DIGITAL HEALTH FOR UNIVERSAL HEALTH COVERAGE

MINIMUM VIABLE PRODUCT DEFINITIONS

SOCIAL ENTREPRENEURSHIP ACCELERATOR

Harmonized Roadmap for an Integrated Digital Health Platform

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WHO WE ARE

ACCESS Health International is an international think tank and advisory group. We believe all people have a right to access high quality, affordable healthcare.

- We have Country Offices in 8 Countries across the globe.

- Department of Digital Health provides Advocacy, Research, Advisory services across policymakers, private sector, academia and entrepreneurs.
6 PILLARS OF DIGITAL HEALTH

1. Choosing a GOVERN-ANCE entity to oversee the ‘Big Picture’

2. Setting Interoperability standards and Health Data Dictionary (HDD)


4. Designing a ‘Health Insurance Information Platform’ (HIIP) for India

5. Moving toward ‘Electronic Health Record’ (EHR) and ‘Health Information Exchange’ (HIE)

6. Facilitating the creation of the Health Information Infrastructure

ACCESS Health [Prof Dennis Straveler and Dr Pankaj Gupta] first wrote the concept of 6 Pillars in NITI Aayog Theme papers, Health System for a NEW India: Building Blocks, Delhi, India, 2019.
### Need a Financial Lever and Strong Governance for Digital Health Transformation

<table>
<thead>
<tr>
<th>Payer System Type</th>
<th>Payer System [Financial Lever]</th>
<th>Provider System</th>
<th>Digital Health Authority [Governance]</th>
<th>Outcome</th>
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</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Single Payer</td>
<td>Provincial MoH</td>
<td>Govt buys services from Providers</td>
<td>Canada Health Infoway</td>
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<td></td>
<td></td>
<td>Govt</td>
<td>Canada Health Infoway</td>
<td>Digital Health Systems Transformation</td>
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<tr>
<td>Taiwan</td>
<td>Single Payer</td>
<td>National Health Insurance [NHI]</td>
<td>Govt buys services from Providers</td>
<td>Govt</td>
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<td></td>
<td></td>
<td>Govt</td>
<td>Govt</td>
<td>Digital Health Systems Transformation</td>
</tr>
<tr>
<td>South Korea</td>
<td>Single Payer</td>
<td>Health Insurance Review and Assessment</td>
<td>Govt buys services from Providers</td>
<td>Health Insurance Review and Assessment</td>
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<td>Govt</td>
<td>Health Insurance Review and Assessment</td>
<td>Digital Health Systems Transformation</td>
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<tr>
<td>Sweden</td>
<td>Beveridge Model</td>
<td>INERA [GOVT]</td>
<td>Govt Owned</td>
<td>INERA [GOVT]</td>
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<td></td>
<td>Govt</td>
<td>Govt Owned</td>
<td>Digital Health Systems Transformation</td>
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<td>Scandinavian</td>
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<td>Govt Owned</td>
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<td>Govt</td>
<td>Digital Health Systems Transformation</td>
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<tr>
<td>UK</td>
<td>Beveridge Model</td>
<td>NHS</td>
<td>NHS</td>
<td>NHS</td>
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<tr>
<td></td>
<td></td>
<td>Govt</td>
<td>NHS</td>
<td>Digital Health Systems Transformation</td>
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<tr>
<td>Australia</td>
<td>Hybrid</td>
<td>Medicare 67%, Private 15%, OOP 15%</td>
<td>Hybrid</td>
<td>NeHTA, ADHA</td>
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<tr>
<td></td>
<td></td>
<td>Hybrid</td>
<td>Digital Health Systems Transformation</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>Hybrid</td>
<td>Govt 85%, Private 15%</td>
<td>Hybrid</td>
<td>Spanish national Health System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hybrid</td>
<td>Digital Health Systems Transformation</td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>Hybrid</td>
<td>Private 50%, Medicare 28%</td>
<td>Largely Private</td>
<td>Office of National Coordinator on Healthcare-IT, Meaningful Use Tax Incentives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Largely Private</td>
<td>Digital Health Systems Transformation</td>
<td></td>
</tr>
</tbody>
</table>

Some Transformation achieved thru Tax Incentives but largely Broken Digital Health Systems work in in Silos.
Private Health Insurance covers about 3% of India Population

Public Health insurance covers about 10-17% of India Population.

80+% is Out of Pocket expenses.

Central Govt PMJAY is set to cover 40-50% of India Population.

In absolute numbers this market is 150 Million people, likely to go upto 500 Million people

There are 17+ Private Insurance companies that also do business in Health Insurance.

4 Public Sector Companies also cover Health Insurance.

4 Private Insurance companies whose core business in only Health Insurance.

TPA business has been servicing only the private health insurance i.e. 3% of India’s population. Now PMJAY is set to cover both public and private hospitals. Hence TPA business is ready for disruption; because the number of claims is set to go up by atleast 10 times; and the PMJAY is demanding claims in a standard format – The NDHB Health Standard!
INSURANCE PERSPECTIVE

How do we handle Tsunami of Claims, Reduce Disease Burden and check the Fire of Frauds

With a population 1/4th of India, about 3 billion healthcare claims are filed each year in USA.

Claim requiring human intervention costs approximately $4.00 to process, while an auto-adjudicated claim costs approximately $1.00.

Blue Cross Blue Shield North Carolina has implemented RPA to extend the functionality of its auto adjudication platform and was able to save $11 million and reduce claims processing staff from 425 to about 300 people in just 18 months.

80% Hassel free Paper less eClaims Auto Adjudication, Robotic Process Automation, Less chances of Frauds

Insurance Officials

September 18, 2019
PROVIDER PERSPECTIVE

Faster Turnaround Time, Faster Payments, Hassel free Paperless ATM style eClaims

Faster Payments, Practice is Growing, More Referrals

Hospital Admin Official

Specialist Doctor in Hospital
STATE HEALTH PERSPECTIVE

What's the Average Cardiac Disease Burden of Aspirational District Residents and What Type of Screenings Do We Need To Do?

How many Stents and CABG were done for Faridabad District Residents and What Type of Screenings Do We Need To Do?

Central Govt Health Official

State Health Official
PATIENTS PERSPECTIVE

My Mother Has Just Been Hospitalized and I Don’t Have Access To her BP Medication Name Which the ER Physician is Asking For. Earlier Had to search for Empaneled Hospital. Too much of paperwork for admission, pre-auth...

More Empaneled Hospitals, More Specialist Options, Preferred Treatment given by Hospitals, Medical Records in Digilocker

A Common Citizen
ACCESS Health [Prof Dennis Straveler and Dr Pankaj Gupta] first wrote the concept of eObjects in NITI Aayog Theme papers, Health System for a NEW India: Building Blocks, Delhi, India, 2019.
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ACCESS HEALTH IS BUILDING AN ACCELERATOR FOR CLAIMS AUTO ADJUDICATION

Sand Box will produce the specifications and the test environment

Bolt-On is the best solution for Existing HDIS vendors

New HDIS Products will build the Standards in the Information model

HDIS = Healthcare Delivery Information Systems
SUMMARY OF BENEFITS TO PROVIDERS

1. Auto Adjudication of Claims – Faster Turn Around – Faster Payments
2. Compliance to Standards – Look good to the Govt.
3. Interoperability across the Healthcare Ecosystem – Automatic Referrals
4. Data Insights from the Structured Data – Resource Optimization and Forecasting
## Detractors and Benefits

**Detractors**

- Unwilling to share information on customers or claim deductions
- Reduced scope for negotiations with providers over empanelment & settlement
- Pressure to empanel better quality providers
- Easy measurement of Claim-Premium metrics and turn around time
- Eliminates the scope of delays in workflow & accountability fixing.
- Reduced less skilled manpower
- Extra cost of hiring better skilled HR

**Benefits**

1. **Enforces Transparency & Accountability**
   - Auto adjudication of large % of claims based on triggers & filters
   - Inbuilt alerts & flags
   - Predictive & retrospective analysis
   - Data based surprise audits

2. **Measurable Quality of Work**
   - Longitudinal beneficiary record to help customize offering
   - Health alerts for customer
   - Non repudiable data source for analysis of trends, patterns & performance
   - Removes the physical recordkeeping cost.
   - Improves per person & process productivity

3. **Loss of Power**
   - Longitudinal beneficiary record to help customize offering
   - Health alerts for customer

4. **Disincentive to Delay Work Flow**
   - Pressure to empanel better quality providers
   - Easy measurement of Claim-Premium metrics and turn around time
   - Eliminates the scope of delays in workflow & accountability fixing.

5. **Reduced Manpower**
   - Reduced less skilled manpower
   - Extra cost of hiring better skilled HR

6. **Low Operational Cost**
   - Longitudinal beneficiary record to help customize offering
   - Health alerts for customer
   - Non repudiable data source for analysis of trends, patterns & performance

7. **Fast Claim Processing**
   - Auto adjudication of large % of claims based on triggers & filters
   - Inbuilt alerts & flags
   - Predictive & retrospective analysis
   - Data based surprise audits

8. **Effective Fraud Management**
   - Longitudinal beneficiary record to help customize offering
   - Health alerts for customer
   - Non repudiable data source for analysis of trends, patterns & performance

9. **Customized Beneficiary Engagement**
   - Longitudinal beneficiary record to help customize offering
   - Health alerts for customer
   - Non repudiable data source for analysis of trends, patterns & performance

10. **Availability of Richer Data Analytics**
    - Longitudinal beneficiary record to help customize offering
    - Health alerts for customer
    - Non repudiable data source for analysis of trends, patterns & performance

1. Education and Training
2. Tools and Technologies
3. Implementation Support
4. National Releases
5. Liaison with SDOs
6. Advisory and Consultations

Contact: nrc-help@cdac.in
COME JOIN THE SOCIAL ENTREPRENEURSHIP ACCELERATOR

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HEALTH INSURANCE INFORMATION PLATFORM
MINIMUM Viable PRODUCT DEFINITION

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WHAT ARE E-OBJECTS?

What is the need of standard objects, when we already have a standard claim forms by IRDA?

✓ Standard Format
✗ No standard value sets
✗ Not machine-readable

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STRUCTURE OF E-OBJECTS

Header

Segments – Standard and Custom

MDDS based metadata

Header will contain Unique identification of all the parties involved in the transaction or episode

Segments will be specific to the e-object type and will group various informative data elements together. Eg: Facility Details or Patient Demographics etc

All the data elements and code directories or value sets used in e-objects will be taken from MDSS standard.

JSON based Object

FHIR R4 – messaging standard

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ELECTRONIC CLAIM OBJECT

Header (Information about the facility, beneficiary & payer) (IDs)

Clinical Summary (Claim Relevant episode details)

Bill Summary defined by IRDA (Detailed if expanded)

Pre-auth details and final treatment cost details

Disclaimer & Digital signature

Syntactic Interoperability

Automated & streamlined claim processing
Reduced cost for claim processing
Forecasting based Triage & Utilization Management
Fraud Detection
Motivate providers to use Data standards like ICD etc
Public Health Data Analysis

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E-PRE-AUTHORIZATION OBJECT

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### E-DISCHARGE SUMMARY OBJECT

**Header**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-auth ID</td>
<td>Health Plan ID/code</td>
</tr>
<tr>
<td>Pre-auth Status</td>
<td>Policy no./Health Card no.</td>
</tr>
<tr>
<td>Patient UHID (NDHM)</td>
<td>Referring Physician ID</td>
</tr>
<tr>
<td>Unique Facility Identification Number</td>
<td>Beneficiary ID</td>
</tr>
<tr>
<td>Payer ID</td>
<td>E-prescription ID</td>
</tr>
<tr>
<td></td>
<td>Or e-referral ID</td>
</tr>
</tbody>
</table>

**Relevant clinical history (Co-morbidities or secondary diagnosis)**

**In-hospital treatment details (services)**

**Discharge Details**
<table>
<thead>
<tr>
<th>Objective</th>
<th>Standard/CodeSet</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis Codes</td>
<td>ICD 10 Codes by WHO</td>
<td>Classification codes for diseases</td>
</tr>
<tr>
<td>Procedure (surgical service) codes</td>
<td>ICD 10 PCS, SNOMED</td>
<td>Updated version for India as per IRDAI Billing Guidelines.</td>
</tr>
<tr>
<td>Billing Codes</td>
<td>IRDA codes for all non surgical</td>
<td>IRDA provide three level of codes for detailed bill bucket that can be used to map with packages/treatment plans and the alacarte service items.) services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Services inside NHA packages should be mapped with ICD10 PCS or IRDA Billing codes</td>
</tr>
<tr>
<td>Drug Codes</td>
<td>For generic names– drug list from National Formulary of India (NFI) is used as the code directory -</td>
<td>NFI Code as published in MDDS Health code directories.</td>
</tr>
<tr>
<td>Lab and Radiology Investigation Codes</td>
<td>LOINC</td>
<td></td>
</tr>
</tbody>
</table>
CURRENT STATE HEALTH INSURANCE
PROCESS COMPONENTS

Beneficiary Management
- Identification
- Enrollment
- Eligibility Verification
- Policy assignment
- Life Cycle Management
- Claim History

Policy Management
- Product Design
- Policy Definition
- Underwriting
- Policy Configuration
- Review & redesign

Network Management
- Empanelment
- Contracting
- Classification
- Provider System integration
- Settlement
- Reconciliation

Billing & Accounts
- Premium Collection
- Other Inflows mgt
- Provider Payments
- Financial accounting
- Financial reporting

Claim Management
- Pre Auth processing
- Submission
- Digitisation
- Business rule validations
- Clinical Validations
- Status Updates
- Settlement
- Provider Payments
- Query & Denial

Fraud Management
- Analytics
- Fraud modelling
- Field Audits
- Trigger management
- Penalties & Litigation
- Grievance Redressal

Compliances & Reporting
- Analytics & Dashboards
- Quality of Care Reporting
- Data Exchange with other Stakeholders
- IRDA reporting
- Penalty & Litigation
- Fraud modelling
- Trigger management

SCALE
- Digital
- Hybrid
- Manual
- Absent
FUTURE STATE HEALTH INSURANCE
PROCESS COMPONENTS

Beneficiary Management
- Unique Identification
- Enrollment
- Policy assignment
- Life Cycle Management
- Case Management

Policy Management
- Product Design
- Policy Definition
- Underwriting
- Policy Configuration
- Review & Redesign

Network Management
- Application
- Smart Contract
- Track & Analyze
- Payment
- Rating & Classification

Funds & Billing Management
- Premium Management
- Other Inflows mgt
- Funds Mgt
- Payments
- Financial accounting
- Financial reporting

Claim Management
- eClaim receipt
- Rules validations
- Status Updates
- Fraud modeling
- Field Audits
- Detailed Review
- Settlement
- Trigger Management

Compliances & Reporting
- Analytics
- Dashboards
- Quality metrics
- Data Exchange
- Grievance Redressal

SCALE
- Digital
- Hybrid
- Manual
- Absent

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HEALTHCARE DELIVERY INFORMATION SYSTEMS MINIMUM Viable PRODUCT DEFINITIONS

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META DATA AND DATA STANDARDS FOR HEALTH

*Notified standard since Aug 2018

MDDS - Initiation of Health Data Dictionary for India for semantic interoperability.

1. Library of 1000+ Data Elements,
2. 140+ Code Directories
3. Registry Design

Common meaning conveyed by different code sets

DATA ELEMENT XXX

DATA TYPE, DATA SIZE, VALUE SETS, CODE DIRECTORIES

लिंग System 1
Gender HDD
ทย่ารีคลินิก System 2
DATA ELEMENTS >> MICROSERVICES >> HDIS MVP

MICROSERVICES

MODULES

HDIS MVP
The green blocks above are representation of functionality sets (also known as Modules) within HDIS universe. All these modules are required functions that any healthcare ecosystem will need. There can be more modules but these are the minus that must exist in healthcare sphere. These modules cater not only the hospitals but also public health delivery centres like PHCs, SCs, HWCs, Dispensaries, Pharmacies of private etc. But a PHC might not need full set of modules rather a subset of these modules.
Let's take example of two modules. Within Registration Module there are many functionalities mentioned above. Likewise Billing module also has many functionalities. So for a Primary care there is functionality bundle that comprises of all the functionalities that caters services of a typical Primary care. This set differs from the set required by another facility as services defines the level of functionality needed per module.
Depending upon what kind of facility is involved there are data elements identified for functioning of each module, facility-wise. A Primary care might not need Insurance, Bank A/C information and therefore that information isn’t relevant for Primary care and is excluded. Data bundle for Primary care will be a set of data elements for functioning of Primary care.
HDIS MINIMUM Viable PRODUCT – DOMAIN DRIVEN MICROSERVICES

**PRIMARY CARE**
- Patient UID
- Patient Name
- Insurance Policy ID
- Bank Account No.

**TERTIARY CARE**
- Bill Generation Type
- Bill Date
- Payment Type
- Discount

**Registration Microservice**
- Register Patient
- Payer Details
- Bank Details

**Billing Microservice**
- Generate Bill
- Bill Collection
- Bill Discount

**API GATEWAY**
- REST API

**DATA ELEMENT XXX**

**DATA TYPE, DATA SIZE, VALUE SETS, CODE DIRECTORIES**
## MAPPING OF DATA ELEMENTS* WITH MODULES – ILLUSTRATIVE FOR BILLING

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Module Code</th>
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<tbody>
<tr>
<td>Bill ID</td>
<td>05.007.0001</td>
</tr>
<tr>
<td>Bill Date</td>
<td>05.007.0002</td>
</tr>
<tr>
<td>Bill Generation Type</td>
<td>05.007.0003</td>
</tr>
<tr>
<td>Bill Copy Type</td>
<td>05.007.0004</td>
</tr>
<tr>
<td>Reason for Duplicate Bill Copy</td>
<td>05.007.0005</td>
</tr>
<tr>
<td>Approval Indicator for Duplicate Bill Copy</td>
<td>05.007.0006</td>
</tr>
<tr>
<td>Tariff Category</td>
<td>05.007.0007</td>
</tr>
<tr>
<td>Service Type</td>
<td>05.007.0008</td>
</tr>
<tr>
<td>Payment Type</td>
<td>05.007.0009</td>
</tr>
<tr>
<td>Sponsoring Entity</td>
<td>05.007.010</td>
</tr>
<tr>
<td>Approving Entity</td>
<td>05.007.011</td>
</tr>
<tr>
<td>Insurance Company Name</td>
<td>05.007.012</td>
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<tr>
<td>Insurance Company Code</td>
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<tr>
<td>Sponsor Approval Indicator</td>
<td>05.007.014</td>
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<tr>
<td>Maximum Eligibility Limit</td>
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<td>Eligibility Sub-Limits</td>
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<td>Eligibility Remarks</td>
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<td>Service Item Name</td>
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<tr>
<td>Service Item Price</td>
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</tr>
<tr>
<td>Package Item Name</td>
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<tr>
<td>Package Item Price</td>
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<tr>
<td>Quantity of Service</td>
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<tr>
<td>Tax</td>
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<tr>
<td>Total Billed Amount</td>
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<tr>
<td>Discount Approval Indicator</td>
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<tr>
<td>Discount Approver Name</td>
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<td>Discount Indicator</td>
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<tr>
<td>Discount</td>
<td>05.007.028</td>
</tr>
<tr>
<td>Discount Remark</td>
<td>05.007.029</td>
</tr>
<tr>
<td>Advance Deposit Amount</td>
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<td>Balance Payable</td>
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<td>Amount Payable by Patient</td>
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</tr>
<tr>
<td>Amount Payable by Sponsor</td>
<td>05.007.033</td>
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<tr>
<td>Amount Paid by Patient</td>
<td>05.007.034</td>
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<tr>
<td>Patient Dues</td>
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</tr>
<tr>
<td>Transaction ID</td>
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</tbody>
</table>

*Mapping with MDDS
HEALTH DATA DICTIONARIES AND REGISTRIES MINIMUM VIABLE PRODUCT DEFINITIONS

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HEALTH IT SYSTEM IN SILOS

- Local Identifiers- Lack of Global Unique identifiers for person, provider, facility and health workers
- Standards lacking –
  - Architecture, I/O
  - Data and interoperability standards
- Semantic mismatch of concepts- Lack common meaning of data across systems
INDIA HAS IMPLEMENTED STANDARDS* IN ISOLATED FRAGMENTED POCKETS

* Implemented since 2018
A Health Data Dictionary is a preliminary step towards harmonizing information standards required to build an effective national HIIS. It helps to harmonize the standards followed across all health care units to enable seamless data exchange.

**Patient Identifier**
- National Person’s Health Identifier (PHI)

**Terminology Standards**
- Diagnosis - ICD10, SNOMED, Procedure - ICD10PCS, Lab Investigation - LOINC, Pharmaceuticals - NDC

**Standard Electronic Docs**
- E-facility objects (empanelment), e-discharge summary object etc

**Definition of terms**
- Incidence Rate, Bed Occupancy Rate, code blue etc

**Metadata Definitions**
- Data Element, Type, Size, Code Directory or value sets

**Communication Standards**
- A “container” for other standards
  - Messaging standards (e.g. HL-7, HL-7 FHIR) etc

**Guidelines for Registries**
- Define minimum data elements for registries and database like Facility Registry, Provider Registry, Frontline Registry and empanelment database
Definition in simple words
A digital Register which stores information of an entity to identify it uniquely.

The information/parameters stored in a registry remains constant throughout and serve as “Single source of Truth” for validations.
To achieve the objective of Universal Health Care and the continuity of care based on health information exchange model, the focus of any national digital strategy should be on setting up unique healthcare identification services with following minimum national identifiers:

- As per NDHB every healthcare stakeholder/entities will be identified uniquely.
- Govt will develop and implement these registries and every stakeholder should connect to these for an integrated and interoperable healthcare ecosystems.
National Hospital Facility Registry  Master Attributes

- Unique Facility Identification Number *(Master Code Directory: CD05.001)*
- Facility Name *(Master Code Directory: CD05.001)*
- Facility Type *(Code Directory: CD05.002)*
- Facility Type Code *(Master Code Directory: CD05.001)*
- Premises Identifier *(Master Code Directory: CD05.001)*
- Longitude, Latitude, Altitude *(Master Code Directory: CD05.001)*
- Facility Population covered *(Master Code Directory: CD05.001)*
- Facility Region Indicator *(Master Code Directory: CD05.001)*

**Facility Services Domain**

- Facility Service Code *(Master Code Directory: CD05.140)*
- Facility Specialty Code *(Master Code Directory: CD05.140)*
- Facility Operational Status *(Master Code Directory: CD05.001)*
- **Facility Bed & Bed Types distribution**

**Facility Registry Dynamic Attributes**

**Facility Human Resource Domain**

- Facility Human Resource Type *(Code Directory: CD05.063)*
PROVIDER’S REGISTRY (NURSE, DOCTOR ETC)

- Unique Individual Health Care Provider Number 05.005.0001
- Unique Individual Health Care Provider Number Type 05.005.00
- Unique Identification (UID) G01.01
  - Alternate Unique Identification Number (UID) Type 05.002.0001
  - Alternate Unique Identification Number (UID) 05.002.00012
- Nationality Code 05.002.0006
- Registration Authority Number 05.005.0003
- Care Provider Address 05.005.0004
- Care Provider Mobile Number 05.005.0007
- Care Provider Email Address/ URL 05.005.0008
- Appellation Code (G01.05-01 )
- Suffix Code G01.06
- Care Provider Name 05.005.0009
- Health Service Provider Role code 05.005.0010
- Health Service Provider Type 05.005.0012
- Gender Identification Code G01.03
- Date of Birth
- Provider Specialization
- Provider Qualification
- Registration status
- Digital Signature

The following data will be kept based on permission received from providers
- Professional Registration Start date
- Professional Registration End date
- Medical Degree/certifications/Accreditations
- Health conferences/seminars attended
- Healthcare facility name (where provider is employed or practicing)
FRONTLINE WORKER REGISTRY (ASHA, ANMS, ANGANWADI, PARAMEDICAL ETC)

Master Fields
Unique Individual Health Field Worker ID, 05.005.0001
Unique Identification (UID) (Aadhaar Number), G01.01
Alternate Unique Identification Number, 05.002.0002
Alternate Unique Identification Number Type, 05.002.0001
Health Worker Type (e.g. ASHA, ANM, AWW), 05.005.0012
Health Worker Name, 05.005.0009
Health Worker Date of Birth, G00.01
Gender Identification Code – “F” (Default), G01.03
Health Worker Address, 05.005.0004
Health Worker Address Type, 05.005.0005
Health Worker Mobile Number, 05.005.0007
Health Worker Email Address/URL, 05.005.0008
Health Worker E Signature
Employment Status, 05.004.0054
Date of Joining, 05.004.0049
Selection Orgn (Employer) – to whom HW reports to, 05.003.0020
Nursing Council Registration Authority (in case of ANM), 05.005.0003
Nursing Council Registration Number (for ANM),
Healthcare facility ID (where HW is attached), 05.008.0001
Joining Location where Health worker is assigned (Land Region Code (Village/Town name)), G02.01

Dynamic Fields
Health Worker Educational Qualification Level Code (Degree/Certifications), 05.004.0012
Health Trainings Attended (training program code(s)), 05.004.0075
Program Covered (e.g. Household survey, RCH, ANMOL etc.)
Bank Account Number, 05.001.0013

HRA system Fields
Service Type Code, CD05.080
Service Code (Delivered services), CD05.043
MINIMUM DATA ELEMENTS FOR BENEFICIARY REGISTRY

Identifiers
- Unique Identification (UID) G01.01
- Beneficiary's Unique Health Identification Number (UHID) 05.002.0002
- Beneficiary's Alternate Unique Identification (UID) Type, 05.002.0001

Demographics
- Full Name in English G01.02-02
- Gender identification Code G01.03
- Marital Status G01.03
- Relation Type (Head of the family) G01.07-01
- Relationship Code G01.08-01
- Face Image record Header G01.09-00-01
- Face Image Record data G01.09-00-02
- Religion Code G01.14-01
- Occupation Type Code G01.15-01
- Date of Birth Type G01.16
- Live Status G01.17
- Premises Identifier (Master Code Directory: CD05.001)
- Relationship with Primary Insured, 05.002.0027
- Patient Mobile Number, 05.003.0012
- Email ID, G00.09

Health Insurance Details
- Insured Card ID 05.006.0003
- Insurance Policy ID 05.006.0006
- Health Insurance Coverage Begin Date 05.006.0031
- Health Insurance Coverage End Date 05.006.0032
- Source of Payment 05.006.0008
- Insurance Policy Type 05.006.0004
- Secondary Health Insurance Policy Indicator 05.006.0009
- Secondary Health Insurance Policy ID 05.006.0010
PAYER REGISTRY

- Payer Identification No./Insurance company code, 05.007.0013
- Payer Type
- Payer/Insurance Company Name 05.007.0012
- Payer Registered Address
- Bank Account Number 05.001.0013
- Bank Name 05.001.0009
- Bank Branch Name 05.001.0012
- Mode of Payment 05.001.0014
- Indian Financial System Code (IFSC) 05.001.0010
- Magnetic Ink Character Recognition (MICR) Code 05.001.0011
- Authorized Signatory
- Tax Deduction Account Number (TAN) 05.001.0008.

Plan /scheme Master
- Health Plan Type 05.006.0005
- Health Plan Code
- Health Plan Name
COME JOIN THE SOCIAL ENTREPRENEURSHIP ACCELERATOR

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THANK YOU

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ELECTRONIC HEALTH RECORDS, HEALTH INFORMATION EXCHANGE MINIMUM VAILABLE PRODUCT DEFINITION

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MVP: PROPOSED NATIONAL HEALTH INFORMATION NETWORK

National Health Information Network

- Payment Registry
- Indicator Registry
- Service Registry
- Disease Registry
- State Registry
- Patient Registry
- [UID]
- Data Lake

Private and Govt. e.g.
NHPS, ESI, PMJAY, JSY

MOHFW
Reprod.& Child Health
Directorates e.g. Malaria, IDSP, NACO
Private Sector
State HQ
District Admin

Reports
As per Privileges

Claims Portal
State2 Health Information Exchange

- Reprod. & Child Health at National Level
- National Disease Program s.e.g. Malaria, IDSP, NACO
- State Health Program s e.g. EMRI, eMamta, HMIS, DHIS
- Hospital Information Systems, EMR
- Nutritio n
- Birth 
- Death
- Privat e Sector

Block 1
Facility 1
Block 2
Facility 1
Block 1
Facility 1
Block 2
Facility 1

Annotate and explore the data flows and information exchanges as per the Privileges.

State1 Health Information Exchange

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Facility 1
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Annotate and explore the data flows and information exchanges as per the Privileges.

PHR/ Digilocke

Payers

Reports
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Annotate and explore the data flows and information exchanges as per the Privileges.

State HQ
District Admin

Reports
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Facility 1
Block 1
Facility 1
Block 2
Facility 1

Annotate and explore the data flows and information exchanges as per the Privileges.
KEY TAKEAWAYS

• The real role of an E.H.R infrastructure is to
  • Aid in Disease Management
  • Health Resource Planning
  • Understand Insurance Impact (Portability/Claims)

• HIE is the enabling layer for EHR supported by standards.

• Without EMR adoption an E.H.R build out is not possible.

• EMR companies in India are struggling to raise VC funding.

• Open Source EMR with modern clinical committers is key to the success of the overall initiative.