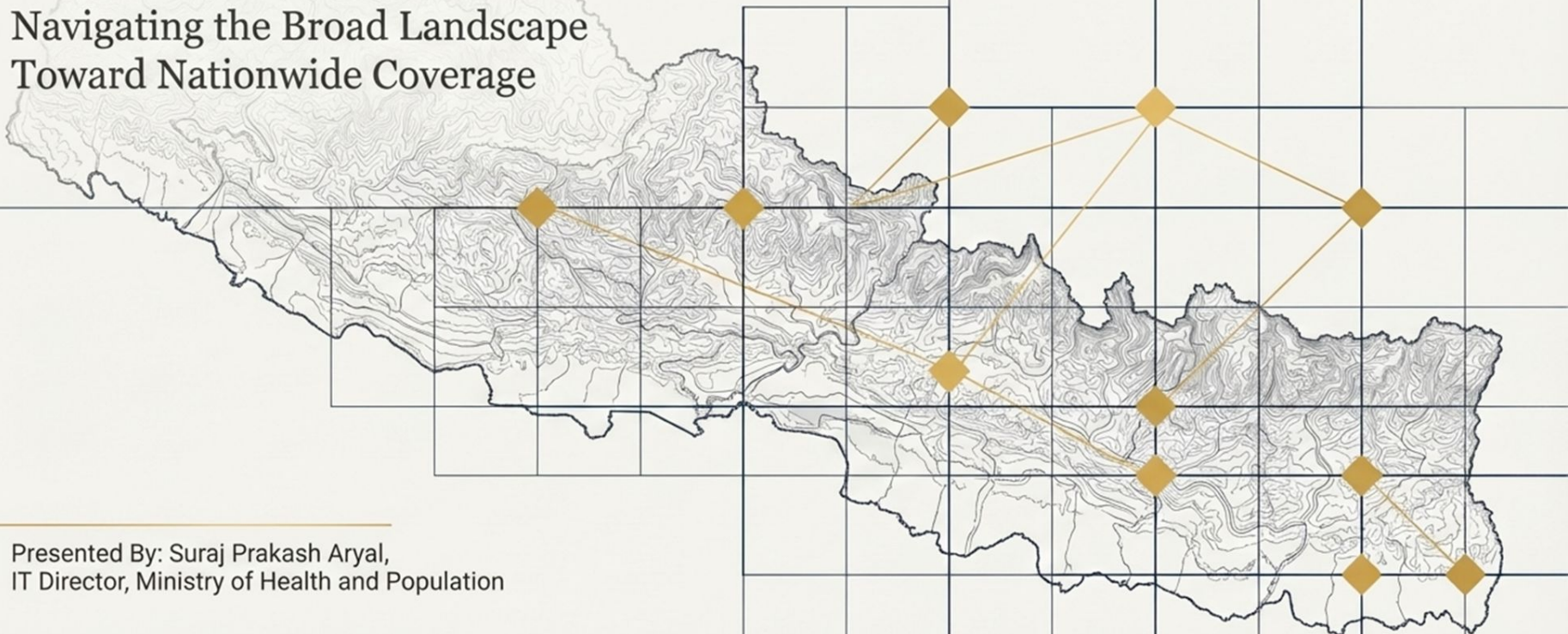


The Digital Transformation of Healthcare in Nepal

Navigating the Broad Landscape
Toward Nationwide Coverage



Presented By: Suraj Prakash Aryal,
IT Director, Ministry of Health and Population

One Citizen, One Health Story



Digital health is no longer a luxury; it is the fundamental vehicle for equity. Our goal is to ensure a patient in a remote mountain village receives the exact same continuity of care as one in the capital.



Universal Health Coverage (UHC): Bridging the geographical divide.



Data Sovereignty: Protecting citizen information through strong governance.



Proactive Care: Shifting from reactive treatments to data-driven prevention.

Strong Foundations, Accelerating Momentum

Policy Milestones



The Digital Reality (2025/2026)



Smartphone penetration across households.



Nagarik App: National ID integration accelerating, with 61+ public services linked.



Active Systems: DHIS2 serving as the national reporting backbone; EWARS actively tracking disease surveillance.

The Missing Link: A Unified National Health Ecosystem

Current State: Fragmented & Siloed



Disconnected Systems:
Multiple, independent platforms.



Data Silos: Patient information
isolated and hard to share.



Limited Patient View: No
comprehensive, longitudinal record.



The Solution: National Integrated Health Portal (NIHP)



EMR



Nagarik
App



DHIS2/
EWARS



Telemedicine
satellite



NIHP:
National Integrated
Health Portal

Ecosystem Approach: Combining all health
systems into one cohesive national platform for
seamless data exchange and holistic patient care.

The Challenge Matrix: Physical Barriers vs. Digital Bridges



Charting Our Path: Global Archetypes

Estonia
(Decentralized)

Technology:
X-Road

Core Principle:
Once-Only Principle

Target for Data
Sovereignty.

India
(Federated)

Technology:
ABHA / UHI

Core Principle:
Scalable Digital ID

Target for Scale &
Population Management.

European Union
(Cross-Border)

Technology:
MyHealth@EU

Core Principle:
Shared Data Space

Target for
Regional/SAARC
Interoperability.

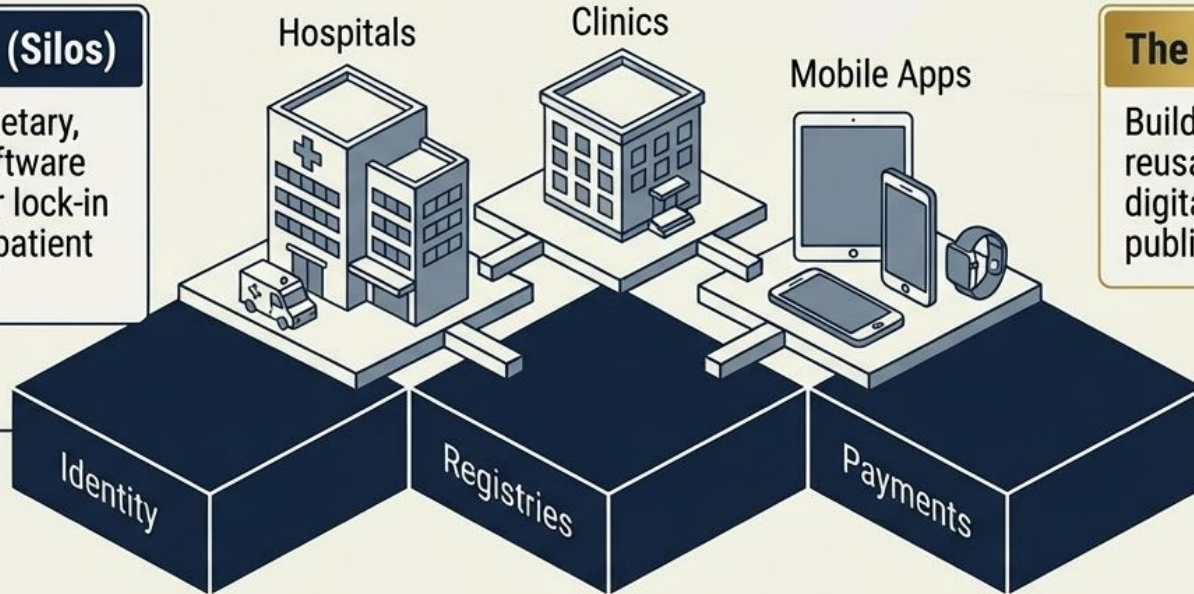
Nepal's Path (Hybrid Federated)

Leveraging existing open-source DPI and DHIS2 for immediate, effective integration across the current ecosystem, building a scalable foundation for future innovation and growth.

The Paradigm Shift: Digital Public Infrastructure

The Old Model (Silos)

Expensive, proprietary, disconnected software leading to vendor lock-in and fragmented patient data.



The DPI Approach

Building open-source, reusable foundational digital blocks as a public good.

Strategic Benefit: Enables both public and private health providers to innovate rapidly, while the Government of Nepal retains absolute data sovereignty, privacy-by-design, and reduced long-term software costs.

The Architecture of a Connected Health System

Layer 3: The Application Layer

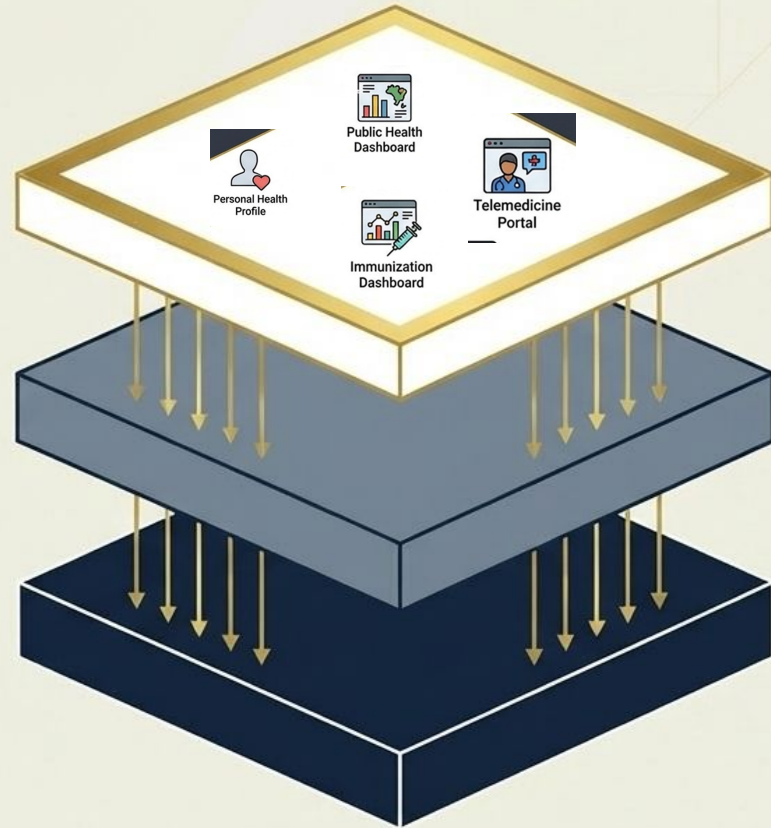
The user interface. Electronic Medical Records (EMRs), Telemedicine portals, Public Health Dashboards, and the citizen-facing mobile apps.

Layer 2: The Exchange Layer

The interoperability engine. Health Facility Registries (HFR), Health Workforce Registries (HWR), and standardized Data Dictionaries.

Layer 1: The Identity Layer

The foundation. The Unique Health ID (UHID) linked securely to the National ID, anchored by a Master Patient Index (MPI).



Interoperability: Speaking the Same Digital Language



The Problem:

Hospitals naturally speak different 'digital dialects.' A diagnosis logged in one system cannot be read by another.

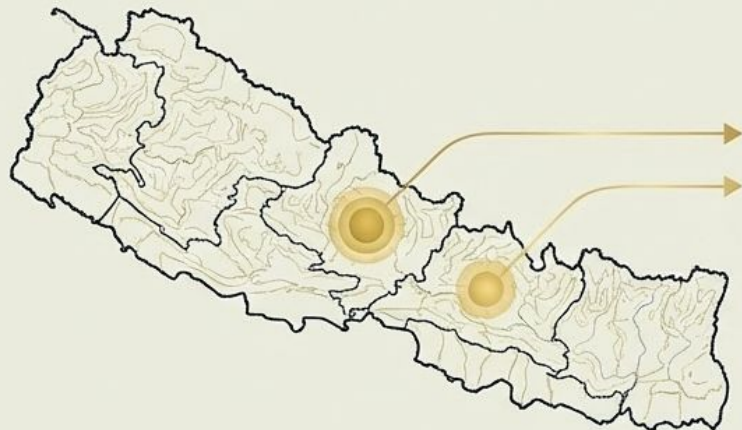
The Standard:

Fast Healthcare Interoperability Resources (HL7 FHIR) combined with global clinical coding (ICD-11).

The Clinical Impact:

A patient's allergy or diagnosis recorded in a remote clinic is instantly, accurately, and identically readable by an emergency specialist in Kathmandu, ensuring seamless continuity of care.

Proving the Model: Integration in Action



Hamro Doctor
50K+



Mero Poshan Sathi
10K+



Aamakomaya
10K+



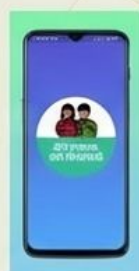
SmartHealthNepal
5K+



CB IMNCI
1K+



Lumbini Provincial
Hospital
1R+



Mero Swasthya
Mero Jimmewari
1R+

Gandaki Province EMR Rollout:

Open-source EMR systems successfully handed over to all 12 provincial hospitals, setting a standard for provincial integration.



Social Health Protection:

Scaling openMIS to manage national health insurance, actively reducing out-of-pocket (OOP) expenses which currently account for over 54% of healthcare spending.



Citizen Engagement:

The proliferation of localized mobile health applications proving high citizen readiness and digital adoption.



Trust is Our Most Critical Infrastructure

Technology alone cannot deliver UHC. Governance, ethics, and legislation must lead the transformation.



E-Governance Blueprint & Once-Only Principle

Ensuring citizens do not have to repeatedly submit the same data to the state.



Health Data Protection Act

Drafting stringent privacy and cyber-security laws to protect citizen medical records.



National Digital Health Policy

Establishing a comprehensive governance framework to guide digital health initiatives, ensure interoperability, and define standards for data exchange and system development.

Financing & Sustaining the Digital Future

Sector Wide Approach (SWAp)

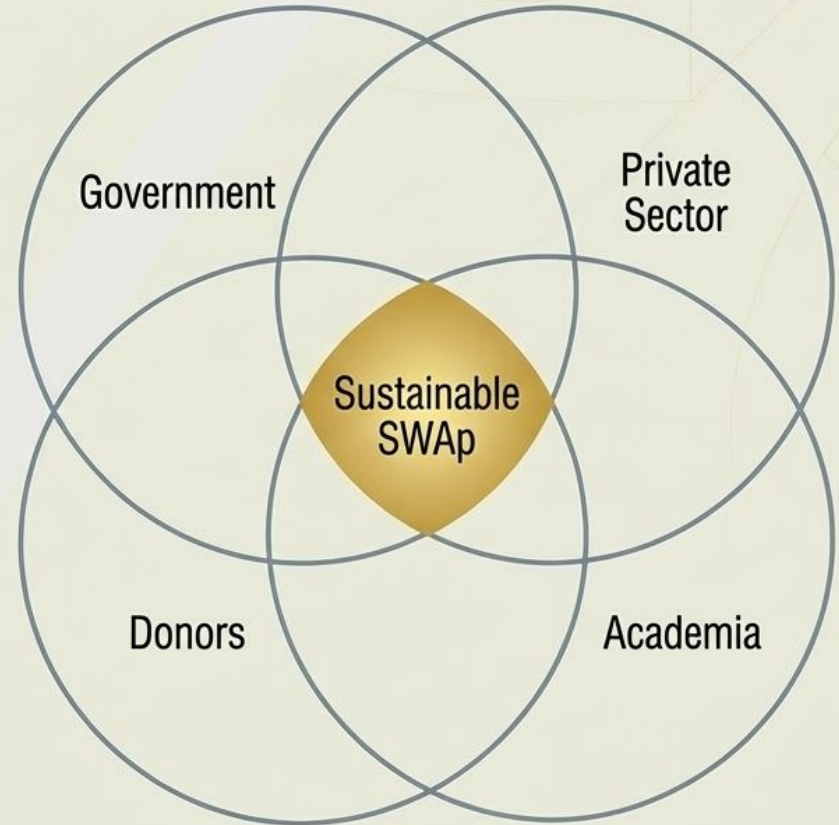
Transitioning away from fragmented, short-term donor pilots into pooled, strategic investments aligned with the MoHP Blueprint.

Public-Private Synergies

Leveraging corporate social responsibility and telecommunication partnerships to expand rural connectivity without bearing the entire cost on the public ledger.

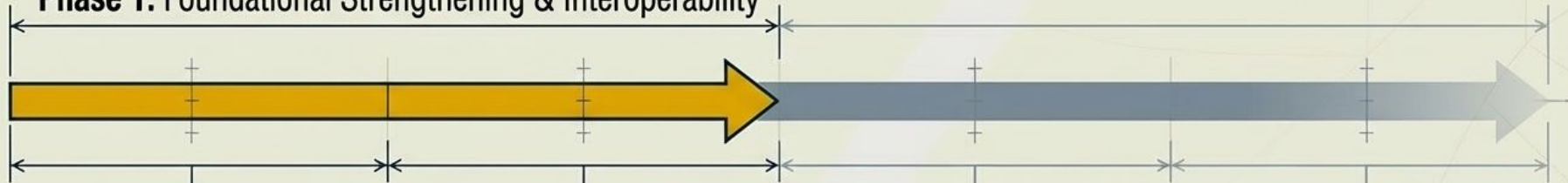
Domestic Commitment

Progressively increasing domestic budget allocations specifically ring-fenced for Digital Public Infrastructure maintenance.



The Strategic Roadmap: Phase 1 (Years 1-2)

Phase 1: Foundational Strengthening & Interoperability



01



Roll out the Unique Health ID (UHID) linked definitively to the National ID/Nagarik App.

02



Establish and verify the Master Facility and Workforce Registries.

03



Deploy the National Health Interoperable Layer enforcing HL7 FHIR standards.

04



Enact comprehensive Data Protection and Health E-Governance legislation.

The Strategic Roadmap: Phases 2 & 3

Phase 2 (Years 2-5)

Phase 3 (Years 5-8)

Phase 2: Scaling

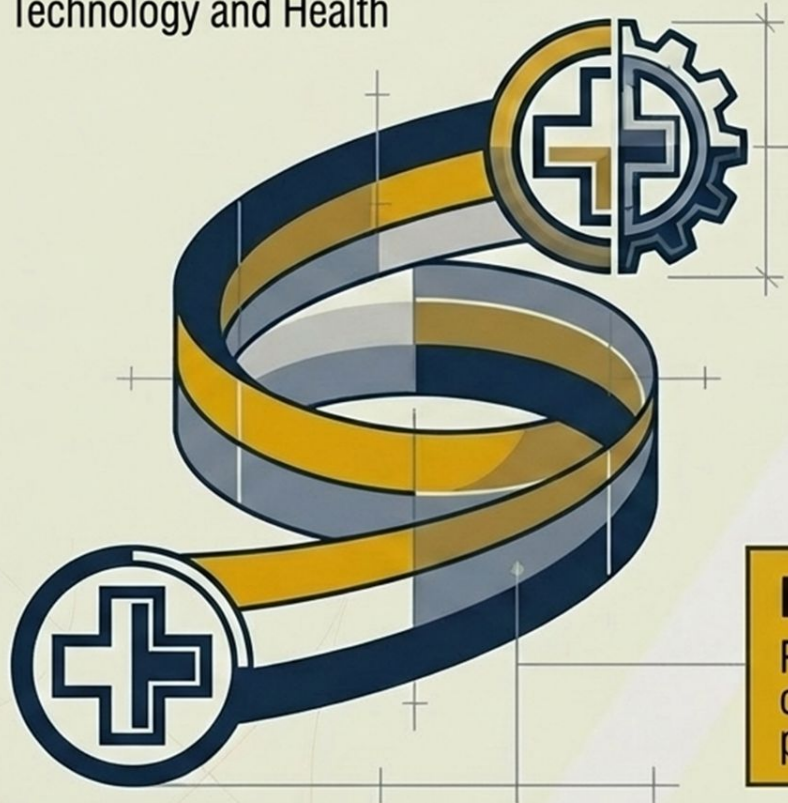
- Nationwide rollout of EMRs to all basic hospitals (all 753 local levels).
- Full integration of the openIMIS social health insurance system.
- Launch of the unified Citizen Health Portal ('Mero Swasthya').

Phase 3: Advanced Optimization

- Deploy AI-driven disease surveillance (EWARS integration).
- Establish cross-border data sharing protocols for SAARC/regional interoperability.
- Integrate specialized care (neuroscience, cardiac) via advanced telemedicine networks.

Human Capital: Strengthening IT in the Health Sector

Building a Dual-Literate Workforce: Bridging Technology and Health



The 5,000 Target

Executing the National AI Policy commitment to train and prepare at least 5,000 dedicated AI and digital health professionals.

Curriculum Evolution (Clinicians)

Modifying medical and nursing academic syllabi to embed health informatics, ensuring new graduates are natively digital.

IT Professional Empowerment (Non-Clinicians)

Providing targeted training for IT professionals in the basics of clinical workflows, medical terminology, and public health principles to enhance their effectiveness in the health sector.



A Healthier, Equitable Nepal

Better data leads to better decisions.
Better decisions lead to a healthier nation.

Commit to the Blueprint. | Invest in the Infrastructure. | Empower the Citizen.