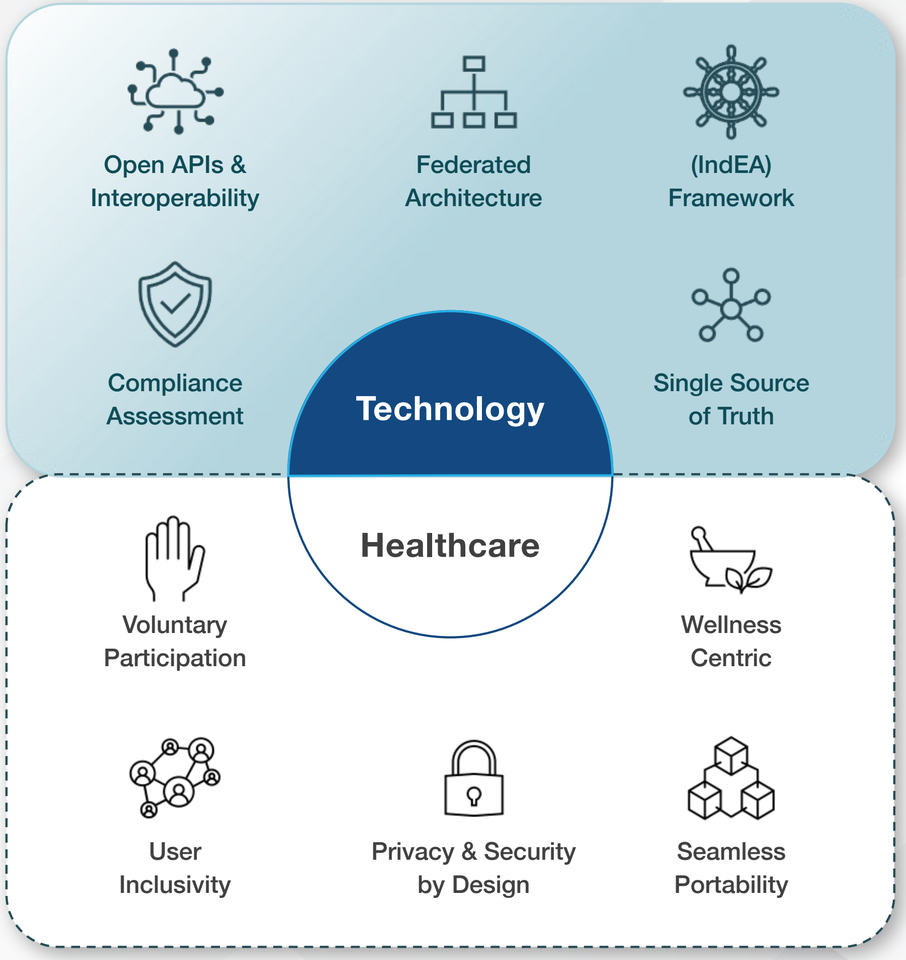
National Digital Health Mission

5th July 2021

Vision and Guiding Principals - For a Citizen-centric National Digital Health Ecosystem

Vision

*To create a National Digital Health Eco-system that supports **universal health coverage** in an **efficient, accessible, inclusive, affordable, timely** and **safe manner,** through provision of a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems, and ensuring the **security, confidentiality** and **privacy** of health-related personal information.*



NDHM won't be built in a day, but India is uniquely placed to roll it out

Increasing Digital Access

- **572,000+** out of 597,000 villages have mobile / network connectivity
- **1.16 billion mobile subscribers,** 510 million with smartphones
- **240 thousand+ Common Service Centres**
- Largest mobile data Consumers 12 GB per month per person, total **8 bn GB per month**

Public Digital Infrastructure

- **1.24 billion** Unique Aadhaar digital IDs
- **300 million** daily Aadhaar authentications
- **10 billion+** eKYC transactions
- **2.64 billion** monthly UPI transactions
- **4 billion** docs in DigiLocker

NEW DIGITAL HEALTH SOLUTIONS:

- **350 million+** CoWIN registrations
- **175 million** ArogyaSetu Downloads
- **3 million+** Consultations on eSanjeevini OPD

NDHM Ecosystem – Use cases for improving public health access and outcome

Phase 1, Early success: Enabling beneficiary identification for CoWIN

Citizen **signs up** for COVID-19 vaccine on CoWIN

Citizen provides explicit **consent** for Health ID creation

Citizen **visits** COVID vaccination centre for innoculation

Citizen Aadhaar **authenticated** using link with Health ID

Health ID **created** and user is **notified**

70 million+ beneficiaries identified using NDHM services for CoWIN within 5 months

Phase 2: End to end capability for citizen's health journey

Imagine

Diabetic rural farmer in a village in Karnataka goes to a local doctor who says his leg swelling is due to a **kidney problem**

Finds & **teleconsults a kidney specialist** in Bangalore, 150 km away, Pays via UPI.

Digitally discovers a local lab that can conduct tests required; **Lab reports shared**

Diagnosis & **medicine prescription** given **virtually** by Doctor

Digital search of **local pharmacies** for the **medicines** prescribed; home **delivery** of medicines

Weekly lab testing & teleconsultation and Farmer's early **Renal failure comes under control!**

India's Health Journey via NDHM Stack

USER APPLICATIONS
Diverse user experiences & innovative solutions

INDIVIDUAL APPS
- Arogya Setu
- Telemedicine
- Other Apps

HEATH PROVIDER APPS
- HIMS
- LIMS

UNIFIED HEALTH INTERFACE
APIs for Health services

Telemedicine APIs
Discover Doctor
Book Appointment
...

Lab & Drugs APIs
Discover Lab
Discover Pharmacy
...

Other Health Service APIs
Discover Bed Availability
Discover Hospital facilities
...

HEALTH DATA
Streamlining flow of patients, health information and money

ELECTRONIC REGISTRIES
Health ID
Healthcare Professionals
Health Facilities
Drugs
...

HEALTH RECORDS
Health Information Exchange and Consent Manager
Health document standards
(diagnostic reports, prescriptions,...)
Aggregated Health data for policy & Health Analytics

HEALTH CLAIMS
eClaims standard
Health Claims Platform
Policy Markup Language
Bill Markup Language

JAM & OTHER DIGITAL PUBLIC GOODS
Cross domain generic building blocks

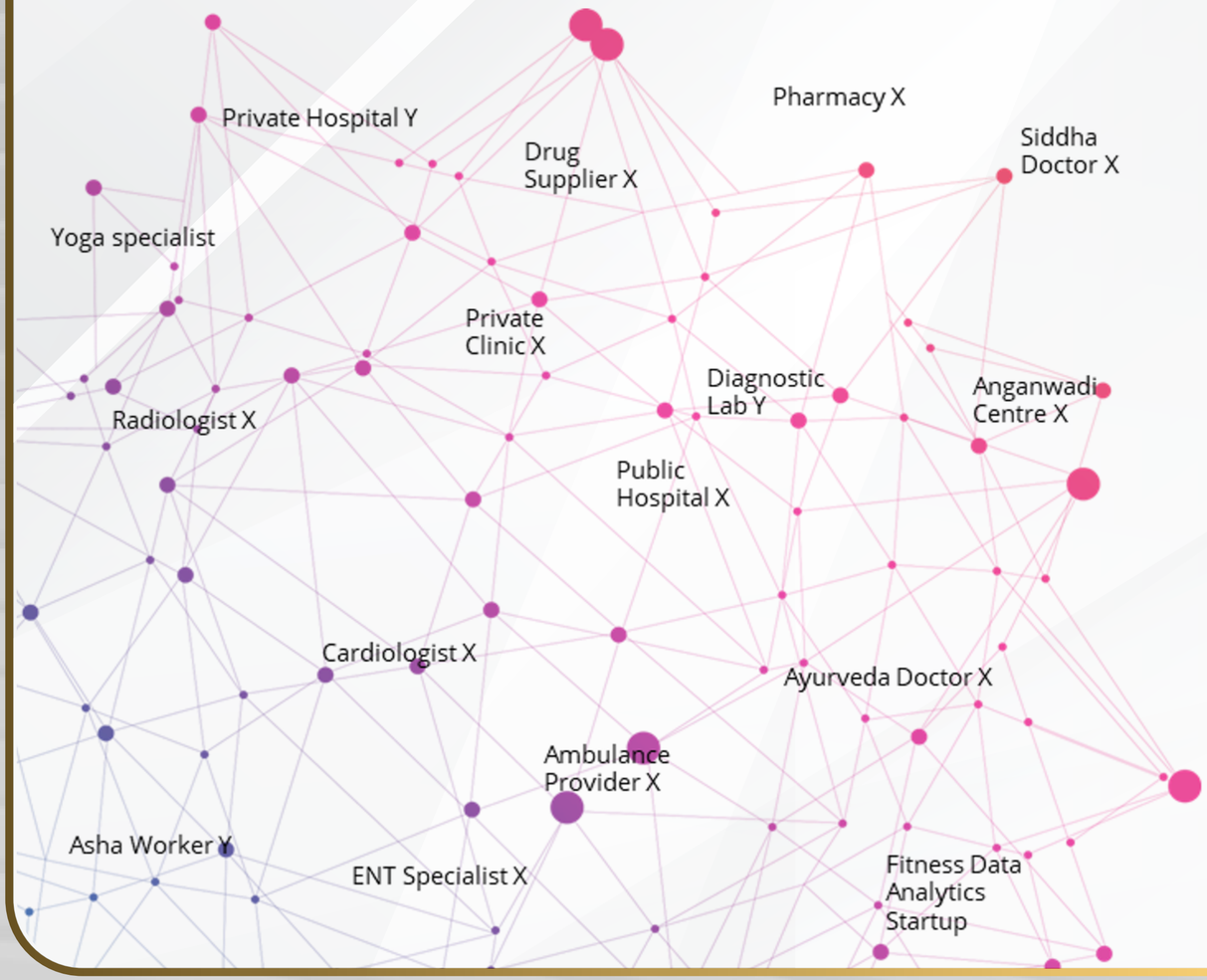
Aadhaar, UPI, UPI e-Voucher, e-Sign, Digilocker, Consent Artefact

Public & Private Innovation

Digital Public Infrastructure

Universal Health Interface

A unified but decentralised network based on a standard protocol for all types of health services – **without monopolistic platforms**



Starter list of UHI services

Discover

- *hospitals & primary care*
- *labs*
- *pharmacies*
- *a medicine across pharmacies*

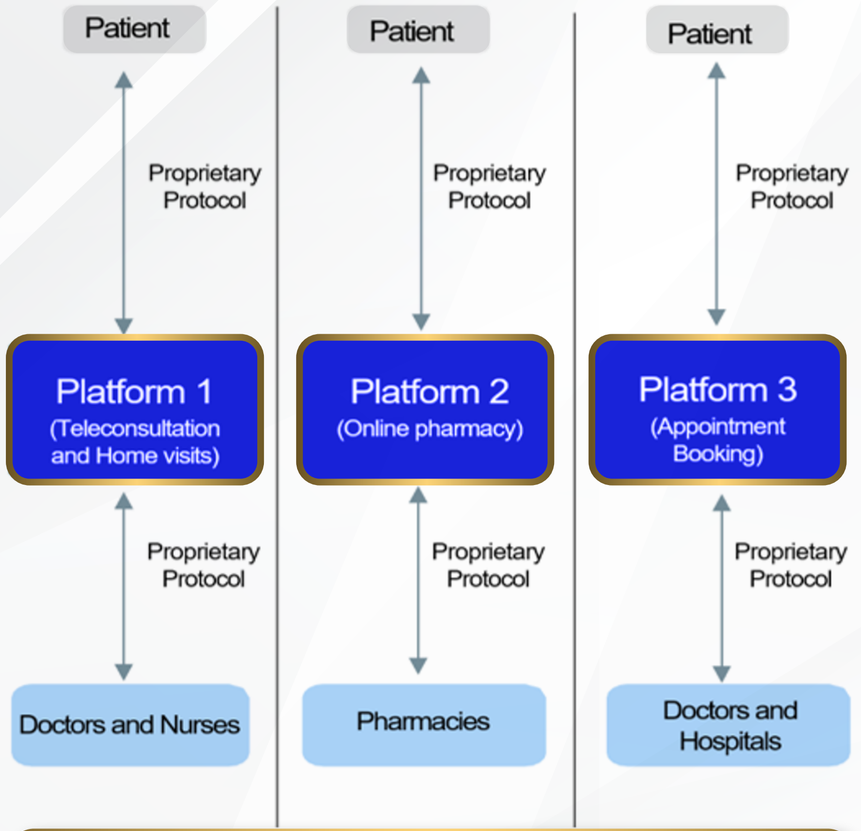
Book

- *a physical appointment*
- *a teleconsultation; get e-prescription*
- *an ambulance*
- *home collection of physical samples*

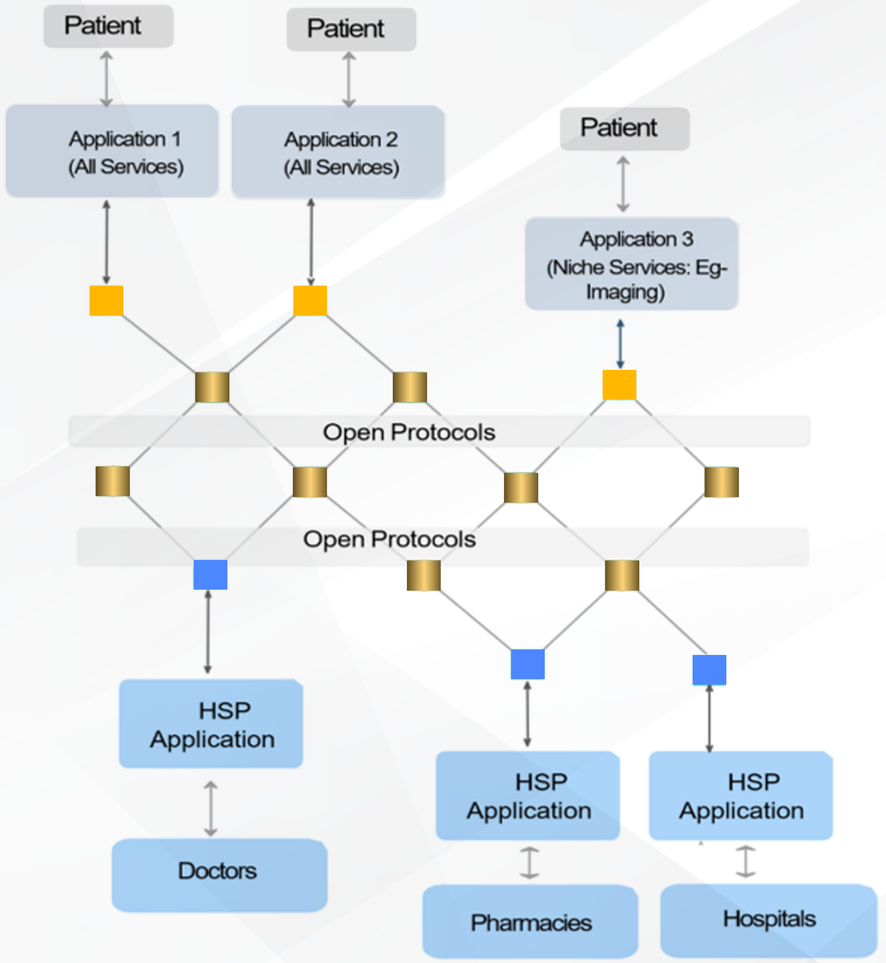
Get

- *availability of medicines*
- *facilities at a hospital/care centre*
- *a service at a Lab*
- *number of critical care beds available*

UHI - An Open Network for Digital Health Services



Platform-Centric Model



Open Network-Centric Model

Building Blocks - Designed to unite a fragmented and digitally challenged society

Core Building Blocks

Health ID

Healthcare Professionals Registry

Health Facility Registry

Reference Applications

NDHM Health Records App (PHR)
e-record of health-related information on an individual drawn from multiple sources

Hospital Management Information System (HMIS)
IT solution for hospital operations and management

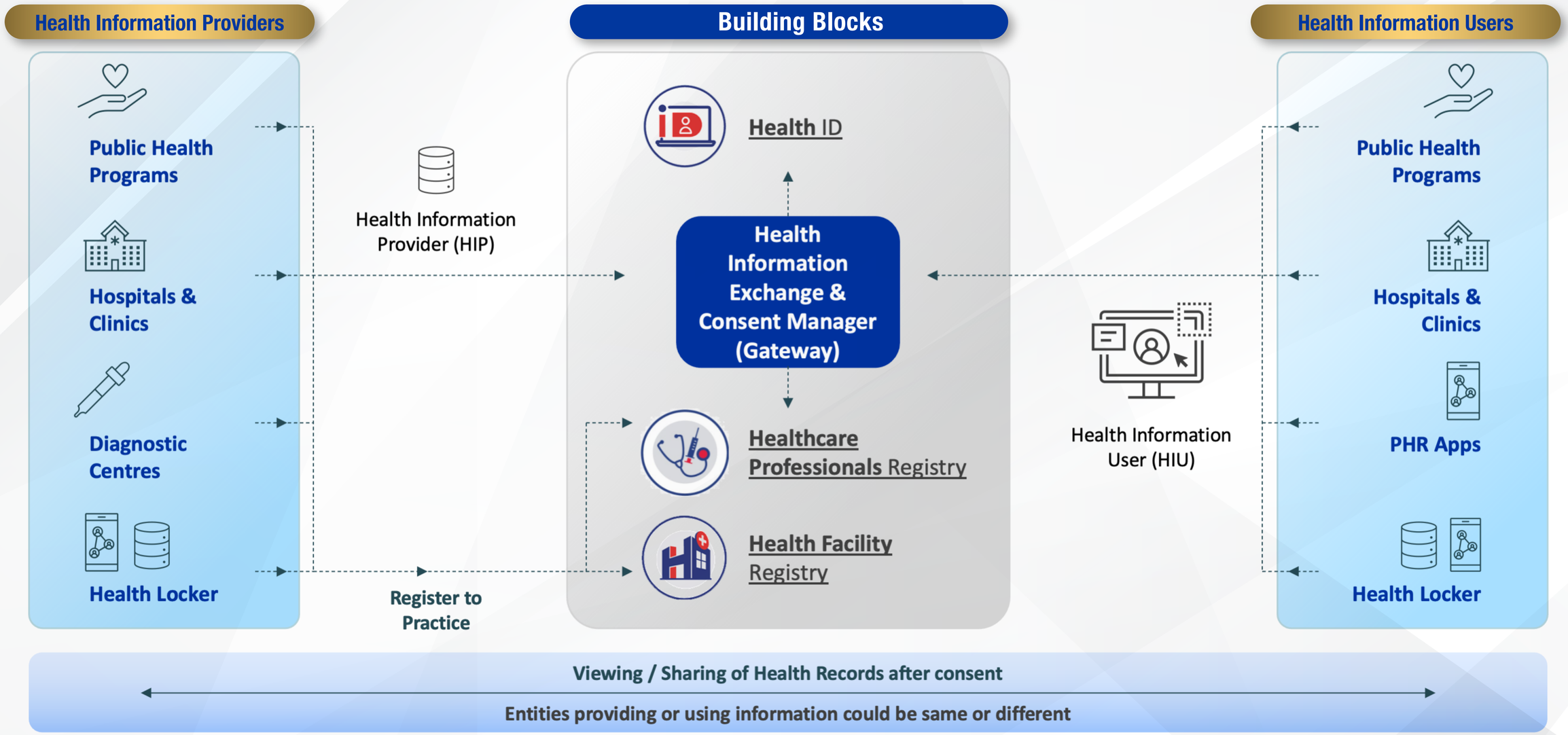
Telemedicine
Enables patient-doctor interaction online

e-Pharmacy
Facilitates drug and pharmacy registry online

Reference Applications

NDHM Sandbox
Hosts digital building blocks for integrations and testing, that are useful for public and private entities wanting to comply to the HIP, HRP and HIU guidelines

NDHM Architecture – An imperative step in addressing health as a public good

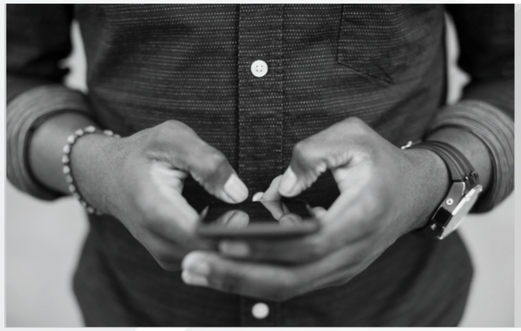


Universal Health Interface benefits all stakeholders

Citizens	Doctors	Small Pharmacies	Small Labs	Startups
Access to healthcare	National discoverability	Easy discoverability	Easy discoverability	Avoid reinventing the wheel by building fragmented networks
Choice of providers	Fast ramp up of practice	Increased footfalls	Increased footfalls	Can target niche, hard to reach customers
Competing prices	Increased collaboration	Faster Inventory turnover	Ease of reporting results	Easier access to data
Control over data	Access to longitudinal patient data			
Transparency & Trust				

Inclusion. Accessibility. Affordability. Diverse Innovation.

NDHM Ecosystem – Use cases for improving public health access and outcomes



Longitudinal Health Records

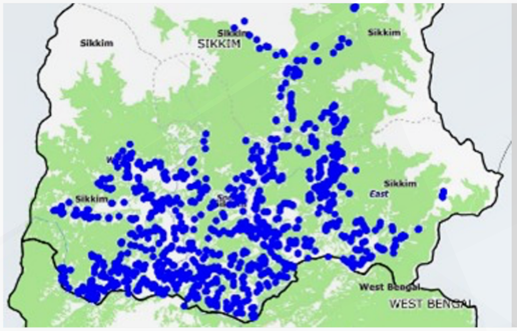
Access to **diagnostic reports, IPD records, discharge summaries** and **prescriptions** on phone - from both public and private facilities

Public Health Programs

Streamlining implementation by enabling identification of beneficiaries across programs and regions, and provision of entitlements

Healthcare

Improved healthcare via Telemedicine and wider **health insurance access** will improve **healthcare access** and early diagnosis

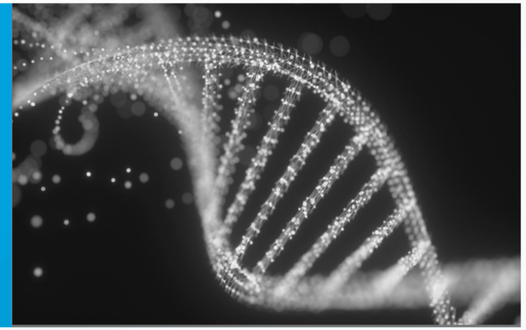


Health Indicators & Policy

Monitoring and mapping public health program outcomes and using **anonymized aggregated data** sets across public and private facilities

Research & Development

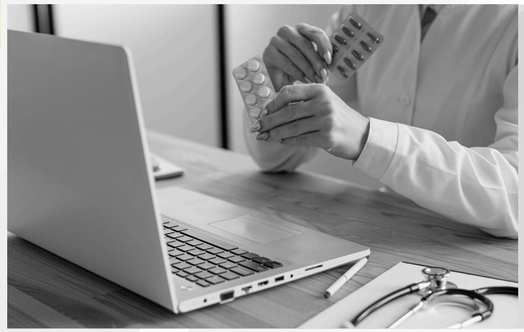
Anonymized data sets and aggregated data sets will enable health research



Innovation

Open ecosystem will drive development of innovative healthcare delivery solutions and improve health access and outcomes

NDHM Ecosystem – International Collaboration

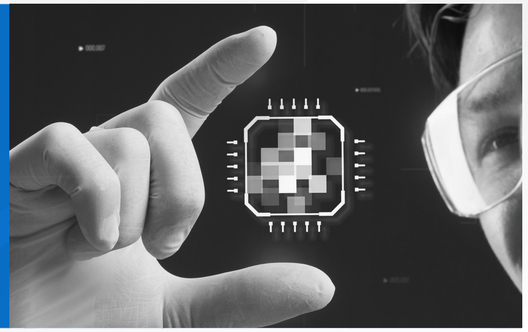


International Telemedicine Capabilities

- Access to healthcare providers in India
- Access to international healthcare provider to users

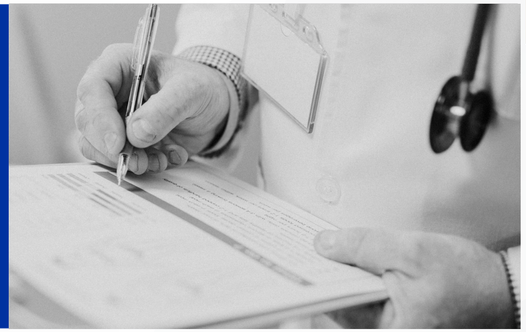
Tech Participation in NDHM

Government entities, Health Tech companies and innovators can participate on NDHM Sandbox



International Longitudinal Health Records

- Consent based access to health records including vaccination
- International standards adoption



International Health Insurance

- Access to records
- Actuarial analysis and use cases

Global Public Health

Based on agreed standards for anonymization and aggregation

International Collaboration

Collaboration and access to data for R&D

Thank You

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