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Utilizing interoperability layers to facilitate last mile stock visibility in Tanzania

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Motivation

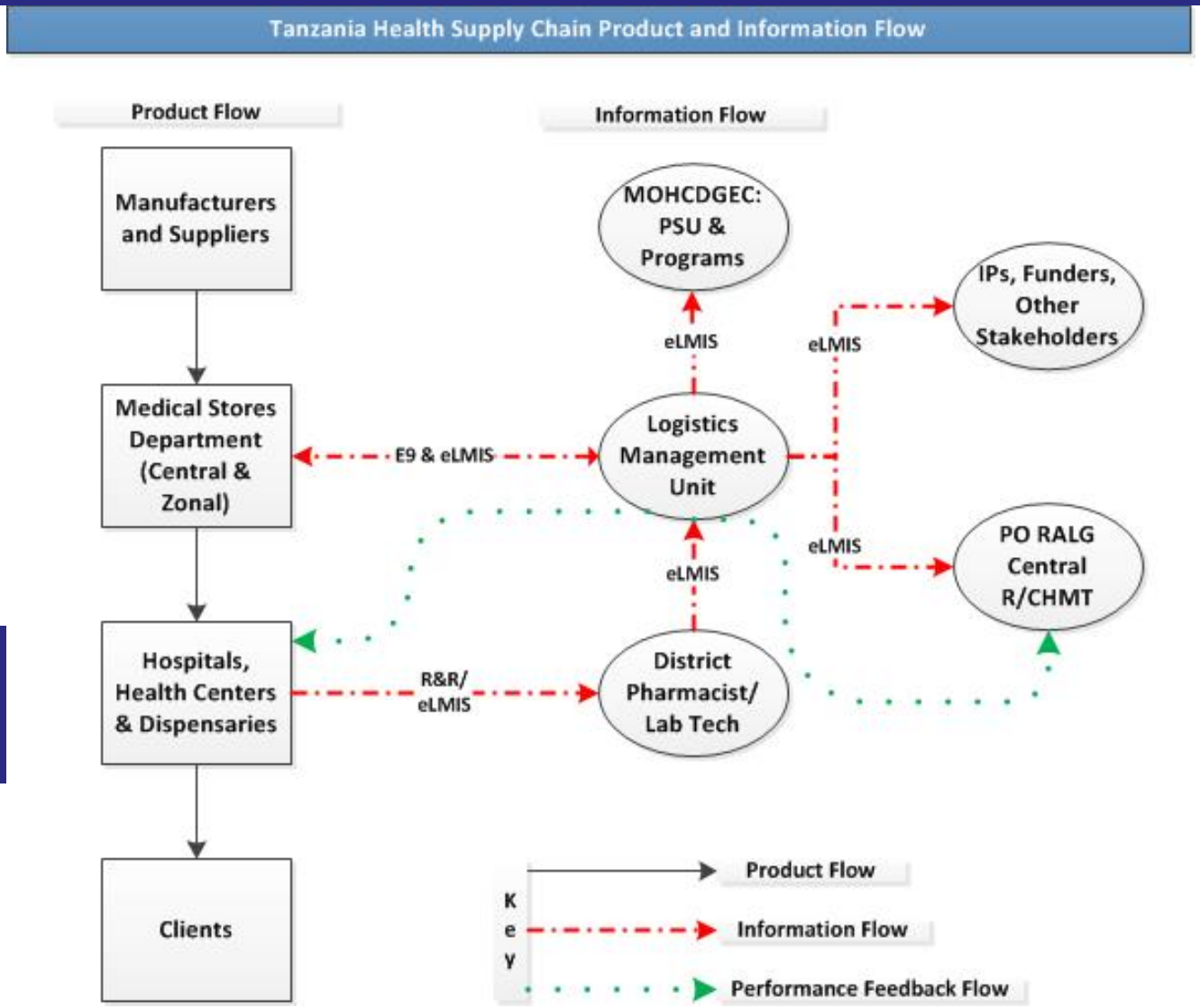
- Increasing end to end supply chain visibility facilitates informed decision making, and ultimately product availability
- Significant investment has been made in improving the visibility of supply chain data in Tanzania
- Yet, the majority of facilities (~85%) especially dispensaries and health centers continue to use paper based systems for recording and reporting supply chain data, and requesting resupply
- GoT guidance: no topic-specific (including supply chain) software should be implemented at the facility level → rather, one tool has been selected to be used at facility level to support all operations
- Existing systems, and interoperability layers should be utilized to facilitate increased last mile visibility of supply chain data
- Data sharing is at the center of design

Objectives: facilitating last mile stock visibility through automated systems

1. Increase visibility of supply chain data at facility
2. Improve the time with which facility level data are available
3. Reduce the level of effort for completing manual forms that are required from facility – particularly for data **compilation** and **calculations**
4. Improve data accuracy

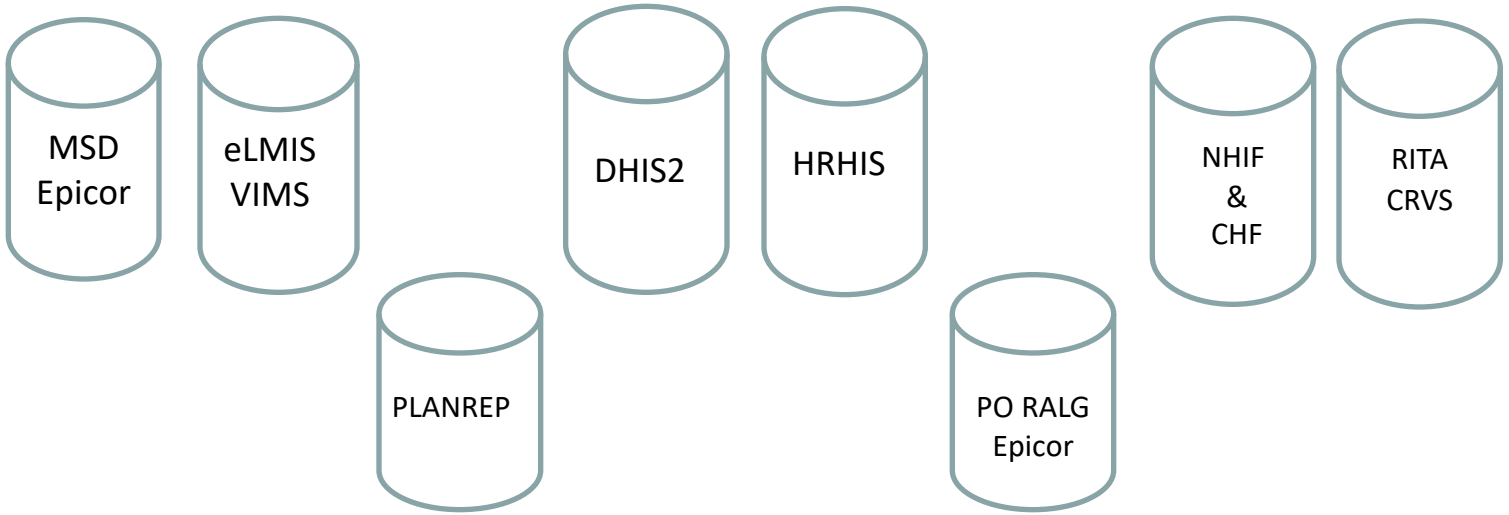
Current flow of information

GotHOMIS/ Unified solution – facility level systems

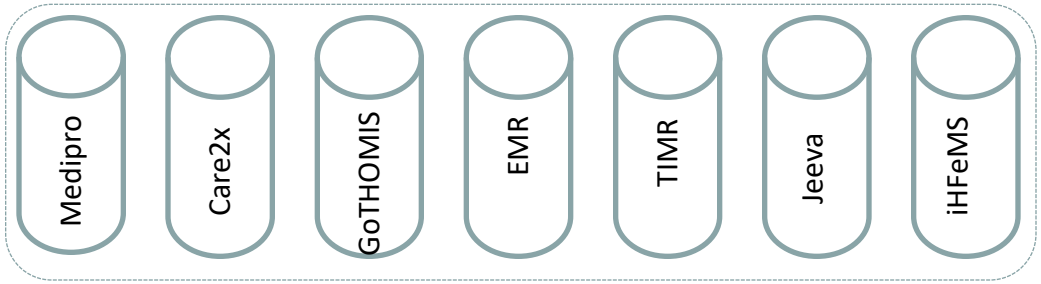


A glance at some Health Information Systems

National Level Aggregate Systems



HF Level Systems



There is a recognized need to align and standardize how data are shared across the supply chain

Existing systems: eLMIS and Unified Solution

eLMIS

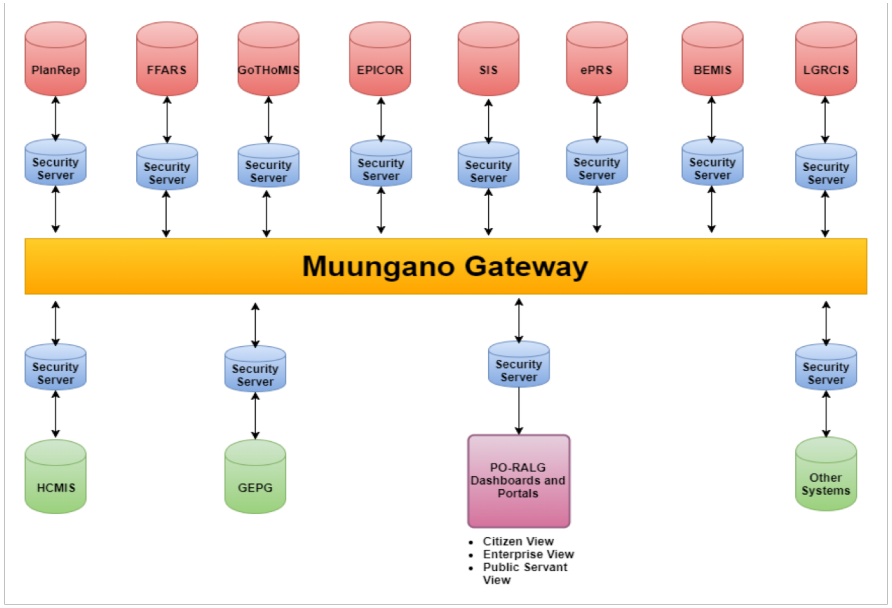
- Implemented nationally since late 2013
- Supports the collection, management and use of critical supply chain data across all commodity categories
- Includes data from 5,000+ health facilities in mainland
- Currently, around 15% of facilities (primarily urban areas) enter data directly into eLMIS; for others, paper R&R is completed by facility, then entered by the district pharmacist into eLMIS
- Linked to MSD's ERP system

Unified Solution/GoTHOMIS

- Collects and reports facility level clinical information and supports facilities in service delivery management
- Includes electronic medical records, and a module for tracking inventory
- As of September 2018, GoTHOMIS rolled out to nearly 300 health facilities; a variety of different systems are used at regional and referral hospitals

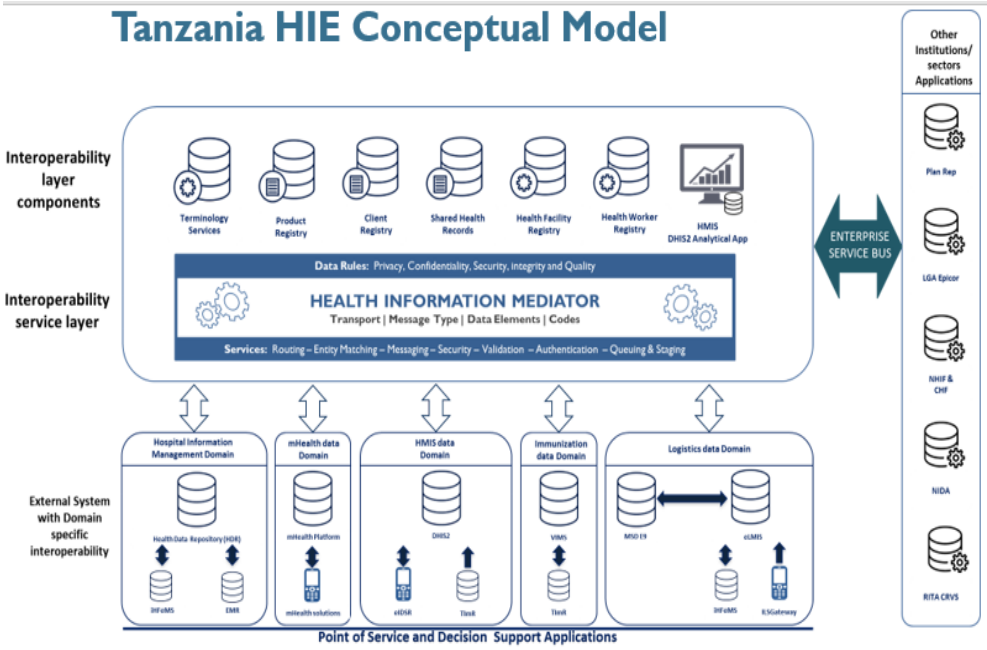
Interoperability enablers

Muungano Gateway



The Health Information Mediator –HIM

A common standards-based national scale eHealth architecture that enables the effective flow of sharing of information in support of the eHealth strategy



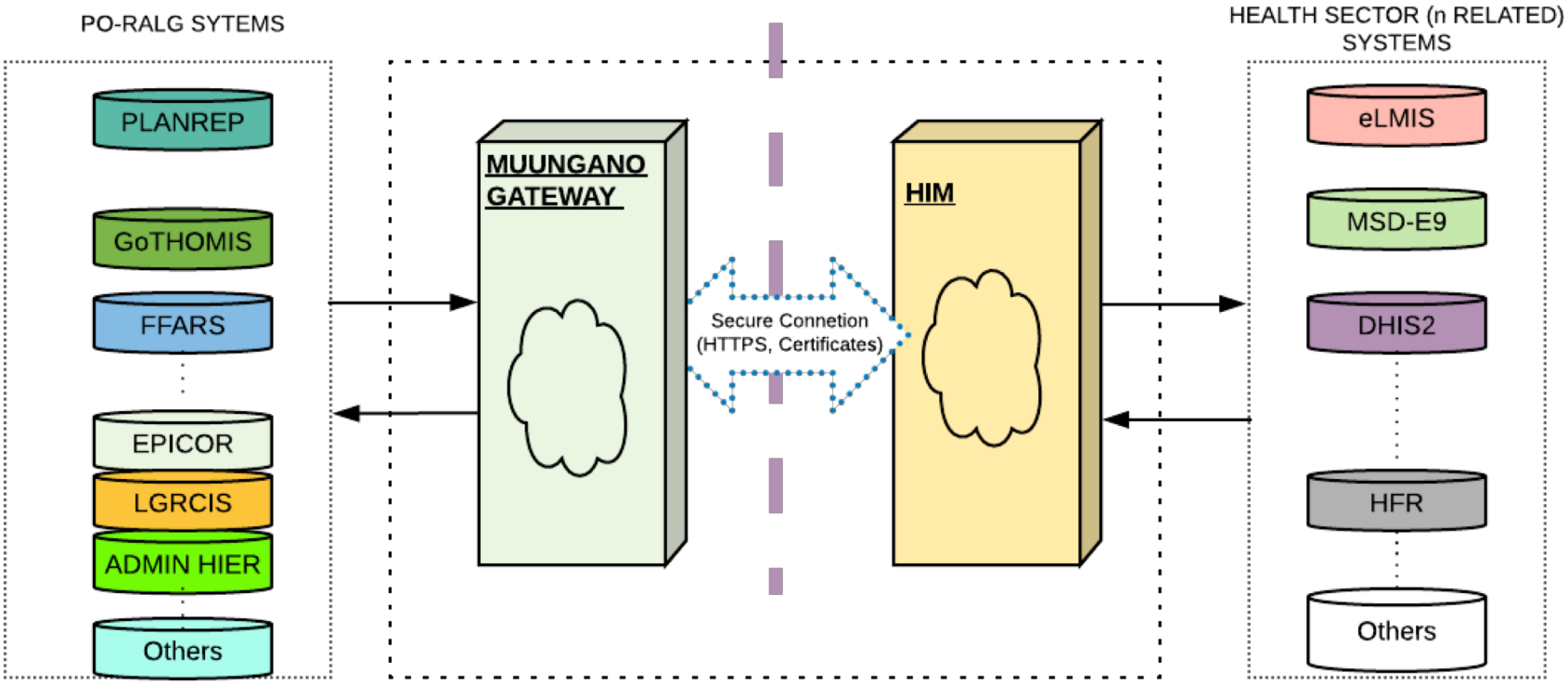
The plan

- Automatically populate R&Rs in the eLMIS with data on consumption and stock on hand from facility level systems (Unified Solution and others)

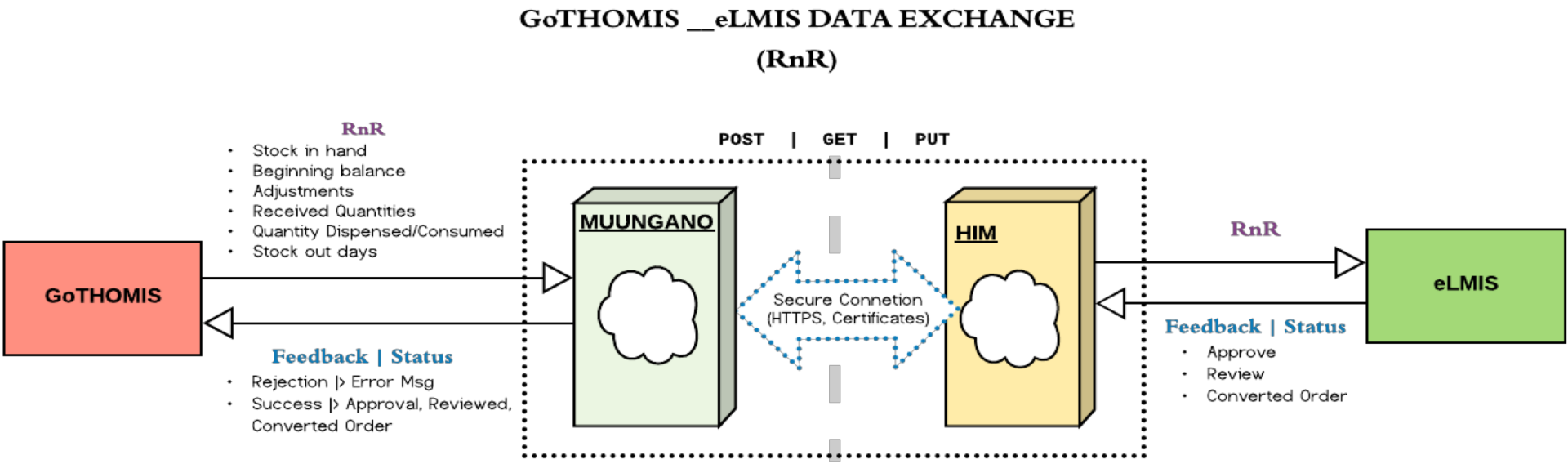
To do this -

- Develop requirements for integration
- Identify and prioritize systems for integration (prioritize based on number of facilities where it is used, highest volume facilities, existence in eHealth strategy, etc)

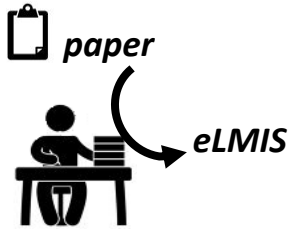
Integration of Unified Solution and eLMIS through Muungano and HIM



Overview of Report and Request workflow between Unified Solution and eLMIS



Anticipated Benefits



Reduction of burden of paper work at the facility level

Standardization & alignment of SC systems to promote interoperability and accountability

Enriched data visibility, better visualization & analytics through more data exchange (and data triangulations

Improved planning and budgeting with integration with health financing systems (eg: FFARS, PLANREP)

Ultimately through better informed decisions; quality health commodity reach the common '*mwananchi*'.

Anticipated challenges and proposed solutions

- Health Facility codes: Unified Solution uses health facility registry – (HFR) codes while eLMIS uses MSD facility codes
- Product registry: there is no "single source of truth" for products across systems
- Plans are to have MSD & eLMIS also reference HFR through the mediators
- Conceptualization of having product registry is underway as a long term solution; however a short term solution needs to be in place.

Conclusions

- User centered design is key to increasing data use
- Standardization enables integration and sustainability
- GoT will leverage existing systems, and utilize health information exchange best practices to facilitate facility level supply chain data visibility

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