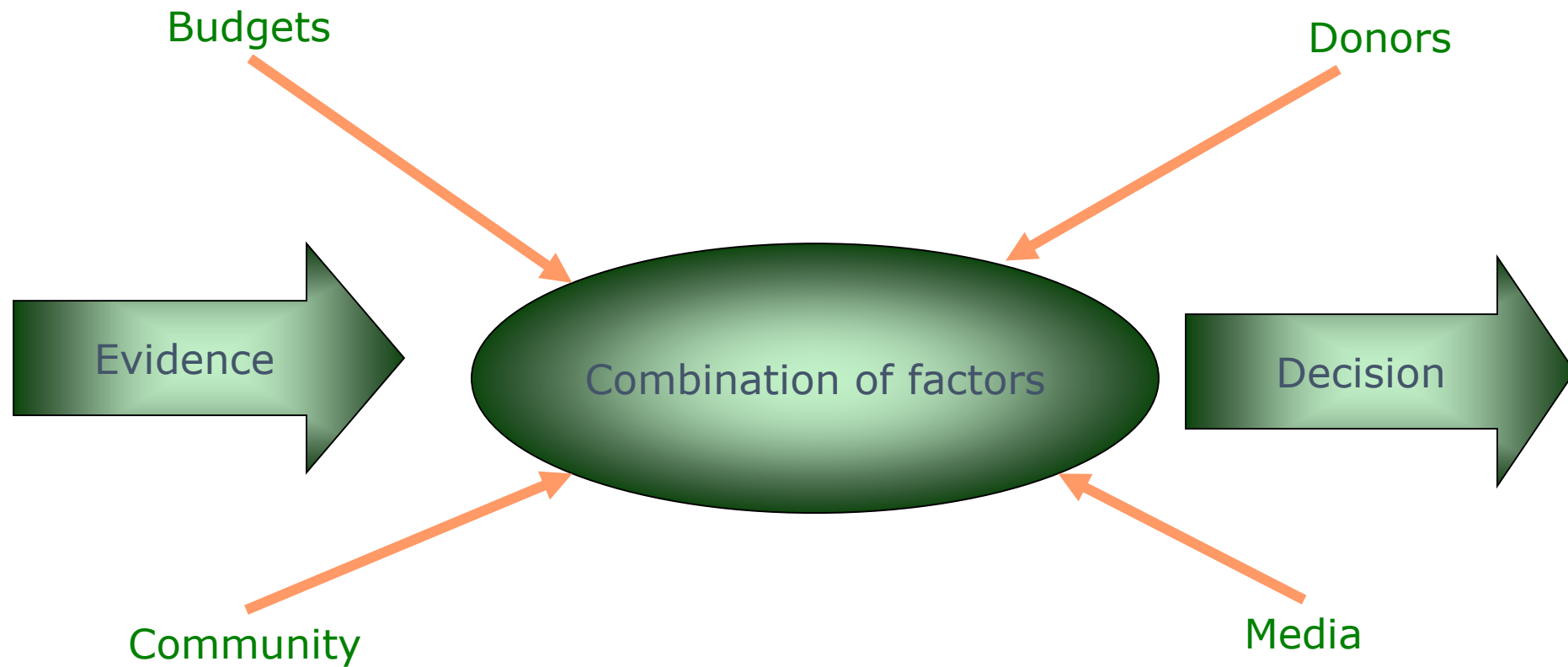
Major Sources of Evidence



NFS: Nepal Fertility Survey
 NCPS: Nepal contraceptive prevalence survey
 NFFPS: Nepal Fertility and Family Planning Survey
 NFHS: Nepal Family Health Survey
 NMMS: Nepal Maternal Mortality and Morbidity Study
 NAYS: Nepal Adolescent and Youth Survey
 DWQS: Drinking Water Quality Surveillance
 NMMS: Nepal Maternal Mortality Study
 NHFS: Nepal Health Facility Survey
 NLSS: Nepal Living Standards Survey

STEPS: STEPwise Approach to Noncommunicable Disease Risk-Factor Surveillance
 NMICS: Nepal Multiple Indicator Cluster Survey
 MPDSR: Maternal and perinatal death surveillance and response
 BoD: Burden of Disease Estimation
 NTBPS: National TB Prevalence Survey
 C19 SPS: COVID19 Sero Prevalence Survey
 SORMAS: Surveillance, Outbreak Response Management and Analysis System
 CBDS: Community Based Disease Surveillance
 CHWA: Community Health Worker Assessment
 GYTS: Global Youth Tobacco Survey

Influence on Decision-Making



Evidence Sourcing and Use

Annual Health Report 2080/81

Nepal

Generating evidence to deliver for children

Multiple Indicator Cluster Survey
2024-25



Government of Nepal
Office of the Prime Minister and Councils of Ministers
National Statistics Office

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Maternal and Perinatal Death Surveillance and Response [MPDSR]

Factsheet No. 6
FY 2080/81
(Jul/Aug 2021 – Jun/Jul 2024)
(Reported till Basakh 2082)

Nepal was able to demonstrate significant reduction in maternal, newborn and child mortalities in the MDG era. Despite various challenges, Nepal has achieved significant reduction in maternal and child mortality, and evidently the health status is progressing. Maternal mortality in Nepal has dropped significantly from 539 per million live births (NFHS) in 1996 to 142 per million live births in 2023 as per the UN-IGME estimates. Similarly, the under-five mortality rate has come down from 118 in 1996 to 26.5 per 1000 live births in 2022. The infant mortality rate has also dropped from 78 in 1996 to 23 per 1000 live births in 2023. The neonatal mortality rate, dropped from 50 in 1996 to 16.6 per 1000 live births in 2023 (UN-IGME-2023).

What is MPDSR?

Maternal and Perinatal Death Surveillance and Response (MPDSR) is a routine monitoring process of continuous identification, notification, quantification and determination of causes and avoidability of all maternal and perinatal death and using the information to take actions that will prevent future deaths.

The main goal of MPDSR is to obtain and use information on each maternal and perinatal death to guide public health actions, monitor their impact and hence eliminate preventable maternal and perinatal mortality.

Implementation Status

- MPDSR system has two components: Facility based MPDSR (hospitals) and Community based MPDSR (districts and local levels).
- 121 hospitals implementing facility based MPDSR report both maternal and perinatal deaths, while 52 districts and their local levels implementing community based MPDSR (complete & partial implementation) report only maternal deaths.

Key Principles of MPDSR

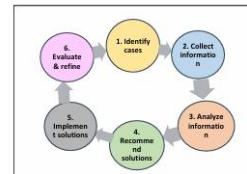
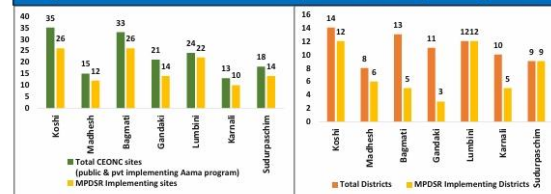


Figure 1. Province wise Distribution of Hospitals & Districts Implementing MPDSR



Nepal



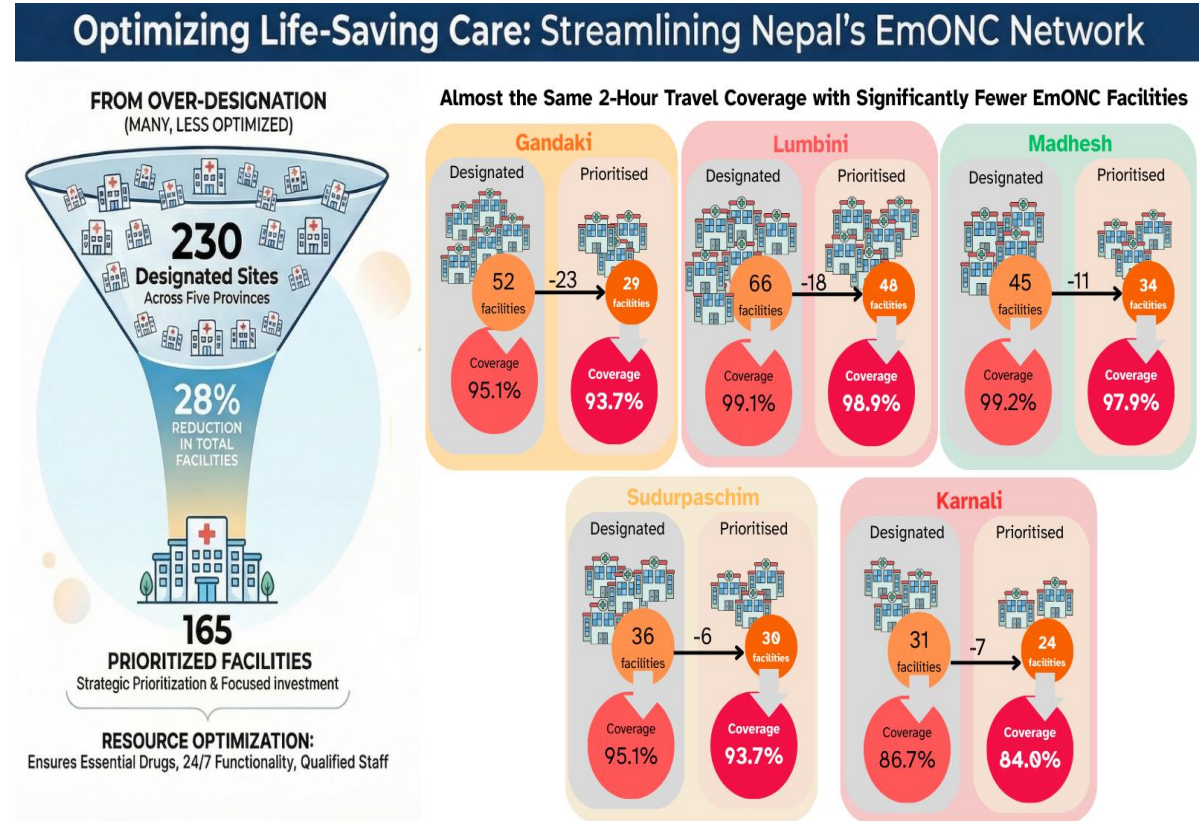
Demographic and
Health Survey

2022

Government of Nepal
Ministry of Health and Population
Department of Health Services

EmONC Prioritization Process

- **Research topic:** Emergency Obstetric and Neonatal Care (EmONC) prioritization process in Nepal, 2025 (five provinces)
- **Recommendations:**
 - Strengthen prioritized facilities with focus on quality of care
 - Efficient and functional referral system
 - Targeted resource, and Integrated programming approach to prioritized facilities e.g., EmONC/MPDSR/QI/PPFP



Maternal Mortality Study 2021

- **Research topic:** Maternal Mortality Study 2021, Nepal
- **Major findings:**
 - Maternal deaths due to self harm (6%)
- **Recommendations:**
 - Integration of mental health services in maternal health (ANC & PNC)
- **Policy changes based on research findings:**
 - National SoP and framework for Maternal Mental Health (MMH)
 - Initiation of MMH Services from PMWH, 2024



Maternal Mortality Study 2021

- **Research topic:** Maternal Mortality Study 2021, Nepal
- **Major findings:**
 - Maternal deaths due to Obstetric Haemorrhage (26%)
 - Recommendations:
 - Development of PPH Orientation Package
- **Policy changes based on research findings:**
 - Development of PPH Orientation Package- EMOTIVE-Bundle approach, Non-Pneumatic Anti Shock Garment (NASG), Tranexamic Acid

DIRECT CAUSES OF MATERNAL DEATHS

32%

NON- OBSTETRIC COMPLICATIONS

Almost one third (32%) of Maternal Death were due to Non-Obstetrics Complications.

26%

OBSTETRIC HAEMORRHAGE

92% being Postpartum Haemorrhage and 8% Antepartum Haemorrhage

12%

HYPERTENSIVE DISORDERS

The second leading cause of Direct Maternal Death was Hypertensive Disorders

7%

PREGNANCY-RELATED INFECTION

7% of Maternal Deaths were due to Pregnancy-Related Infection (mostly postpartum)

6%

SELF - HARM

6% of Maternal Deaths were due to intentional Self-Harm, with the majority occurring during pregnancy

5%

PREGNANCY WITH ABORTIVE OUTCOME

5% were due to Pregnancy with Abortive Outcome

1%

COMPLICATIONS OF ANESTHESIA MANAGEMENT

1% were due to unanticipated Complications of Anesthesia Management

11%

OTHERS



Coverage assessment – CMAM/IMAM Programme

- **Research topic:** Semi-quantitative evaluation of access and coverage (SQUEAC), 2024-2025. Coverage assessment method for Community management of acute malnutrition (CMAM) / Integrated management of Acute Malnutrition (IMAM) programme
- **Major findings:**
 - significant challenges in programme coverage, including issues with service quality, protocol adherence, and service delivery.
- **Recommendations:**
 - Strengthen coordination and monitoring from all tiers of government
 - Focus on Capacity enhancement
 - Ensure adherence to treatment and regular follow-up
 - Strengthen referral mechanism
- **Policy changes based on research findings:** National nutrition screening program initiated in health facilities from FY 2082-83



AEFI and Vit K Deficiency

- **Research topic:** Vaccine safety surveillance informs public health policy beyond immunization: A case- series on bleeding following vaccination, Nepal, 2016-2018
- **Major findings:**
 - Bleeding following vaccination as AEFI
 - Vitamin K Deficiency Bleeding (VKDB) should be suspected in infants with bleeding following vaccination- prompt treatment should be initiated
- **Recommendations:**
 - Vitamin K administration at Birth
- **Policy changes based on research findings:** Vitamin K administration at birth introduced in Nepal based on the AEFI surveillance findings



PEN Pilot and Scale Up

- **Research topic:** Piloting of PEN in Kailali and Ilam district(2016)
- **Major findings:** Prevalence of NCD was high
- **Recommendations:** Priority of PEN in Basic Health Service
- **Policy changes based on research findings:** PEN Scale up throughout the country



SHAPU Outbreak – Sentinel Surveillance

- **Research topic:** Outbreak of Seasonal Hyper Acute Pan Uveitis Disease in Nepal(2021)
- **Major findings:** Rapid and irreversibility and high magnitude of visual loss, affecting 15.2% all age group and which is high in Children with 27.7% prevalence
- **Recommendations:** Priority for reporting in EWARS and SORMAS
- **Policy changes based on research findings :** Inclusion of SHAPU in Sentinel surveillance



Neonatal Hearing Screening

- **Research topic:** Universal Neonatal Hearing Screening; An Experience at Tertiary Care Hospital 2017 -2019
- **Major findings:** Prevalence of hearing loss among screened neonates was 1.8%
- **Recommendations:** Mandatory universal neonatal screening in Nepal for early detection and management of hearing loss to ensure normal development of child
- **Policy changes based on research findings:** Newborn hearing screening guideline 2024



Midwifery Education

- **Research topic:** Need assessment of Midwifery education in 2021
- **Major findings:** Midwifery skills are severely lack
- **Recommendations:** Need of midwife for quality MNH health outcome
- **Policy changes based on research findings:** Development of MIDWIFERY Roadmap, and PCL midwifery course started.



To Summarize :-

- Nepal's health sector generates substantial data and research evidence through surveys, surveillance, routine systems, and collaborative studies.
- Evidence has demonstrably informed policy and program decisions, particularly during pilots, evaluations, and public health emergencies.
- However, evidence use remains uneven and often ad-hoc, with limited systematic integration into routine planning, budgeting, and program review.
- Strengthening research governance and institutionalizing evidence use is increasingly critical given rising NCD burden, fiscal constraints, and growing need for explicit prioritization.



Future Directions

- **Institutionalize research governance within DoHS**
 - A need for a clear focal mechanism or unit to coordinate research priorities, oversee studies, and link evidence to program decisions.
- **Embed evidence use in core decision processes**
 - Require explicit evidence inputs for annual planning, program reviews, guideline updates, and budget proposals.
- **Shift from evidence generation to synthesis and use**
 - Promote regular policy briefs, synthesis notes, and dashboards tailored to decision-makers at federal and sub-national levels.



Future Directions

- **Strengthen use of routine data for adaptive management**
 - Need for encouraging triangulation of HMIS, surveillance, and research to inform ongoing program adjustments rather than one-off decisions.
- **Build leadership and managerial capacity for evidence use**
 - Need for investing in practical skills for interpreting data, assessing relevance, and applying evidence in real-world program contexts.
- **Use priority-setting as a core decision tool**
 - Institutionalize explicit priority-setting approaches to regularly review programs and align resources with impact, equity, and feasibility.



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THANK YOU