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Four years of managing a national electronic logistics management information systems (eLMIS) at scale in Tanzania: lessons learned and future directions

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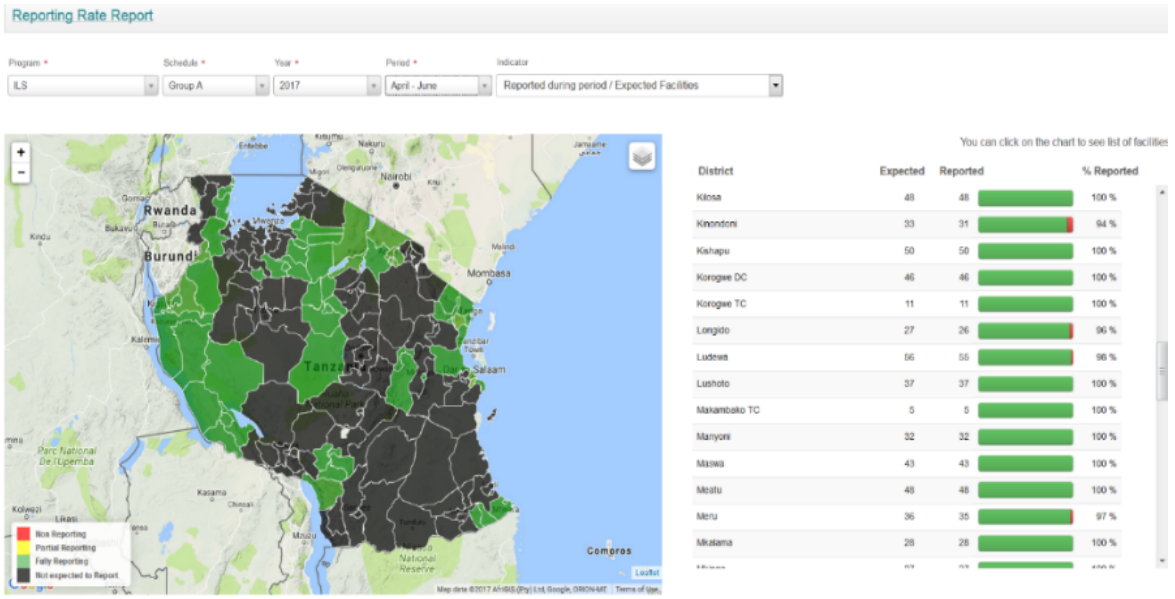
Tanzania is a leader in implementing electronic logistics management information systems

The eLMIS in Tanzania:

- Supports the collection, management, and use of critical supply chain data (including consumption and stock on hand)
- Includes data across vertical programs – HIV, tuberculosis and leprosy, malaria, maternal and child health, family planning, essential medicines, and selected laboratory supplies – enabling uniform data capture in one system
- Provides an immediate interface between the eLMIS and the Medical Stores Department (MSD) Enterprise Resource Planning (ERP)



Reporting rate dashboard, eLMIS April – June 2017 quarter

- Data are from ~5,000 facilities across the country
- 15% of facilities enter supply chain data directly into the eLMIS; for the rest, data are entered by the District Pharmacist from a paper based report and requisition (R&R) submitted by the facility

How did we get here?

2011

The Ministry of Health of Zambia and the Ministry of Health and Social Welfare of Tanzania formed a joint project to design and implement an eLMIS that could be deployed in both countries, since both countries shared many of the same requirements.

2013

The JSI-implemented Supply Chain Management System Project and the USAID | DELIVER PROJECT in Tanzania began to roll out the eLMIS system through strategic trainings at different levels of the supply chain.

2015

Complete roll out of the eLMIS is achieved in early 2015.
Reporting rates reached 91% in the first quarter after the rollout.
eLMIS is officially launched by the Government of Tanzania.

2017

After increasing the visibility of data, there is sharpened focus on data quality and use, governance of eLMIS, and the integration of eLMIS within the larger Health Information System architecture

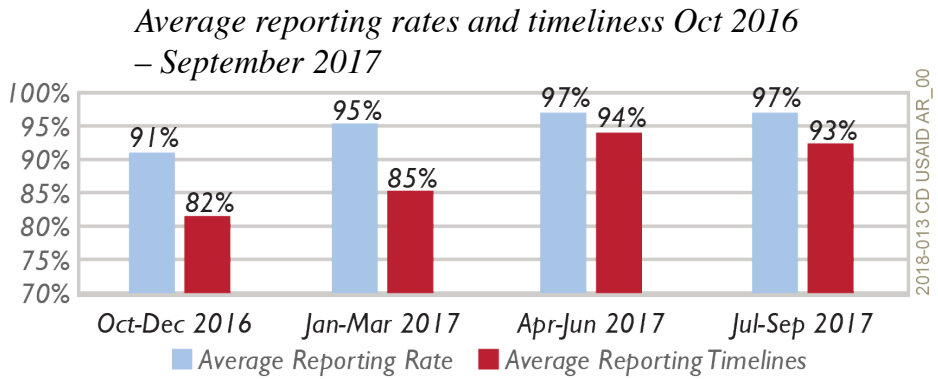
Help desk support
Development of enhancements
Data visualization and analytics

Tanzania's eLMIS experience offers insights for other countries/programs at various stages of implementation

1

Success of the eLMIS is intertwined with the institutionalization of a data-focused organizational logistics management structure (such as a Logistics Management Unit).

The LMU in Tanzania are primary users of the eLMIS, who consistently follow up with facilities and districts to ensure reports are submitted. This has enabled routinely high reporting rates and on time reporting rates.



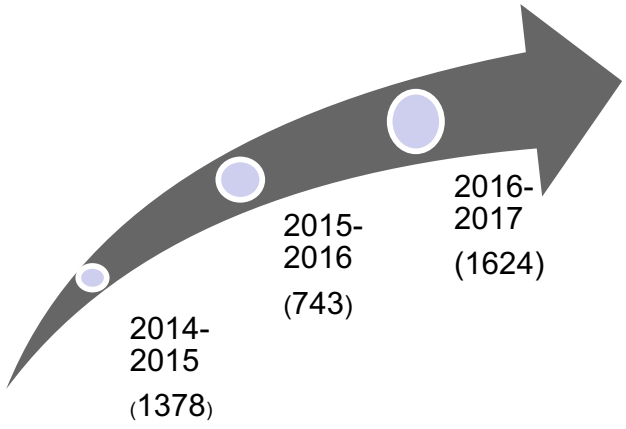
Once submitted, LMU staff conduct throughout analysis of all submitted data to identify any quality issues, and ensure corrective actions are taken. A critical role of the LMU is working with Council and Regional Health Management Teams RHMTs to use data from the eLMIS – to identify areas with supply chain challenges so actions can be taken.

Insights - expanding help desk support as new users are continually added.

2

Identifying individuals to act as helpdesk support is critical to support growth in new users.

As recognition of the value of the system grows, new users will be continually added. The LMU staff have been trained to provide level 1 and level 2 help desk support, to increase the overall pool of support. As a result, the system has been able to support exponential growth of new users.



New eLMIS users 2014 - 2017

Insights – activities to enable sustainability

3 **Investments in self guided (remote) training reduce the ongoing costs of classroom training.**

Training requirements never end, and classroom trainings or in person on the job trainings represent a significant cost of eLMIS continual support. Self-guided training curriculum are currently being developed. The course will also include a frequently asked questions section to reduce issues reported.

4 **Local software development support enables faster response time for tier 3 support, and clarifications and feedback on dashboards and visualizations.**

A “Boot Camp” was conducted to introduce the eLMIS base code and cultivate related skills to a team at the University of Dar es Salaam. A local software developer was hired to work full time on eLMIS support.

Insights – agile collection of user needs, and anticipating system changes

5 **Agile collection of user needs enables a systematic approach to address needs and explore requirements.**

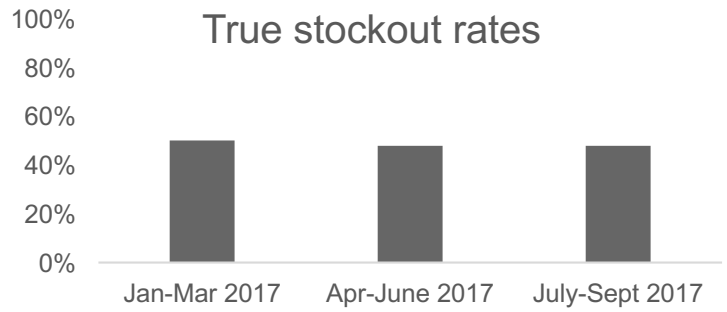
Routinely scheduled meetings are held with users to clarify and validate their requirements, and a best in class tool used to track tickets and requests for enhancements.

6 **Integrating eLMIS team into discussions on planned logistics system interventions allows the team to plan required resources to implement changes to the eLMIS.**

Currently, facilities report on a quarterly basis; the Government of Tanzania will be shifting to monthly reporting (and reduced inventory levels) which represents a fundamental business process change to the eLMIS. The eLMIS team has fully participated in the discussions around this and other system changes

Focus is now on improving data quality, use, and governance

1 Though data visibility has improved, data quality issues remain.



2 Data use at the central level still limited.

Focus was initially on use at the council and zonal level. Dashboards and reports designed for central level use are in development.

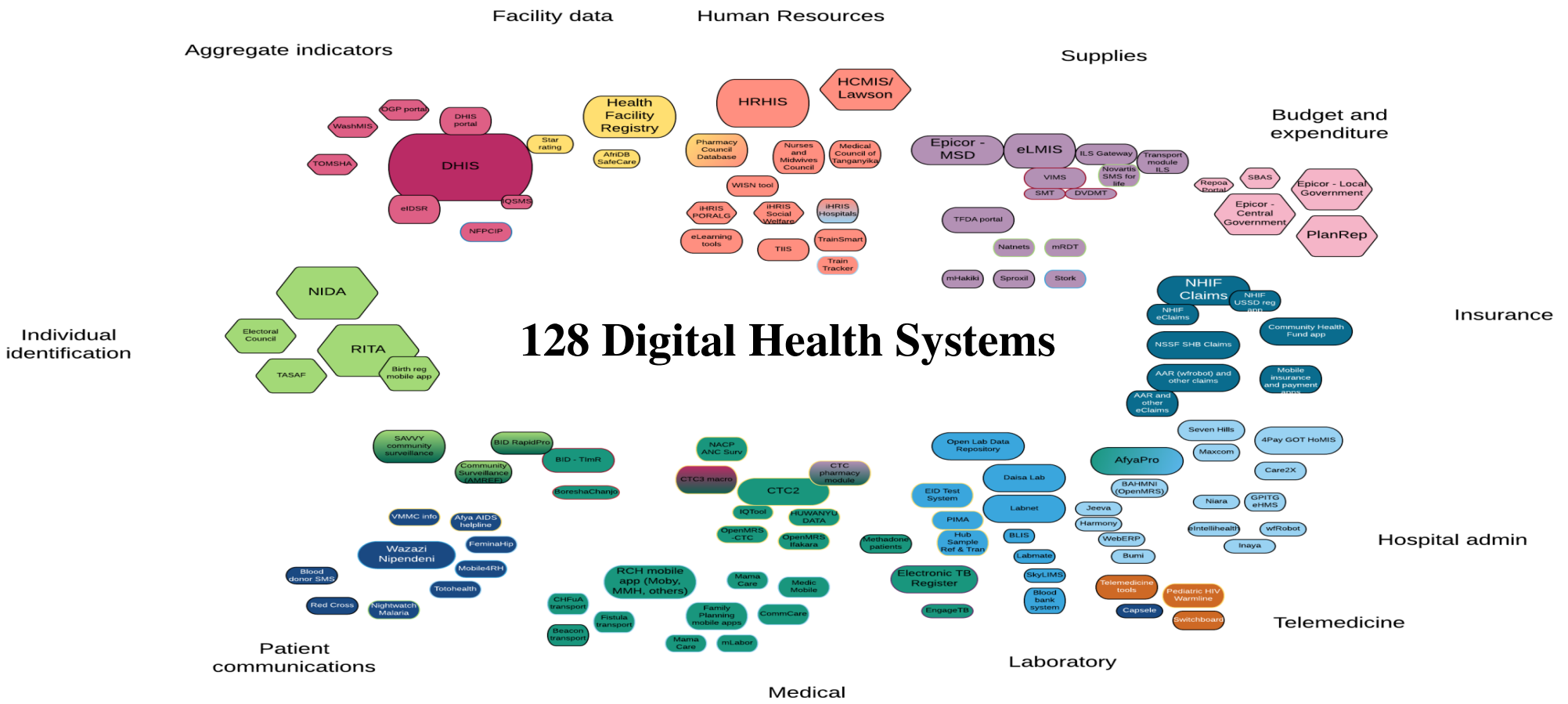
	No of individuals that logged in at least once in 16 months	Number of eLMIS logins
NACP	6	125
NMCP	1	135
NTLP	2	98
RCHS	1	50
Zonal LMU	**5**	**3,325**
Central LMU	4	83
PSU	6	21

3 Though governance was included from the beginning, there is renewed focus on strengthening the governance structure for eLMIS, and shifting responsibilities such as hosting and release management to local entities

eLMIS as part of the larger Health Information Systems architecture

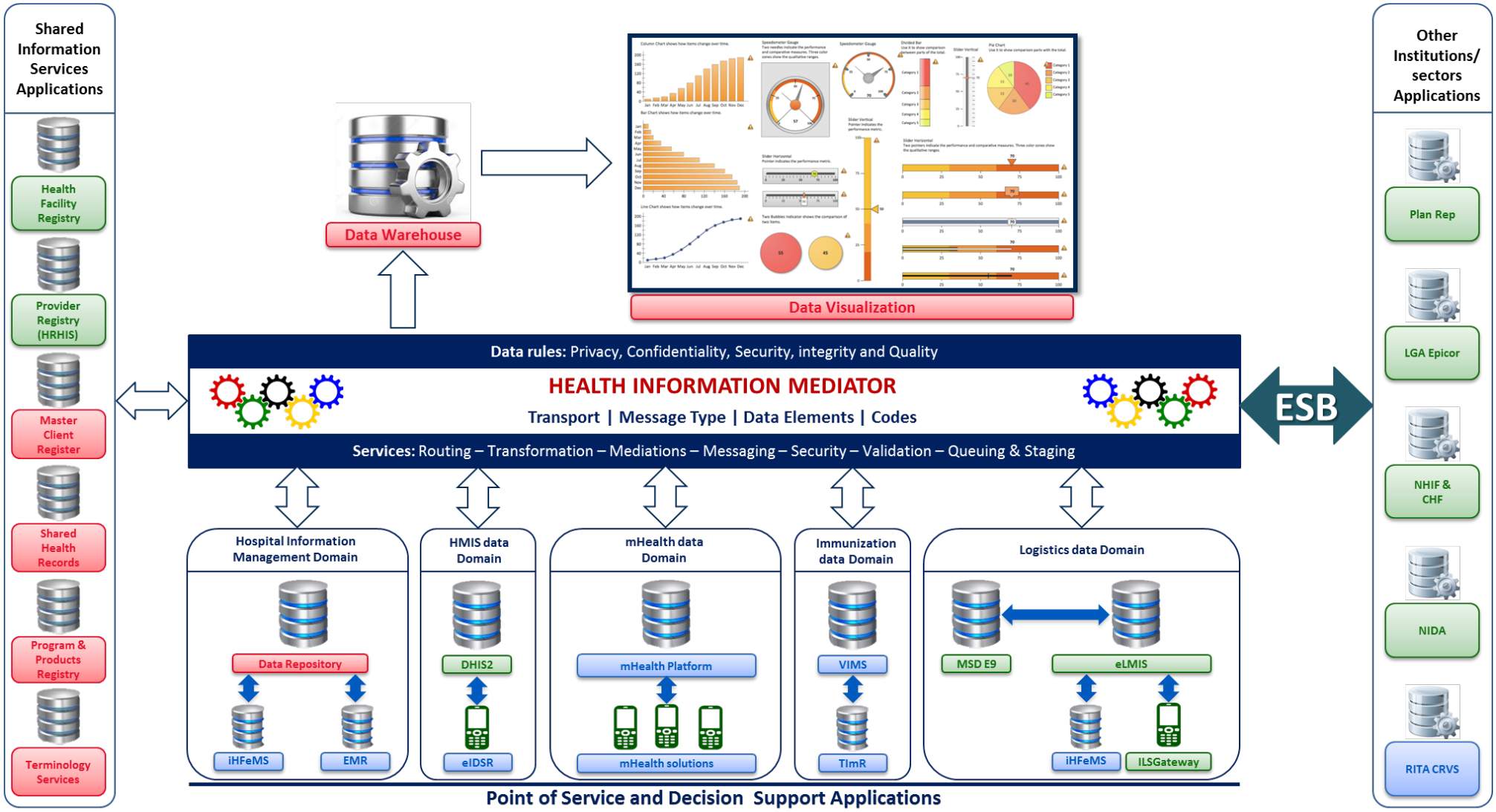
- Initial focus on peer to peer integration with systems that the eLMIS has data overlap
  - DHIS2 – consumption data from eLMIS is fed into DHIS2 for dashboards which compare services data with consumption data
  - Epicor9 (e9) – specific data points such as shipment data, product data are mapped, and requisitions from eLMIS converted to sales orders at MSD
- Moving away from peer to peer integration to the development of an interoperability layer

There are 128 digital health systems in Tanzania



Source: DUP Assessment findings, 2016

Tanzania HIE 'To Be' Conceptual Model

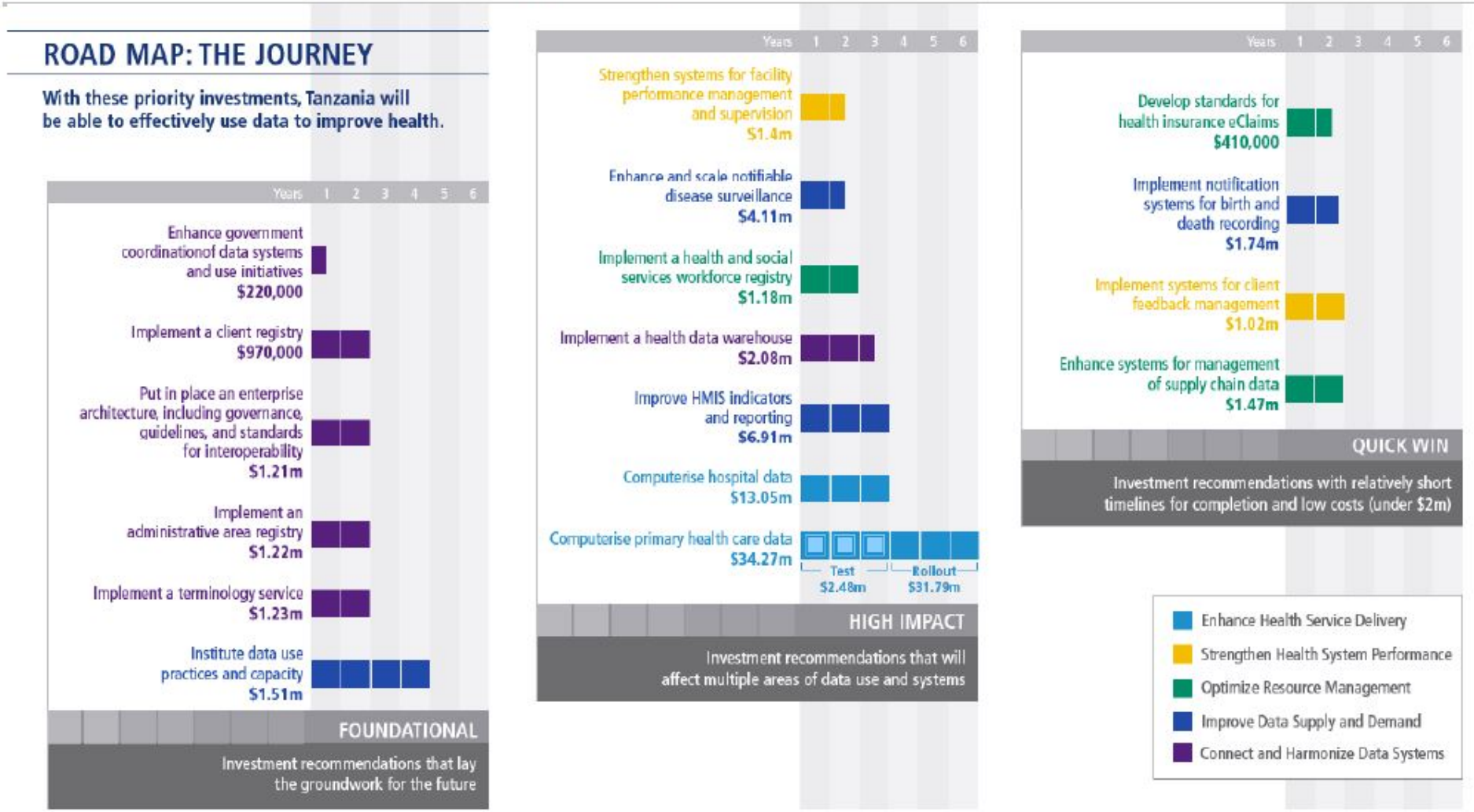


Where are we so far with the HIM?

- Developed system functional requirements
- Designed mockups for Health Data Repository (HDR) dashboards and reports based on defined requirements
- Establishing integration between 5 selected hospitals (for phase 01) with HDR
- Mapping selected legacy systems (eLMIS, VIMS, E9, HRHIS, HFR and DHIS2) with the interoperability layer to share aggregate data accross systems
- Working on setting up local hosting for HIM and HDR

Digital Health Investment Road Map is the overall guidance for HIV investments

FIGURE 3. INVESTMENT RECOMMENDATION ROAD MAP



Future direction of the eLMIS in Tanzania and contribution to global OpenLMIS

- Tanzania is one of the few first countries that implemented & contributed to a more featured set OpenLMIS version at scale
  - Shared development & implementation experience with interested countries and counterparts
  - Set base to what are the minimum requirements for an automated LMIS in a country.
- Moving forward, a gap analysis is in process to determine the differences between OpenLMIS V3.x and Tanzania's eLMIS.

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