



Improving Interoperability of Health Information System in Tanzania

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Background

Vision:

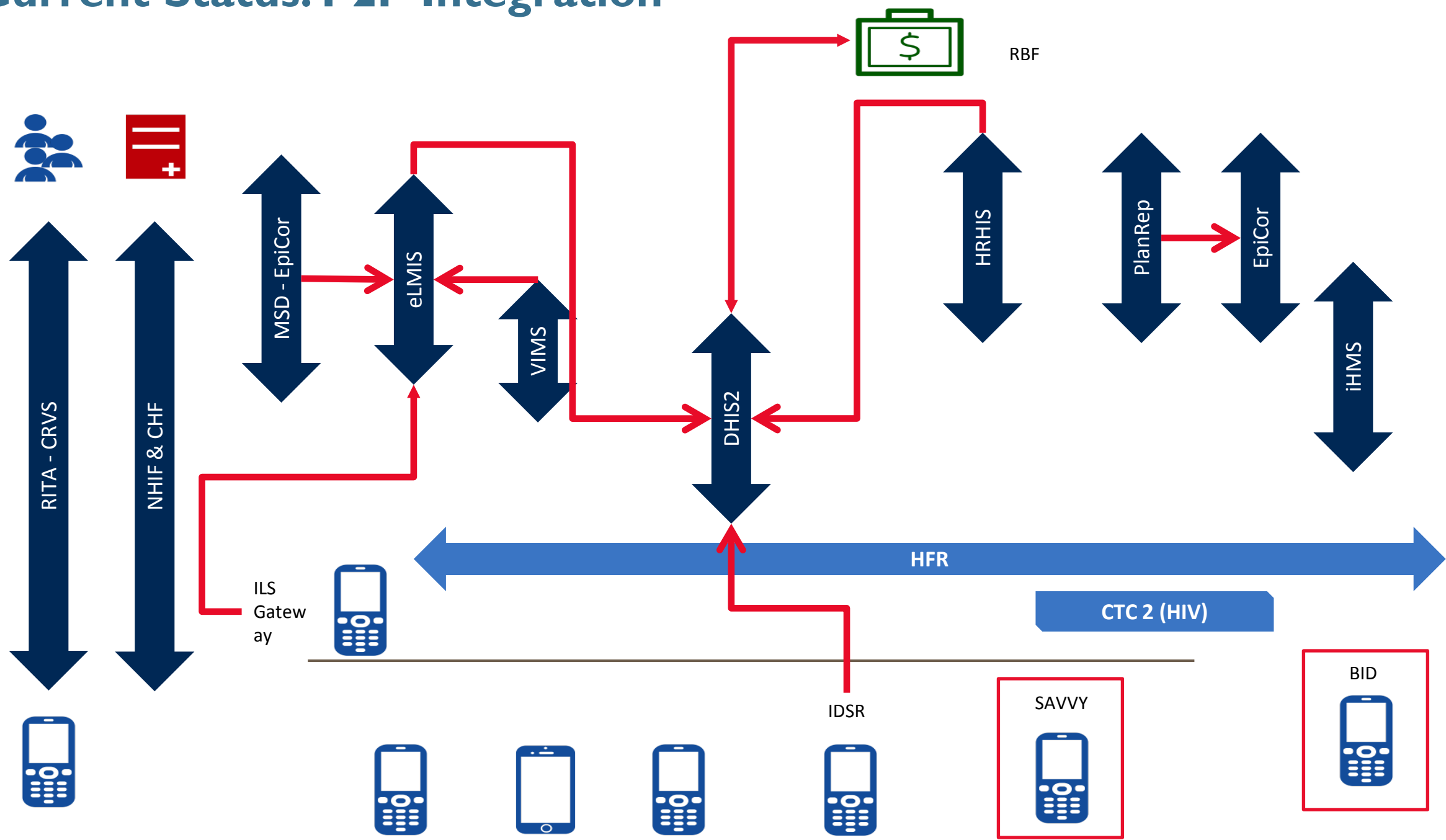
National integrated health information system (NHIS)

Issues in consideration:

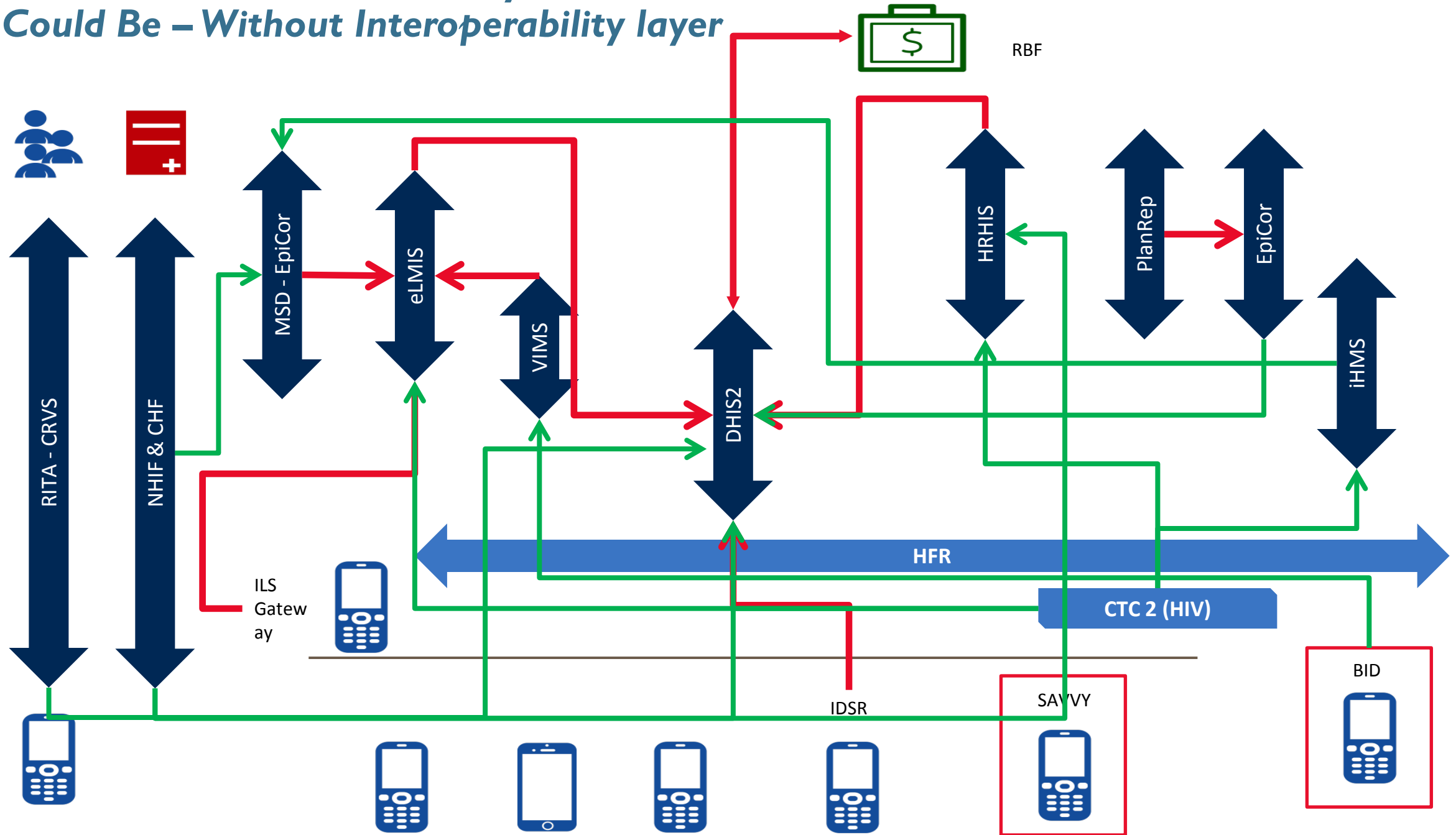
- Fragmented ICT pilots and numerous HIS silos
- Need of an interoperability Layer – Inadequate sharing/exchange of health information across the sector
- Fragmented and uncoordinated business processes
- Inexistence of common investment framework
- Governance and partner coordination
- Need for a Holistic Approach



Current Status: P2P Integration



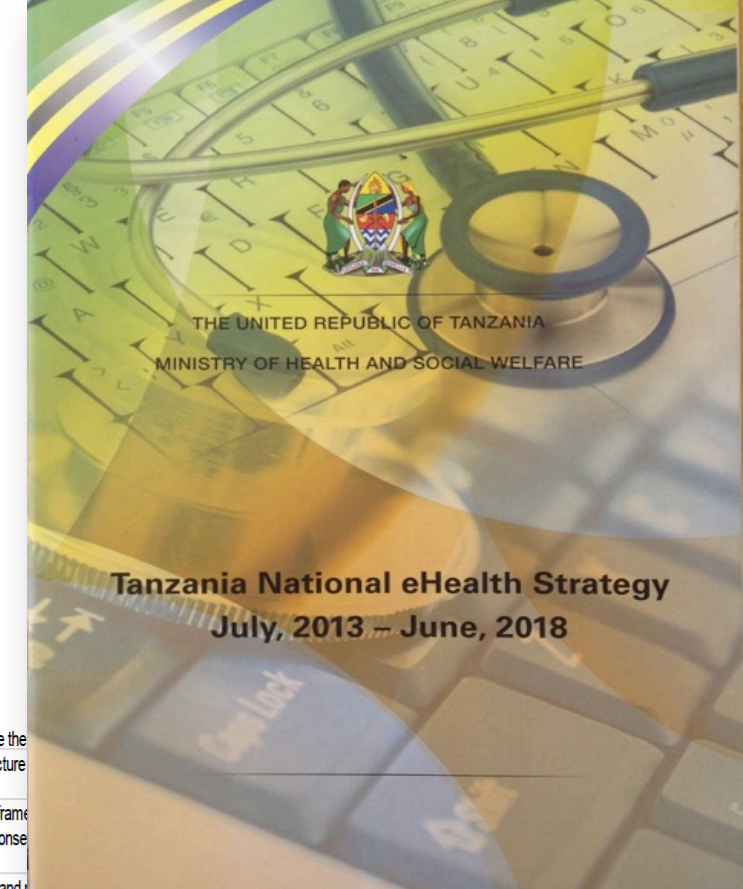
Health Information System Could Be – Without Interoperability layer



eHealth Strategy Strategic Objectives

eHealth Strategy identified three strategic objectives as eHealth Foundations:

1. Enhance ICT infrastructure and services to **improve communication and information sharing** across the health systems and at all levels.
2. Establish eHealth standards, rules, and protocols **for information exchange** and protection.
3. Establish comprehensive health facility, provider, and client registries with **complete and current information** that meets stakeholders' needs.



1. Define, establish and institutionalize the
2. Develop a national eHealth Architecture information exchange
3. Establish a privacy and regulatory framework appropriate privacy safeguards and consent to and use of health information.
4. Implement the physical computing and hospitals/institutions and connectivity to the national backbone (Hospitals, MDAs, etc)
5. Implement the facility, provider, and client registry system.
6. Promote broad based and coordinated stakeholder dialogue and engagement towards operationalization of the e-Health strategy

Phase 1: Implement an EA to support effective use and management of health resources

1. Implement the HoMIS in hospitals
2. Implement a data warehouse for health resources
3. Implement the eLMS.
4. Implement a Health Information Mediator and integrate existing eHealth systems
5. Implement an integrated planning software system to support a comprehensive council health profile

Phase 2: Implement the EA to support patient information access and sharing between providers

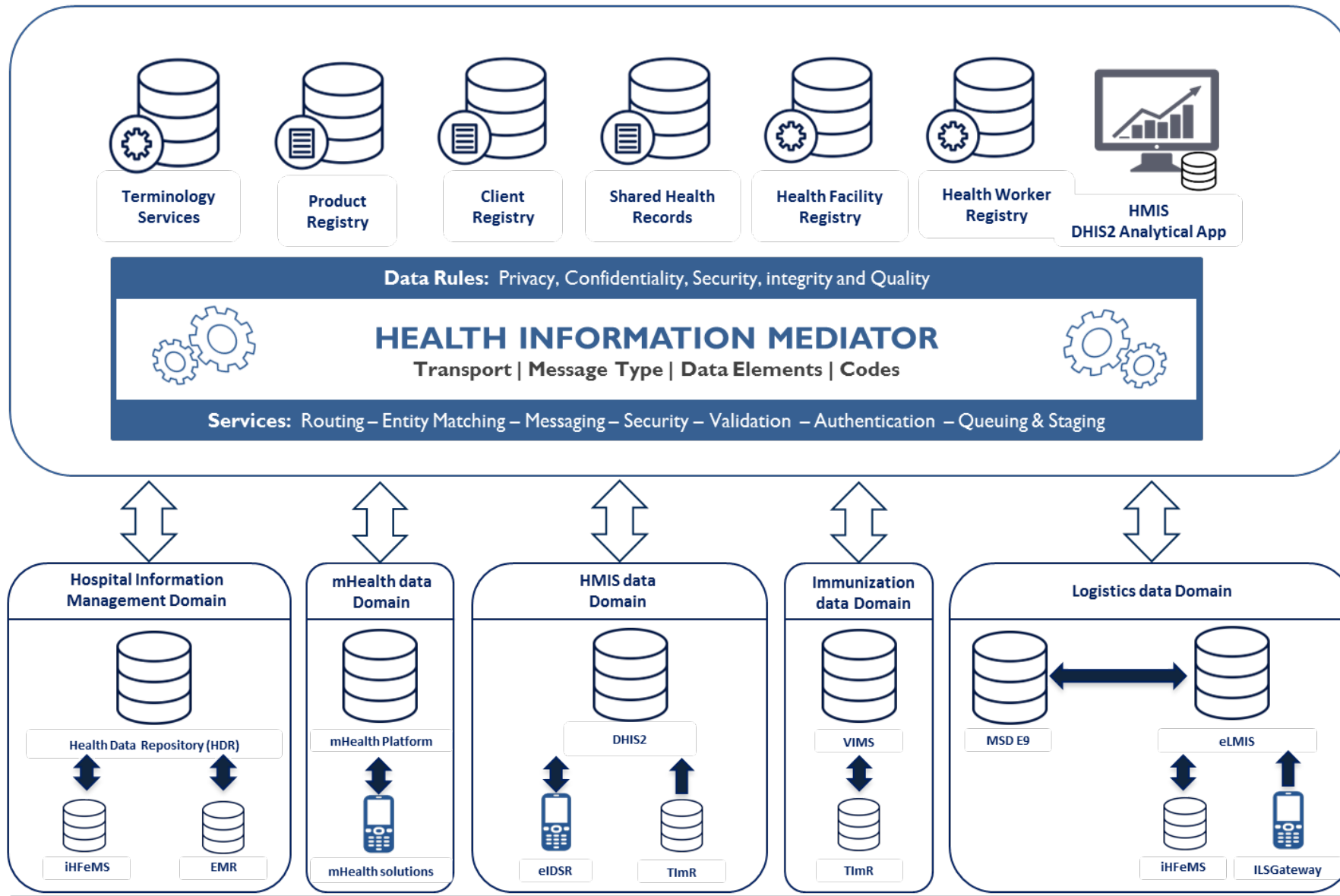
1. Implement EMR for MNCH services, HIV and TB, and non-communicable diseases interventions
2. Implement the health information exchange that supports mobile

Tanzania HIE 'To Be' Conceptual Model

Interoperability
layer
components

Interoperability
service layer

External System
with Domain
specific
interoperability



Other
Institutions/
sectors
Applications



Plan Rep



LGA Epicor



NHIF &
CHF



NIDA



RITA CRVS

Point of Service and Decision Support Applications

Multiple transport methods, data formats and code sets

- Multiple data transport methods
 - File uploads (xls, csv)
 - Web APIs
 - SFTP
- Multiple data formats
 - Custom, HL7, XML
- Multiple code sets
 - Custom, ICD 9 & 10, SNOMED, LOINC, CPT4

Current implementation of use cases

Use Case #01: Client level data exchange for hospitals

- a. Tracking medical services received
- b. Tracking deaths by disease case
- c. Tracking bed occupancy rate
- d. Tracking hospital revenue

Use case #02: Aggregate data exchange to DHIS2

- a. **eLMIS:** Count of stock received, consumed, stock on hand at facility level
- b. **Immunization data (VIMS):** Monthly Counts of children vaccinated
- c. **E9:** Count of stock received, consumed (distributed), SOH at MSD
- d. **HRHIS:** Number of HCW for each cadre (MDs, Nurses, etc) by gender and employer

Use Case #3: Health Facility Registry Data Extract

- a. Post facility information to IL
- b. Post facility information from IL to other systems

Process for Prioritizing use cases and requirements

- Management identifies a need (possibilities to make data more easily accessible)
- Engage the decision makers in a participatory process to decide the priority use cases
 - Ministry Management
 - NeHSC/PMO
- Buy in from DPs & IPs
- Technical meetings:
 - Requirements gathering process
 - Digital solution selection process
- Stakeholders meeting to review and agree:
 - Requirements and the proposed digital solution
- Approvals and project initiation:
 - PMO/NeHSC
 - Ministry Management

HIM Administrator's landing page

Administrator Dashboard

6

Organizations

View all

4

Message Types

View all

14

Configurations

View all

Organizations

Latest Organizations:

Jakaya Kikwete Cardiac Institute	9/11/2017	Public	Edit
Muhimbili Orthopedic Institue	8/09/2017	Public	Edit
Muhimbili National Hospital	7/20/2017	Public	Edit

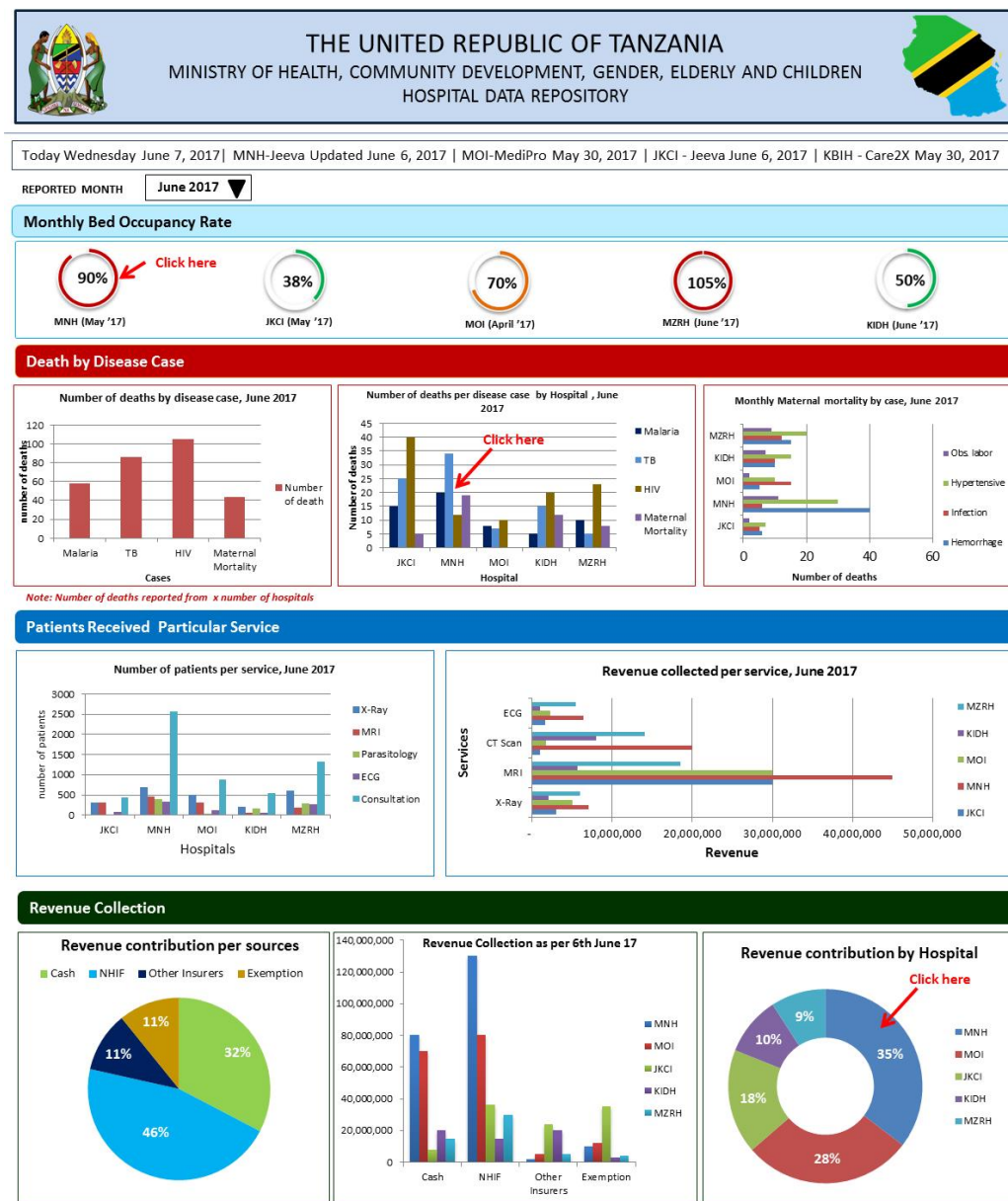
Message Types

Latest Message Types:

DHIS2 Logistics Transaction
Status: active
HMIS Bed Occupancy Transaction
Status: active
HMIS Death by Disease Transaction
Status: active

Future uses of system

- Data sharing across systems
- e-Registry: Integrated and longitudinal care
- e-Referral from community to facility and lower to higher facility
- Improved decision-making at time of care
- Client feedback based on care received



THANK YOU!