

# Health Information System in Tanzania

Ministry of Health, Community Development , Gender, Elderly and  
Children

Swiss and Germany

Feb 2018

# 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



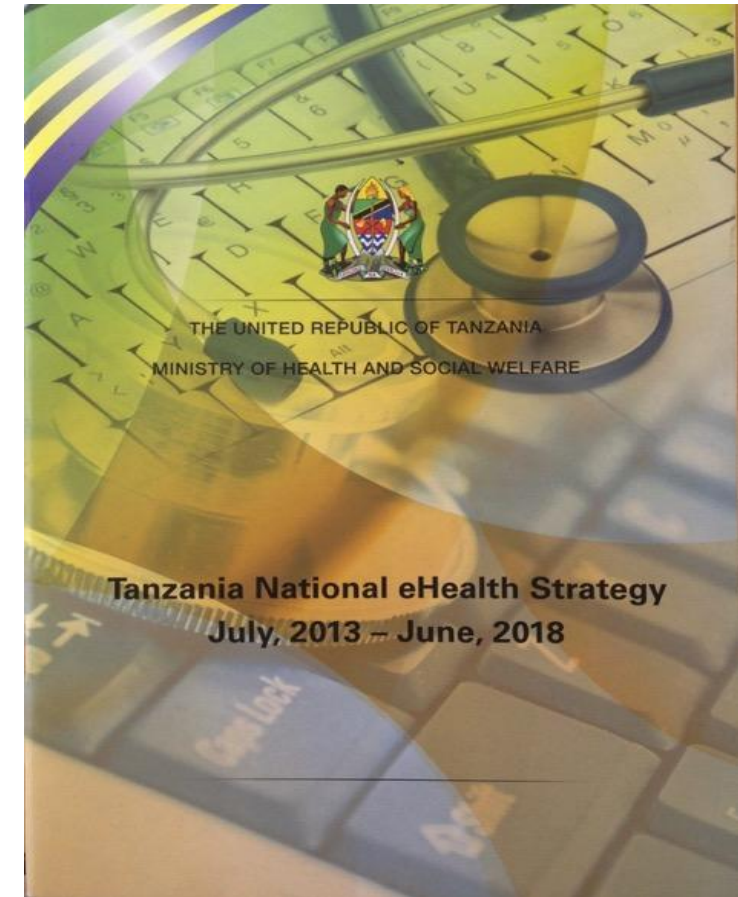
# Before the strategy

- Before the launch of the strategy:
  - We had more than 4 major health systems
  - Un organized health systems approach, institutional based rather than sectorial approach
  - Uncoordinated, short living solutions (non feasible), costly, vendor driven, too many pilots (not focused on scaling up to national programs)
  - Standalone systems, thus making data un shareable.

# eHealth Strategy Strategic Objectives

eHealth Strategy identified three strategic objectives as eHealth Foundations:

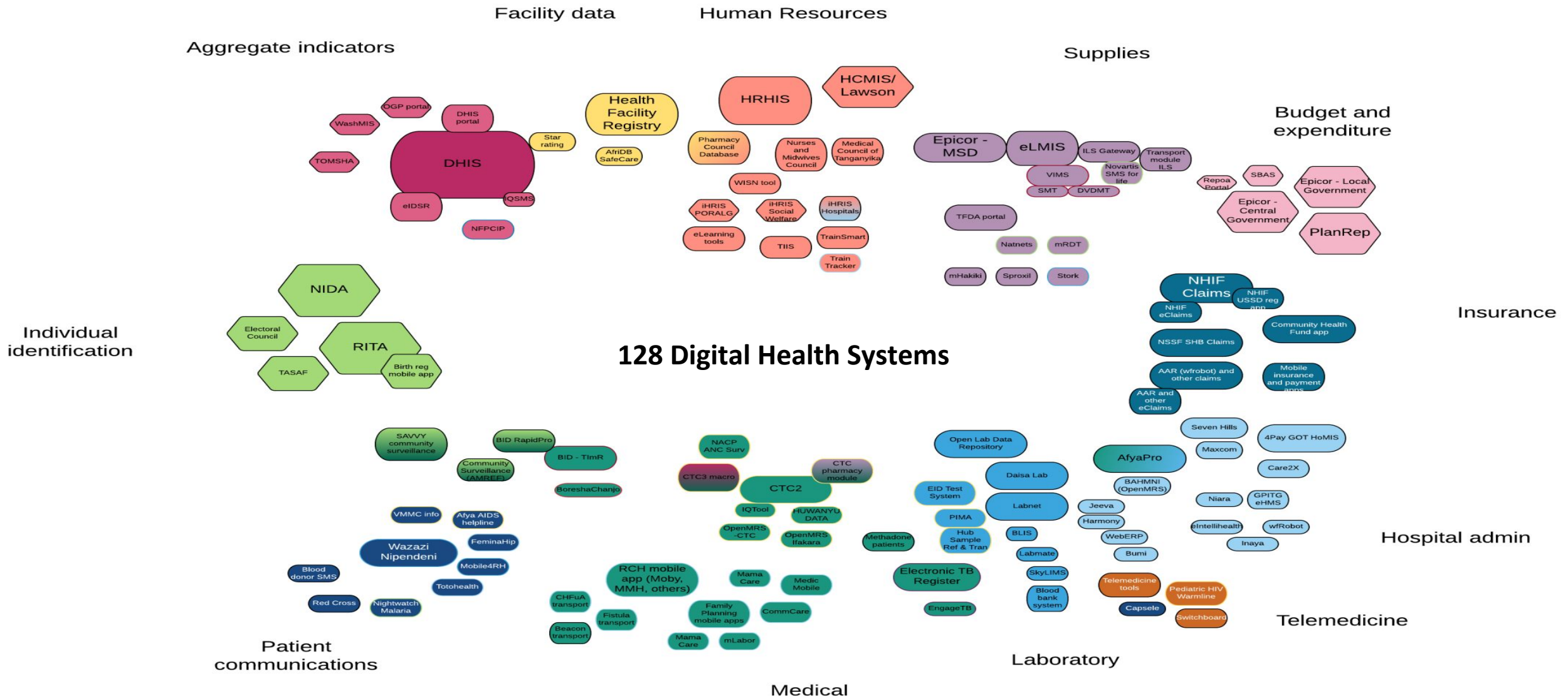
1. Enhance ICT infrastructure and services to **improve communication and information sharing** across the health systems and at all levels.
2. Establish eHealth standards, rules, and protocols **for information exchange** and protection.
3. Establish comprehensive health facility, provider, and client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



# After the strategy

- More organized and coordinated solutions, focusing on the sectorial approach, web based, interoperable solutions.
- More feasible, cost effective, problem driven solutions, focusing more on health care delivery improvement.
- More national systems adopted, categorized into mHealth, telemedicine, M&E, Financial management, administration and Clinical solutions.

# Available systems - Across Health sector



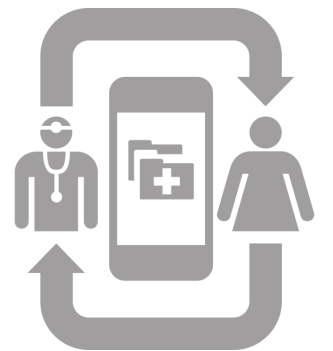
# MOHCDGEC and Health Information Exchange (HIE) Commitment

## Health Sector Strategic Plan (2015 – 2020)

- The health sector will embrace rapid development of ICT for improving administrative processes, patient/client recording and communication.
- The MOHCDGEC will stimulate development and guide interoperability of systems

## The eHealth Strategy (2013 – 2018)

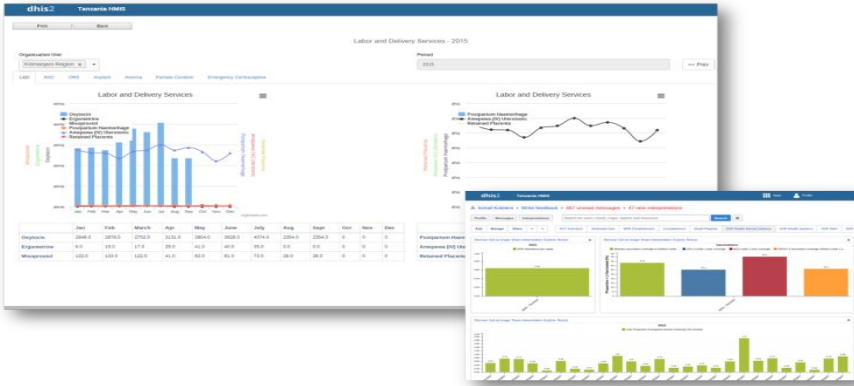
- Establish eHealth standards, rules, and protocols for information exchange and protection
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# Current Situation: Example

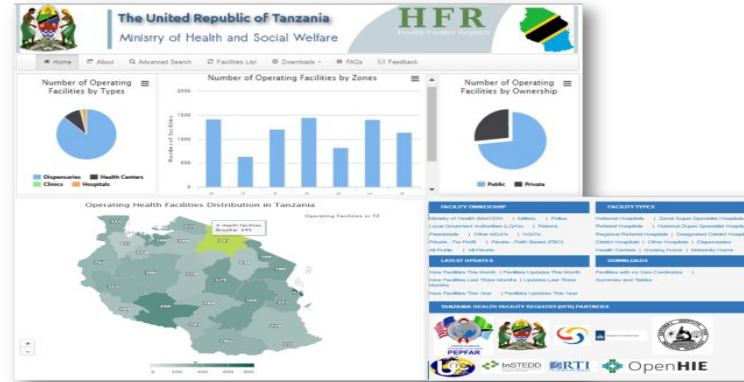
## Current Situation: Data We Have

- We know **what service** (eg. ANC) is provided (DHIS2)



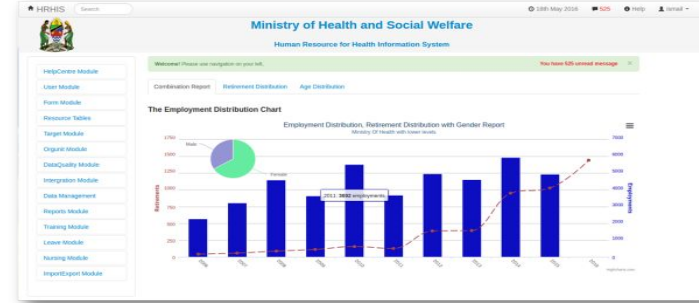
## Current Situation: Data We Have

- We know **where a facility** provides services (HFR)



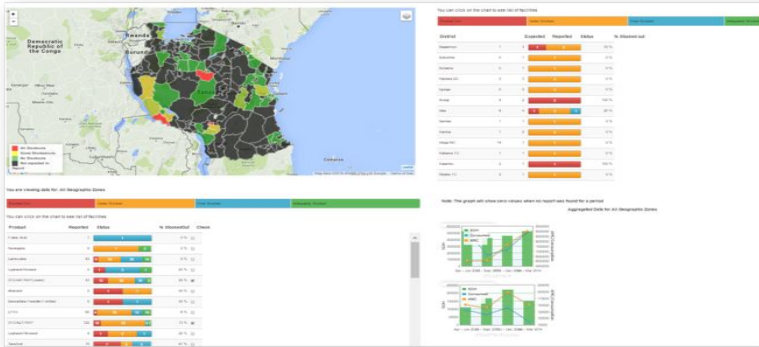
## Current Situation: Data We Have

- We know the **provider who** provides services (HRHIS)



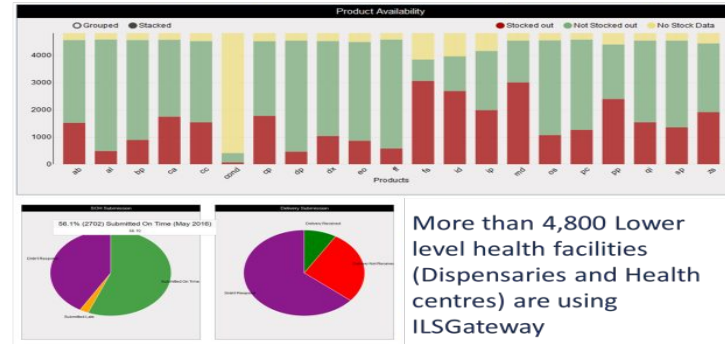
## Current Situation: Data We Have

- We know **which commodities** are available at HF (eLMS)



## Current Situation: Data We Have

- We know **tracer commodities** availability (ILSGateway)



More than 4,800 Lower level health facilities (Dispensaries and Health centres) are using ILSGateway

## Current Situation: Data We Have

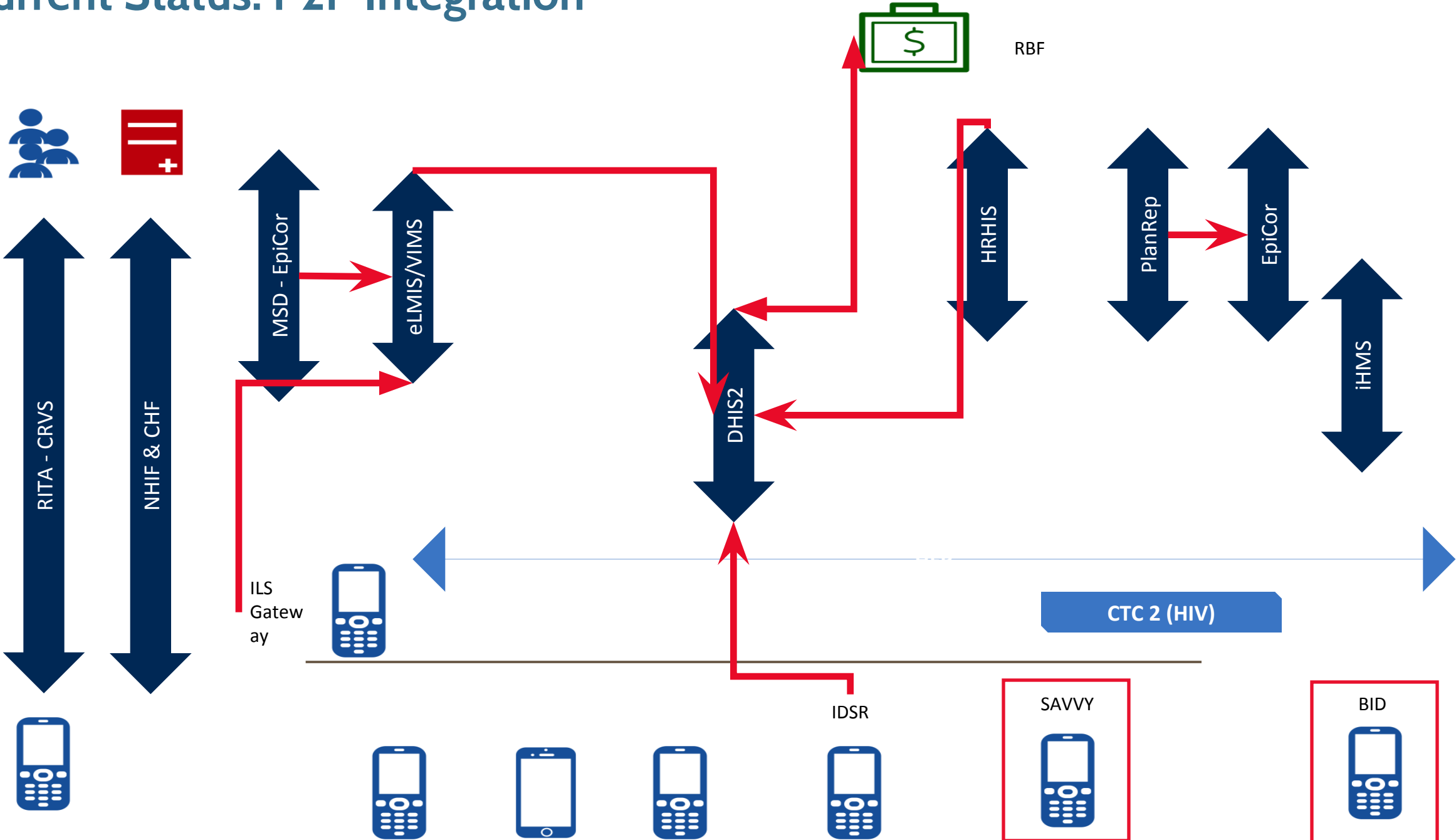
- We know **how much money** is available (District ERP, & MSD)



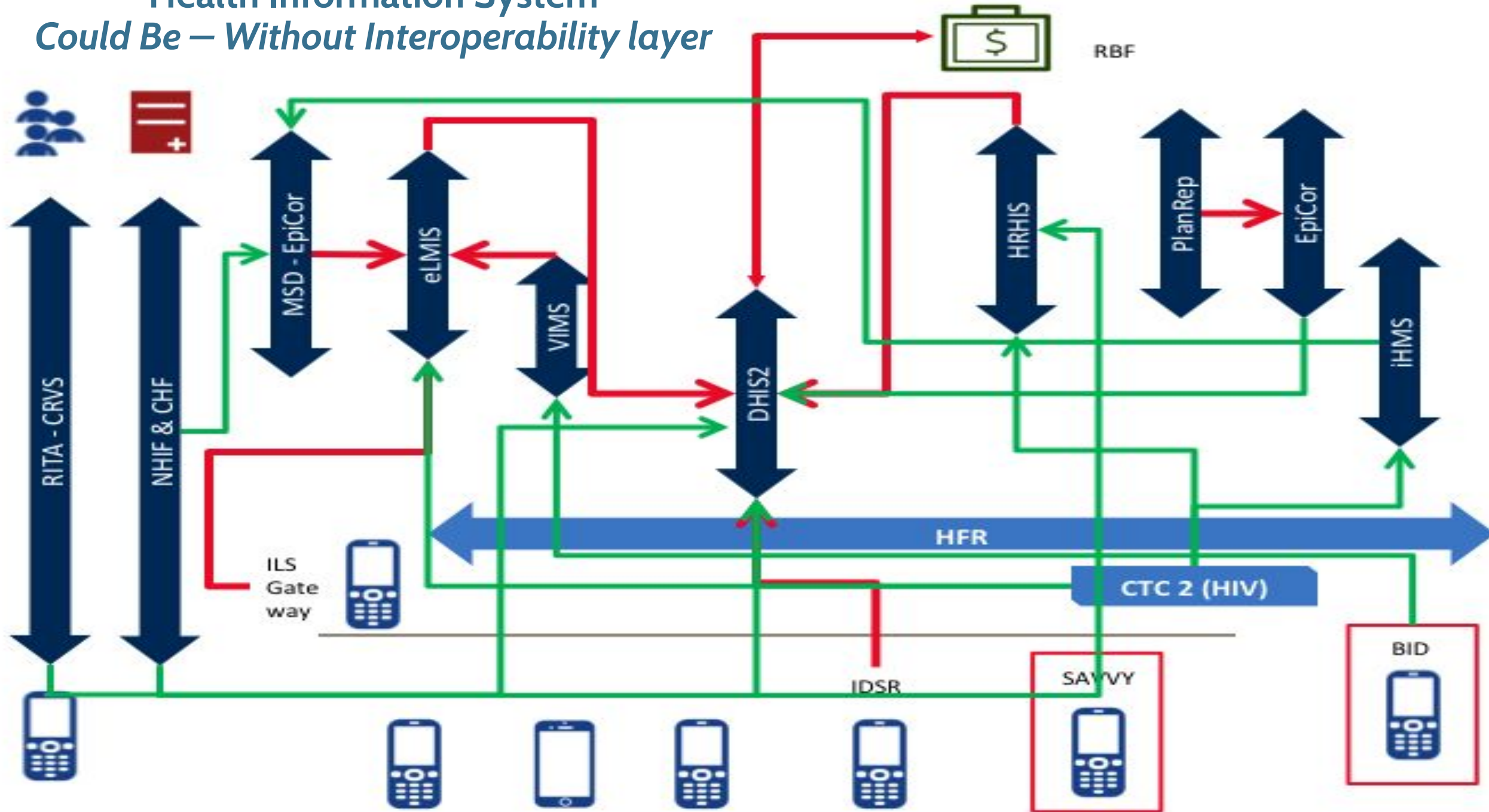
- We don't know **to whom (beneficiary)** services are provided (EMR) except HIV care (CTC2) and some Hospitals through iHFeMS
- We cannot easily compare **what, where, who, which, or how much**



# Current Status: P2P Integration



# Health Information System Could Be – Without Interoperability layer

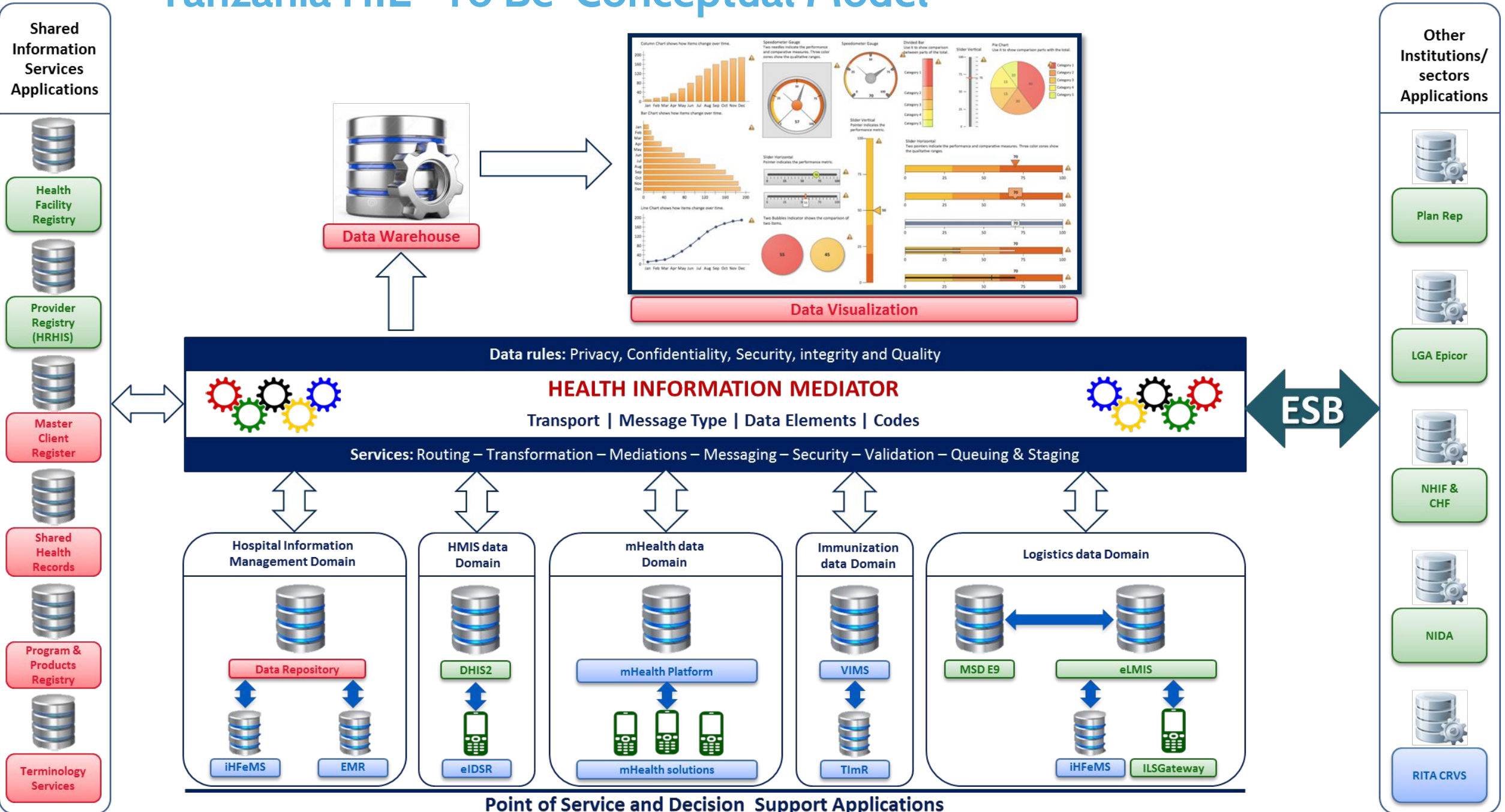


# THE QUESTION?

*How do we harmonize HIS?*

*What?!*

# Tanzania HIE 'To Be' Conceptual Model



# 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

- Client level data exchange for hospitals
  - Tracking medical services received
  - Tracking deaths by disease case
  - Tracking bed occupancy rate
  - Tracking hospital revenue
- Aggregate data exchange to DHIS2
  - HFR: Health Facility Registry – new and updates
  - eLMIS: Count of stock received, consumed, stock on hand at facility level
  - VIMS: Monthly Counts of children vaccinated
  - E9: Count of stock received, consumed (distributed), SOH at MSD

## Administrator Dashboard

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Organizations

[View all](#)

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Message Types

[View all](#)

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Configurations

[View all](#)

## Organizations

## Latest Organizations:

|  |           |        |                      |
|--|-----------|--------|----------------------|
| <a href="#">Jakaya Kikwete Cardiac Institute</a> | 9/11/2017 | Public | <a href="#">Edit</a> |
| <a href="#">Muhimbili Orthopedic Institue</a>    | 8/09/2017 | Public | <a href="#">Edit</a> |
| <a href="#">Muhimbili National Hospital</a>      | 7/20/2017 | Public | <a href="#">Edit</a> |

## Message Types

## Latest Message Types:

|   |
|---|
| <a href="#">DHIS2 Logistics Transaction</a><br>Status: active       |
| <a href="#">HMIS Bed Occupancy Transaction</a><br>Status: active    |
| <a href="#">HMIS Death by Disease Transaction</a><br>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

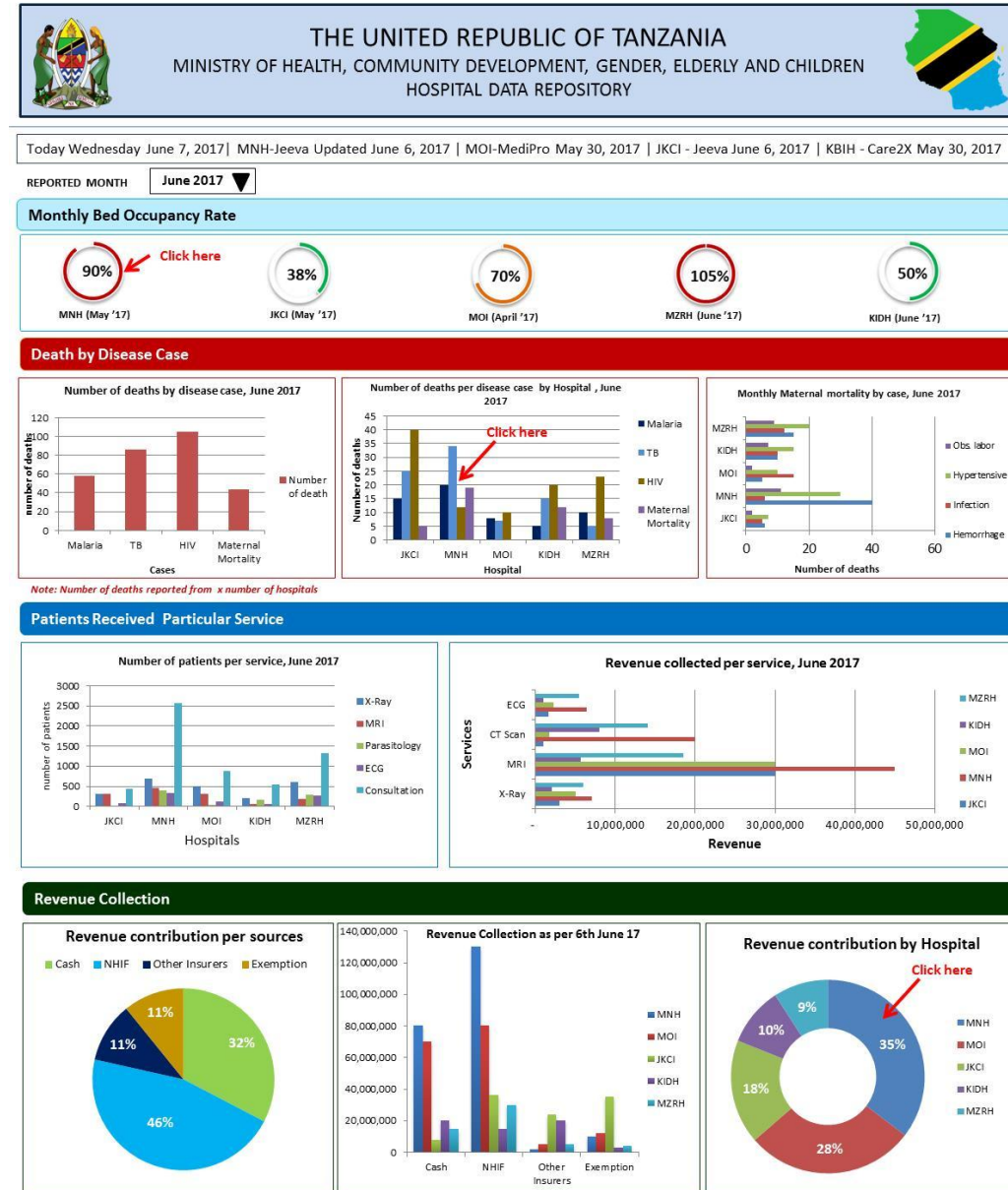
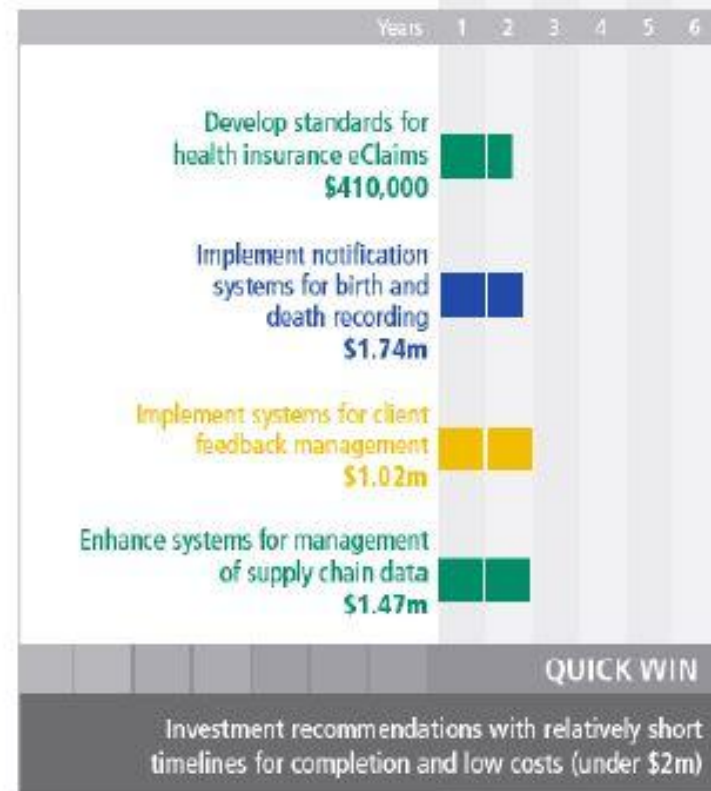
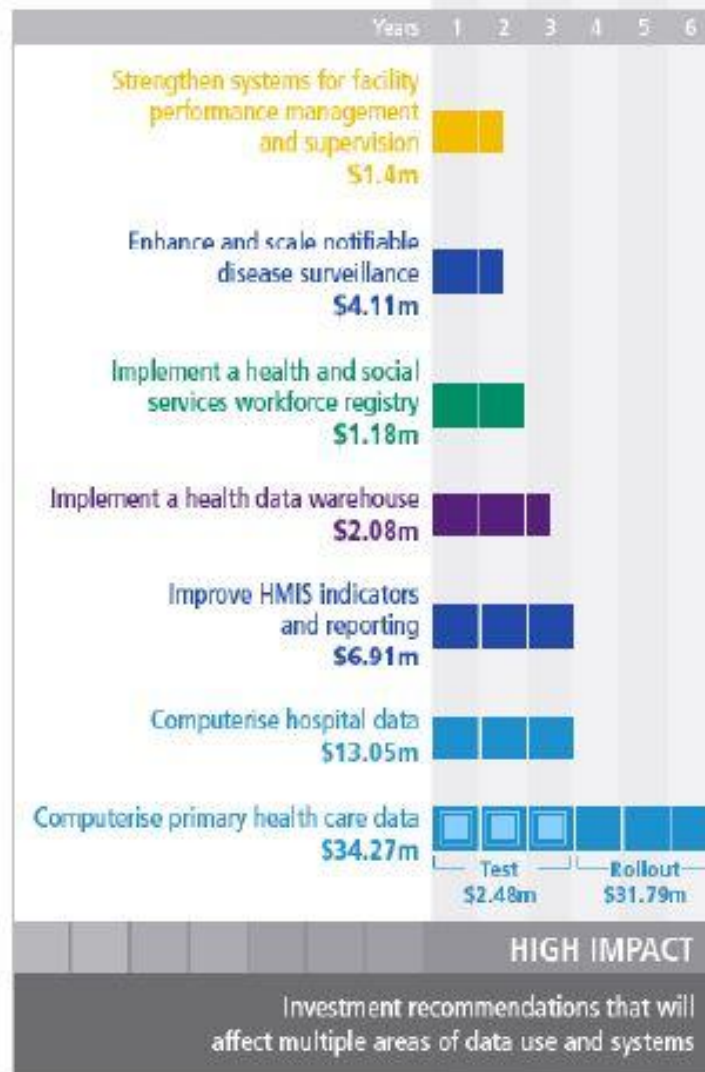




FIGURE 3. INVESTMENT RECOMMENDATION ROAD MAP

## ROAD MAP: THE JOURNEY

With these priority investments, Tanzania will be able to effectively use data to improve health.



**THANK YOU!**