How Ethiopia's eHealth Architecture supported health data exchange through interoperability layer for COVID-19 digitization response

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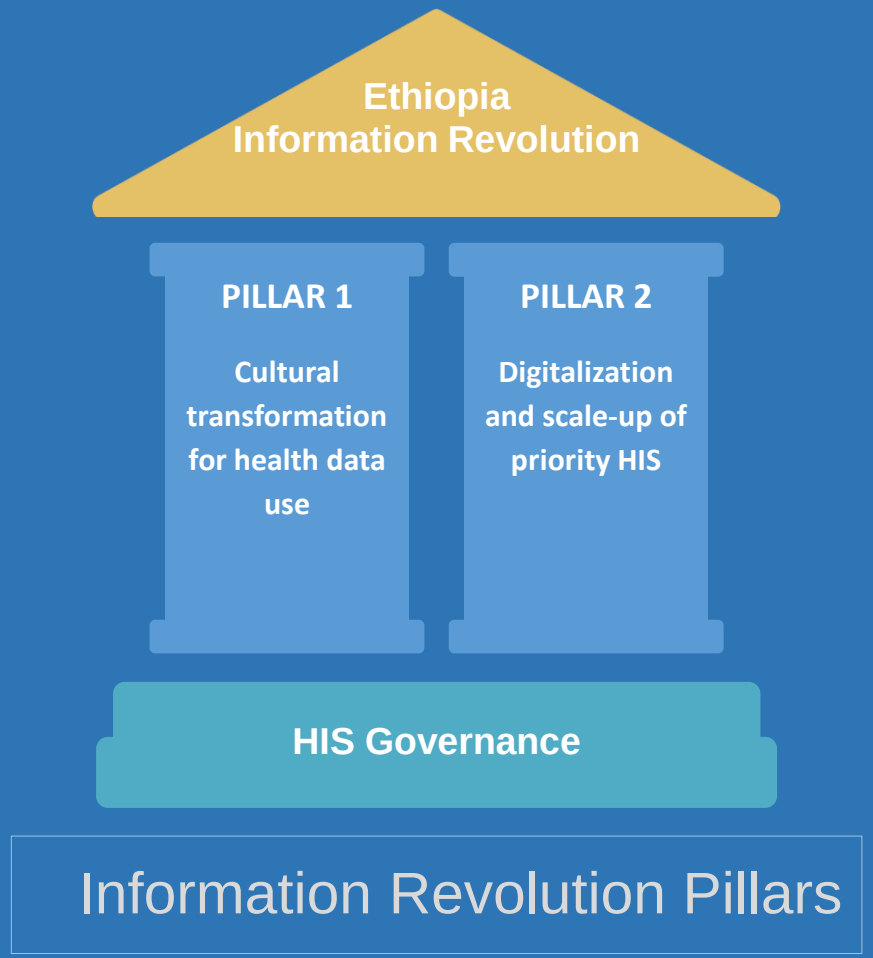
Information Revolution Roadmap



In 2016, MOH introduced a strategy that is one of the transformation agendas of the HSTP

Goals of the IR

To improve the use of high-quality routine information in the health sector, contributing to improved quality, efficiency and availability of primary health and nutrition services at all levels.

Ethiopia eHealth Architecture (eHA)

The Ethiopia eHealth Architecture is a conceptual model that depicts the information systems, data sources, and integrations that the Ministry of Health proposes to implement and maintain to help achieve its strategic goals.

Why eHealth Architecture (eHA)?

The eHealth Architecture provides a foundational plan to support the acquisition, exchange, sharing and use of health data.

DATA

Making data transparent and accessible

TRACKING

MOH health indicators and goals longitudinally

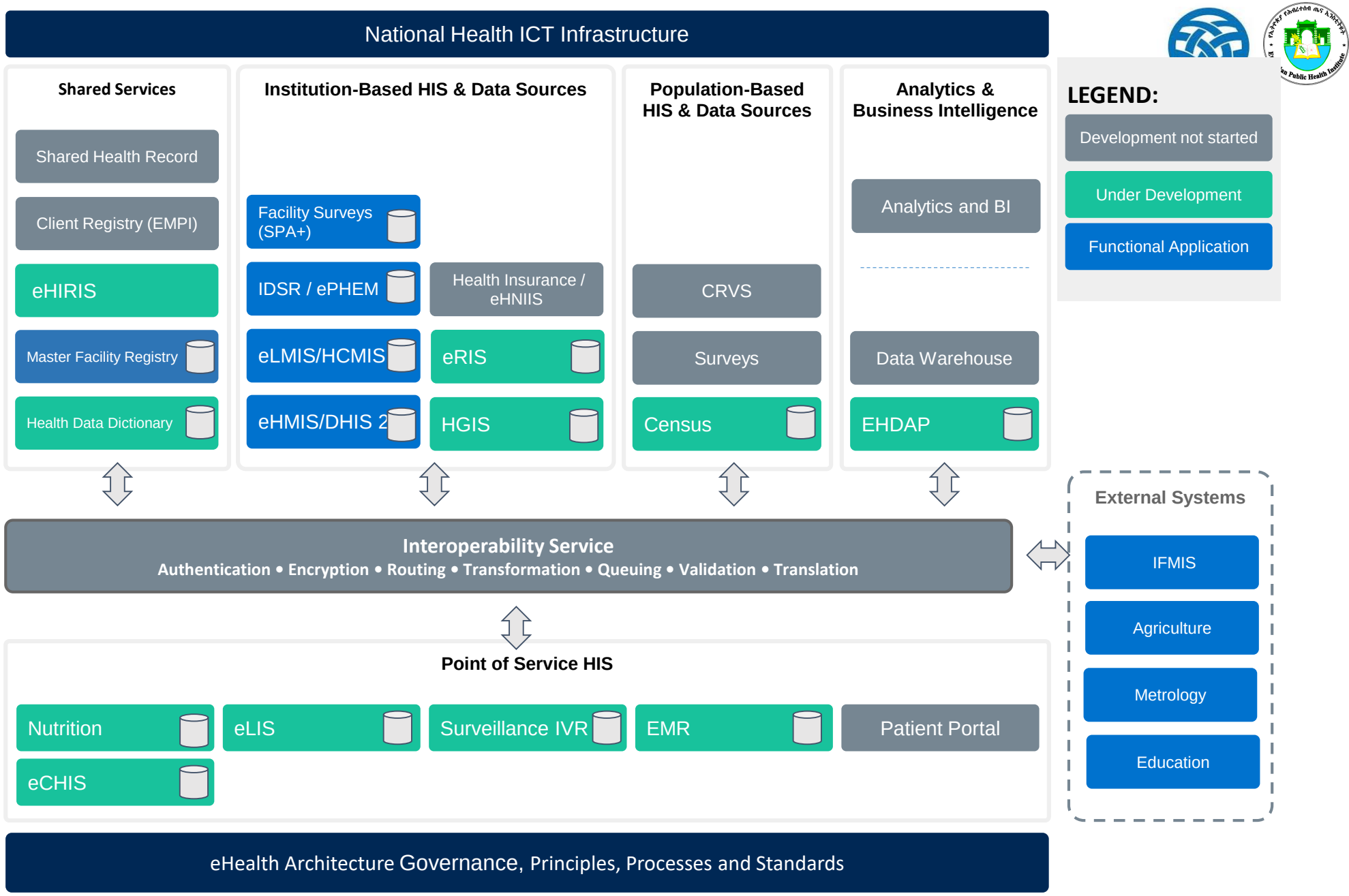
HEALTH RECORD

Provides support for a patient based longitudinal health record

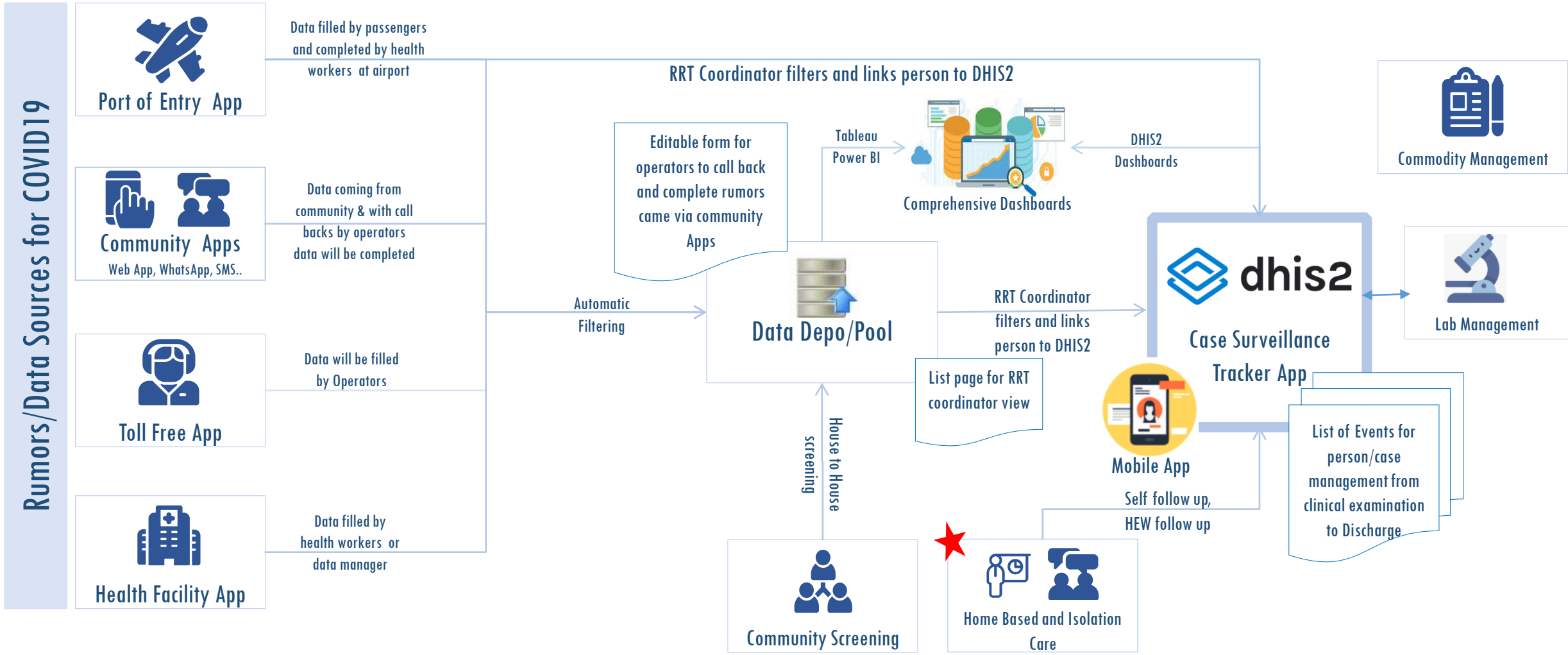
INTEROPERABILITY

Supports reuse of software applications with efficient components, standardized data and a plan for integration

Ethiopia eHealth Architecture: Current State



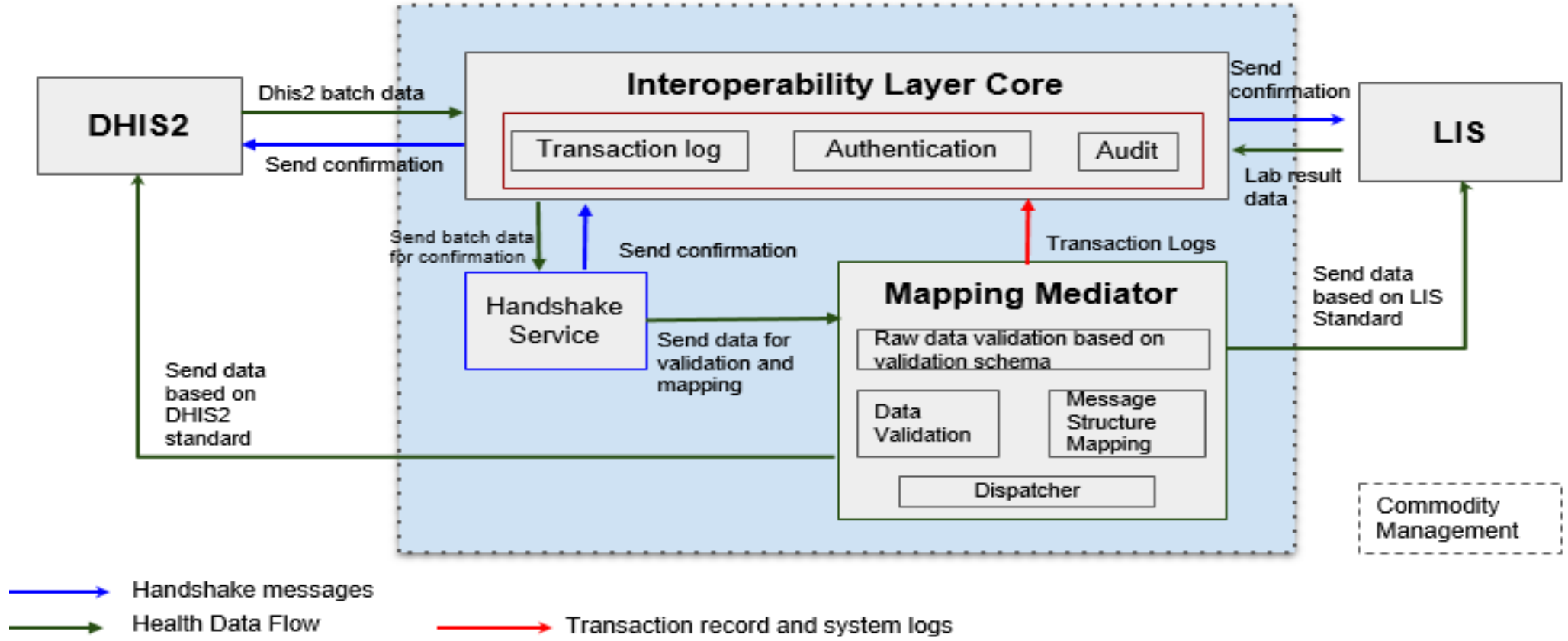
Ethiopia COVID-19 Surveillance Platform (ECSP)



Challenges

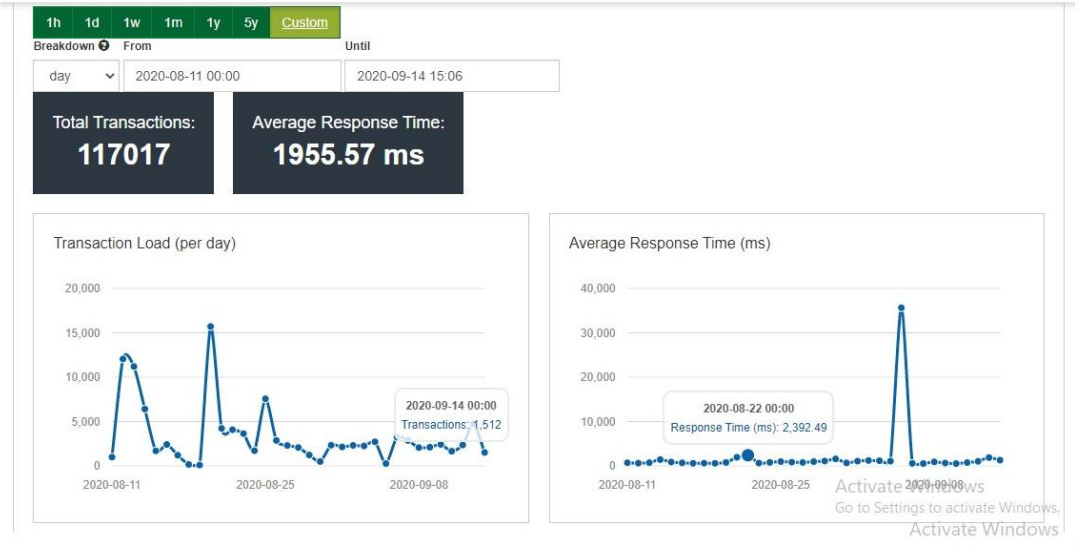
- Manual intervention for health data management and exchange between DHIS2 and LIS
  - High Turnaround time
  - Error prone
  - Security issue
  - Not aligned with the eHA approach
- Interoperability challenges
  - Different health data standards between the two systems
  - Data exchange between proprietary software (LIS) and open source system (DHIS2) at a national level
  - Time constraint – emergency response

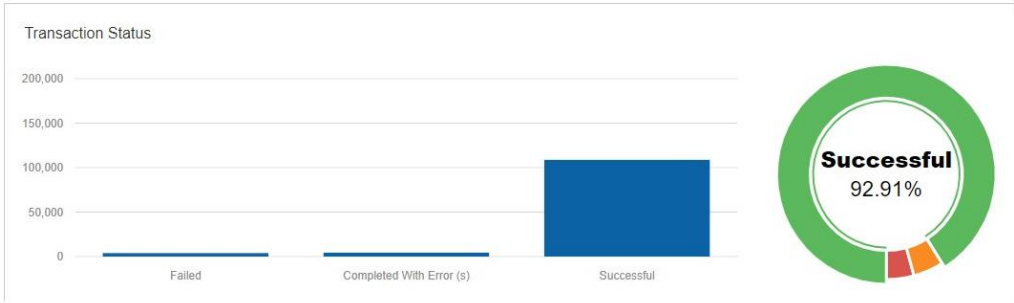
A middleware solution- using interoperability layer



Results

- **Paper Based Result Dissemination**
  - Very long TAT in result notification **> 4 Days TAT**
  - Misplacing Results
  - Poor reporting on negative result
  - Incorrect test result reporting
- **Automation**
  - 100% improved data quality & workflow
  - SMS enabled result reporting (-Ve results)
  - **Real time lab order management**
  - **Organized data management in laboratories**
  - Improved TAT **2.1 Days**





Lesson Learnt

- challenges and opportunities of integrating systems in emergency scenarios
  - eHA support the interoperability operations
  - Infrastructure challenge
  - Ownership and knowledge transfer challenge
  - Requirement changes dyanmically
  - Using eHA for the outbreak/emergency situation
- implement interoperability solutions between proprietary HIS and open source HIS
- MoH, EPHI support for smooth implementation

Thank you

For more information, please contact:

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