LMIS from the HMIS perspective

Experiences from HISP

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9 October 2015

Overview

Health Information Systems Programme (HISP) background

Lessons from 20 years of HMIS development

Our experiences with LMIS

Lessons from HMIS applied to LMIS

Some conclusions

HISP and DHIS

HISP coordinates development of open source DHIS2 software
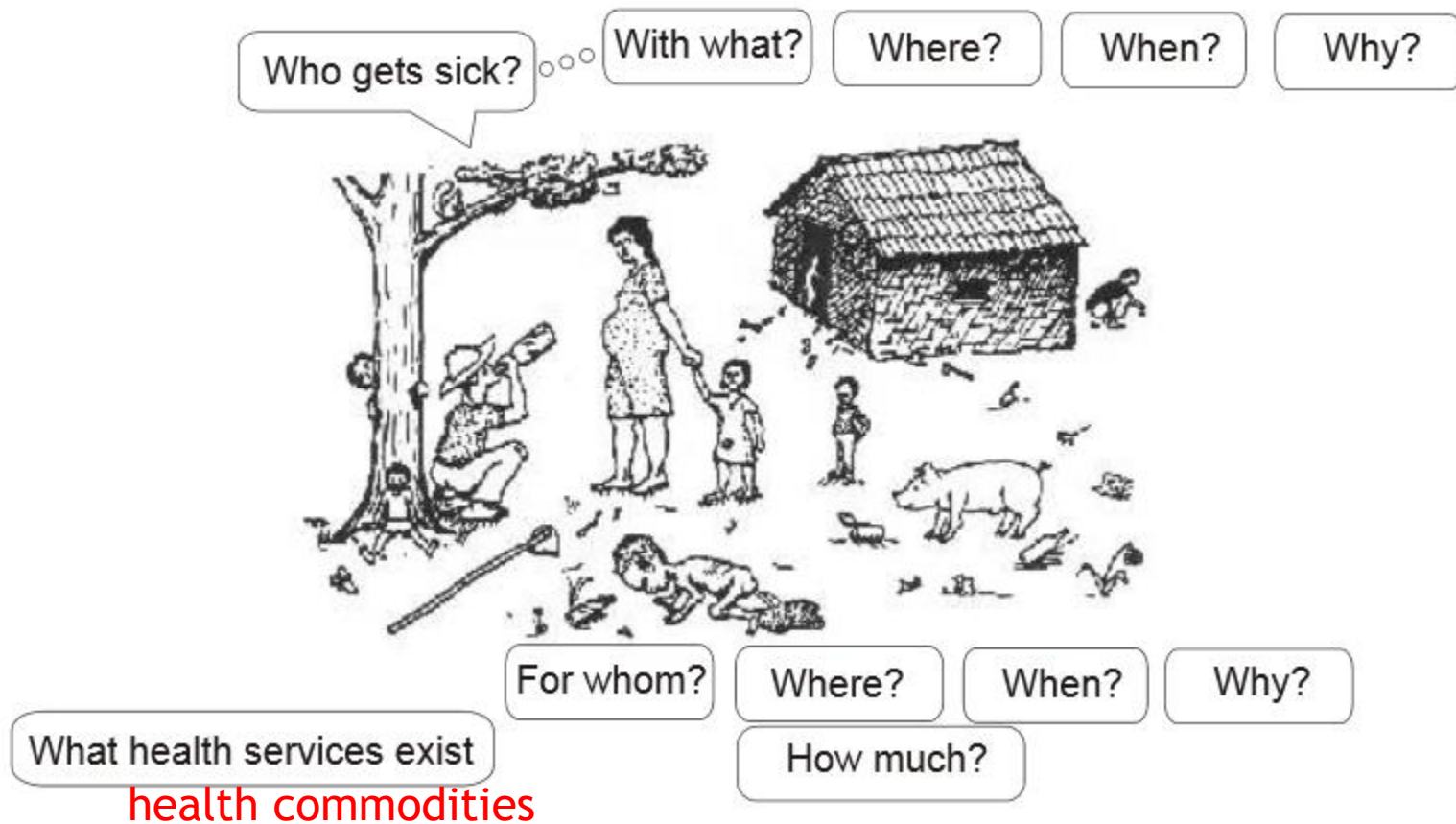
      47 countries

      23 NGOs

      8 global health agencies

      40.000+ monthly users

DHIS2 originally developed to support HMIS/M&E. M&E the dominant use still

Role of HMIS

From "Helping Health Workers Learn" by David Werner

Lessons from 20 years of HMIS development

The installed base is important: never a green-field. Cultivation of what exists must be blended with what is new

Architecting: Which parts will do what. Integration and interoperability often need organizational change

Bottom-up vs. Top-down: information needs differ. Systems should be flexible to serve varying needs

Role of technology: Information systems are socio-technical. Non-technical problems can not be solved by technology

Sustainability: capacity building by far the largest cost.

Evolution: adaptation and change is key. Technology should be flexible

Logistics management on DHIS

Data Entry ❓

Organisation Unit	Ngelehun CHC
Data Set	EPI Stock
Period	April 2015 ▼ Prev year Next year
Project	Improve access to medicines ▼

🔺 Ngelehun CHC - April 2015 - Stock PHU discarde

Can we use DHIS2 for logistics management?

EPI Stock

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Commodity	Start Balance	Quantity Received	Quantity Dispensed	Discarded (Expired)	Discarded (
BCG Doses	120	30	24	5	
OPV Doses					
Measles Doses					

Commodity Availability		Yes	No
203	Stock out of any essential drug for 7 days consecutively in the last one month?		
204	Stock out of vaccine supplies in the past one month?		
205	Stock out of family planning commodities in the past one month?		
206	Stock out of Antiretroviral Drugs in the past one month?		
207	Stock out of ACTs for 7 days consecutively in the past one month?		
208	Stock out of RDTs for 7 days consecutively in the past one month?		
209	Stock out of SPs for 7 days consecutively in the past one month?		
210	Stock out of LLINs for 7 days consecutively in the past one month?		
211	Stock out of HIV test kits for 7 days consecutively in the past one month?		
212	Stock out of anti-TB drugs for 7 days consecutively in the past one month?		
213	Stock out of CPT for 7 days consecutively in the past one month?		
214	Stock out of INH for 7 days consecutively in the past one month?		
215	Stock out of Female Condoms in the past one month?		
216	Stock out of Implants in the past one month?		
217	Stock out of Emergency Contraception in the past one month?		
218	Stock out of Oxytocin in the past one month?		
219	Stock out of Misoprostol in the past one month?		
220	Stock out of Magnesium sulfate in the past one month?		
221	Stock out of Injectable antibiotics in the past one month?		
222	Stock out of Antenatal Corticosteroid (ANCS) in the past one month?		
223	Stock out of Chlorhexidine in the past one month?		

We need to have an ordering system

We need to track where the commodities are

What are we talking about?

Logistics Management Information System, Supply Chain Information System, Pharmacy Information System, Warehouse Information System...

A **logistics management information system** (LMIS) is a **system** of records and reports – whether paper-based or electronic – used to aggregate, analyze, validate and display data (from all levels of the **logistics system**) that can be used to make **logistics** decisions and manage the supply chain.
- Roll Back Malaria Partnership

Quite open-ended. What are we REALLY asked to do?

Different needs at different levels:
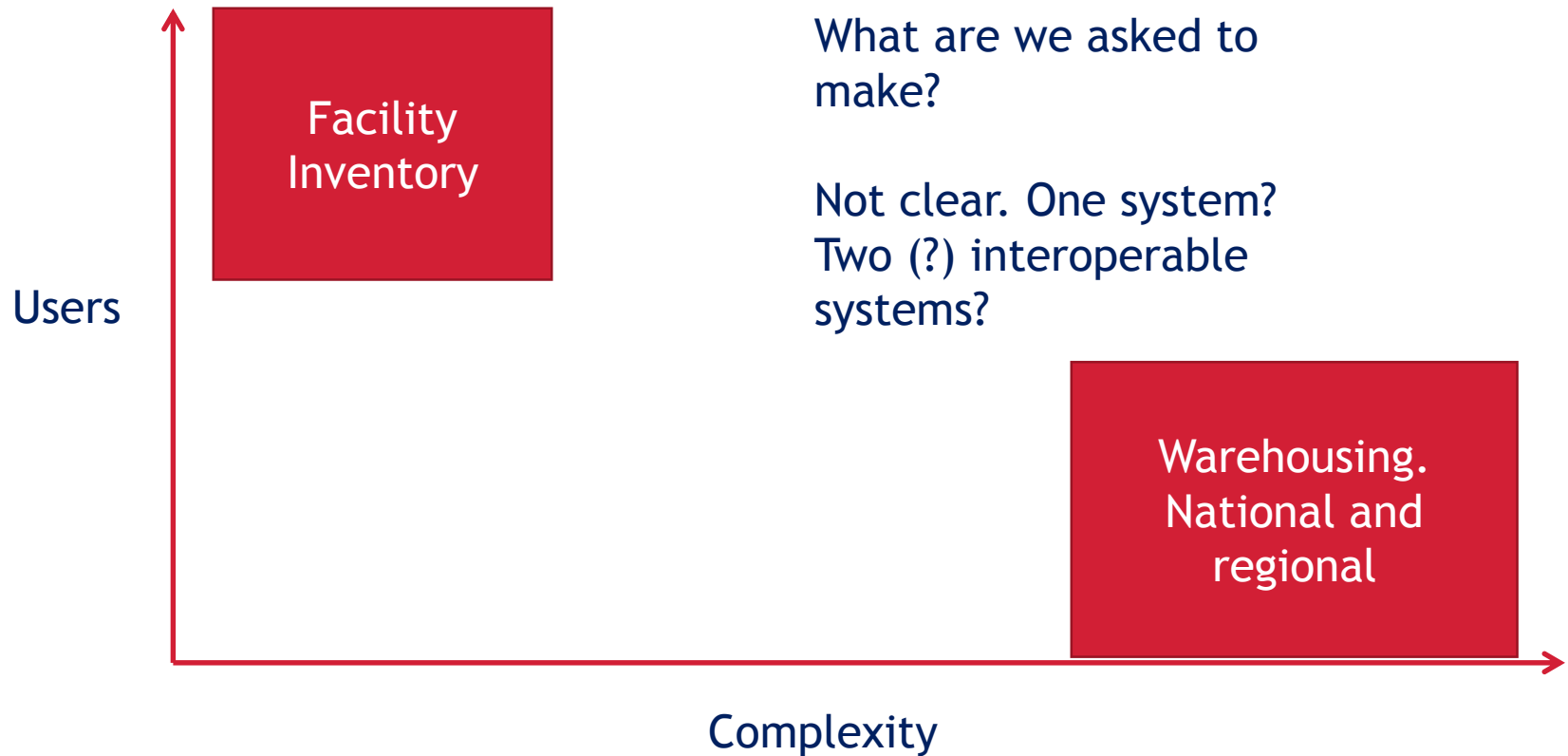# - a simplified view

National level: Forecasting, procurement, customs, quality assurance, warehouse, finances, fleet management, pick-lists, distribution planning,...

Regional level: warehouse, distribution planning, pick lists

District level: Do the facilities have what they need? Where is it? Are there stock-outs?

Facility level: Do I have what I need soon? Forecasting, ordering, inventory balance

Different needs at different levels:
- a simplified view

Facility
Inventory

What are we asked to make?

Not clear. One system? Two (?) interoperable systems?

Warehousing. National and regional

Users

Complexity

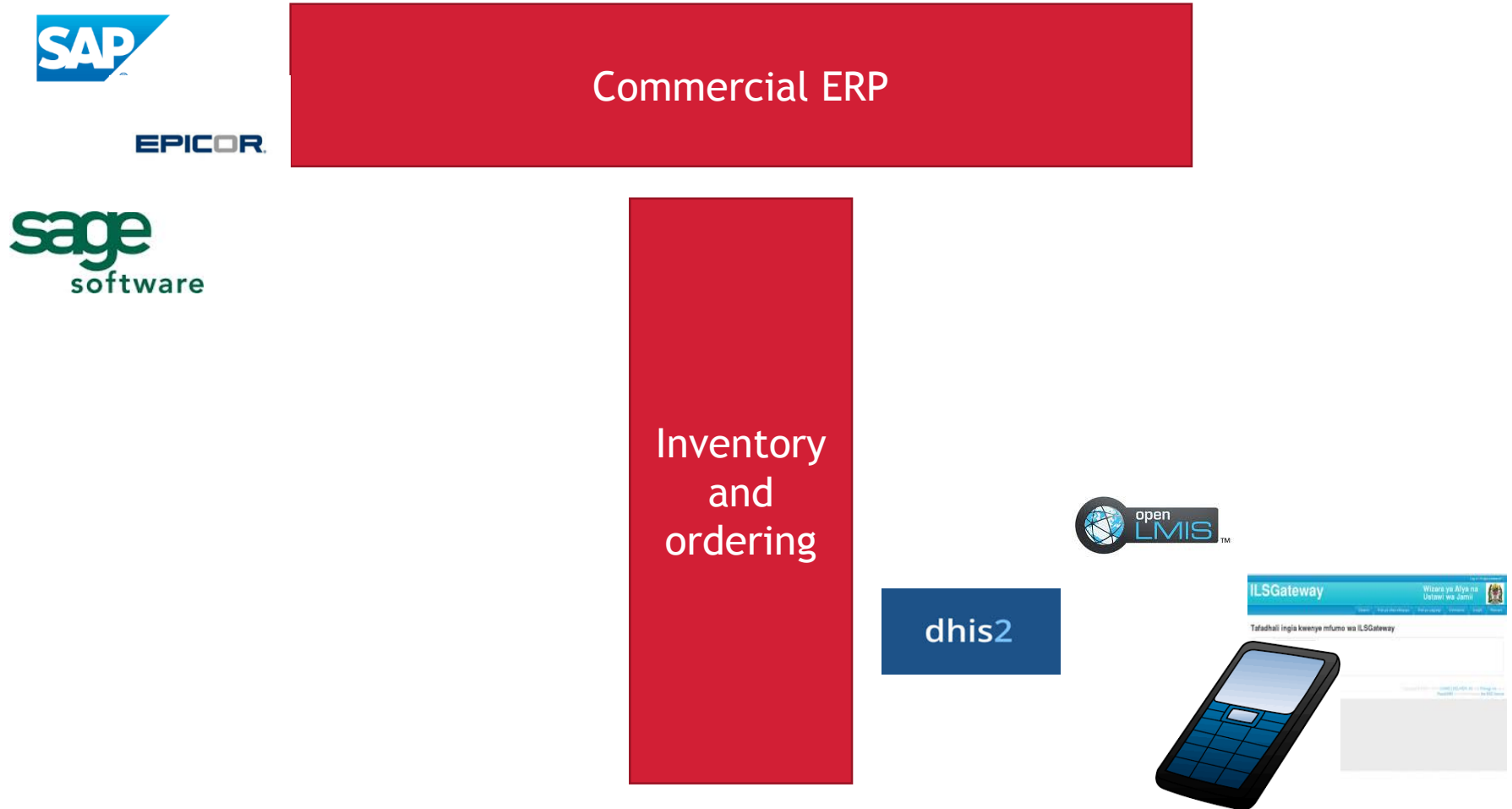# Challenges of combining all in one

Warehousing. National and regional

Costly
Complex

Inventory

Limited
Many users

Typical configurations

Challenges with such configurations

- ERPs are costly, typical with fees per-user. Can't cover all users

- There are "free" options for facility inventories and ordering systems. But none with well established interoperability with ERPs

- What do these two systems need to share? Consumption, forecasting. Financial data?

- What role do other systems play? HMIS, HRIS, Lab systems etc

Linking to other systems?

Commercial ERP

HMIS

Inventory and ordering

HRIS

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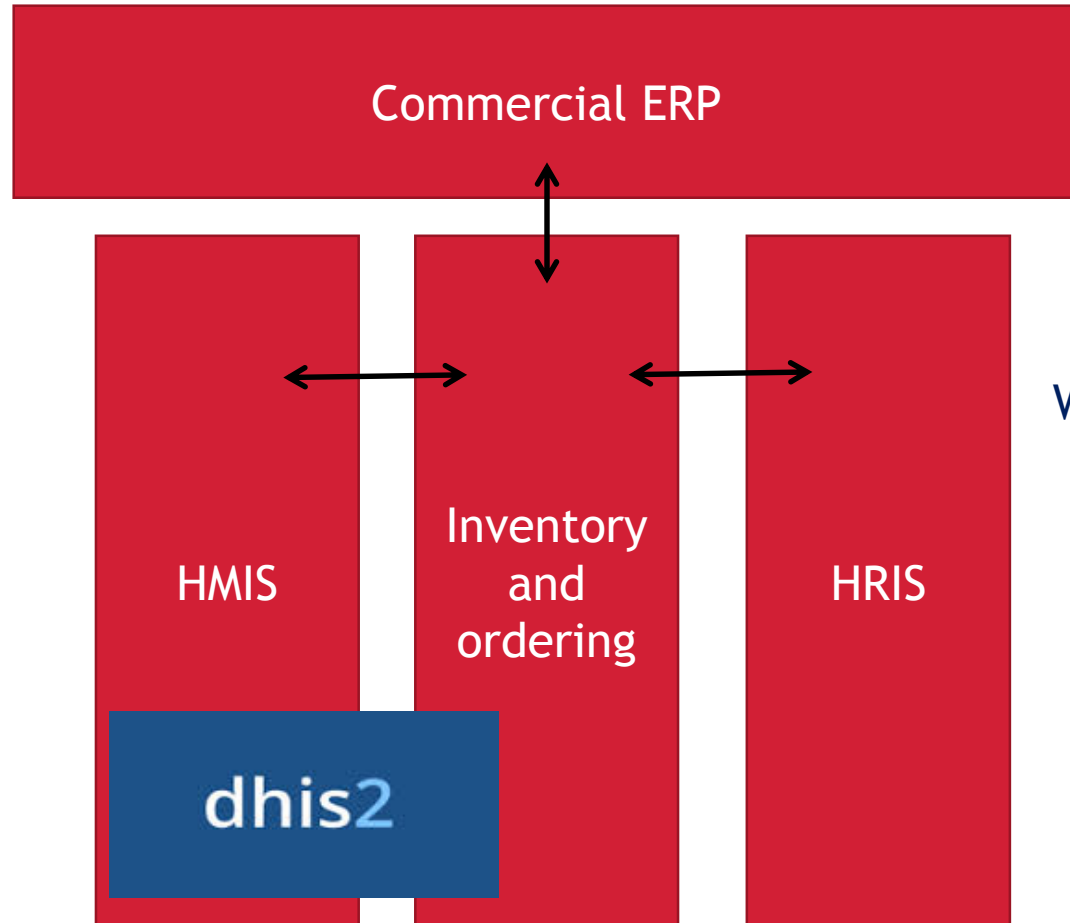
What data to share?

Our lessons from HMIS applied to LMIS

The installed base: there are existing routines, technologies etc that must be taken into consideration

Architecting: A mix of "heavyweight" ERPs and "lightweight" inventory/ordering system seems to be common

Bottom-up vs. Top-down: Both strategies applicable, for each of the sub-systems

Role of technology: Integration of LMIS, HMIS, HRIS etc "easy". But what data needs to be shared? To whom? Why?

Sustainability: Costly ERPs a challenge. Lightweight open source LMIS at lower levels a good solution

Evolution: As system matures, likely to see increased demand for functionalities also at lower levels, and for integration with other systems

Conclusions

Supply chain information pyramid is "top heavy": more features needed at national level and warehouses

LMIS: an ecology of different subsystems. Different technological solutions available, with pros and cons for the different uses/users

Technology will not solve problems. Routines, organizational structures, local capacity equally important