UGANDA`S BOTTOM – UP SDMX MODEL:

A DIGITAL HEALTH REVOLUTION THAT REDUCED MEDICINE STOCKOUTS BY 35%

Lead Author: *KAKEMBO ALI*

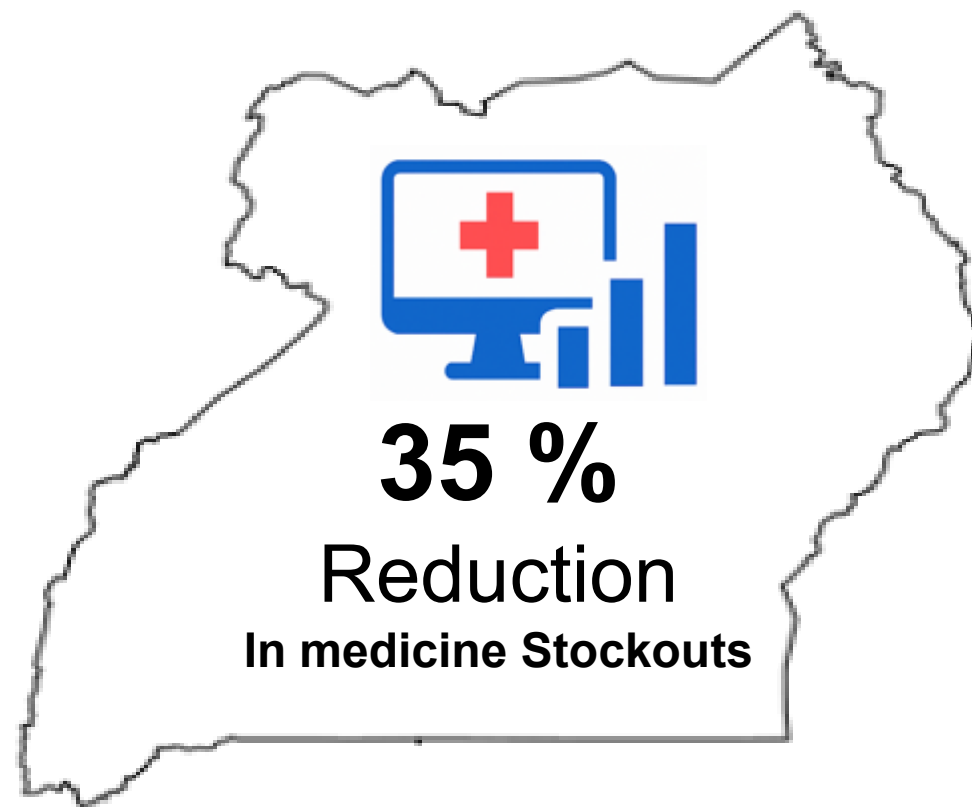**Co – Author:** *AKOL STEVEN PETER*

Co – Author: *AKANDINDA SHAILLAH*

KAKEMBO ALI

A Statistician at Uganda Bureau of Statistics

Date: *01ˢᵗ /10/2025*

Venue: *Rome, Italy*

35 %
Reduction
In medicine Stockouts

CAN SMARTER DATA IMPROVES LOCAL LIVES?
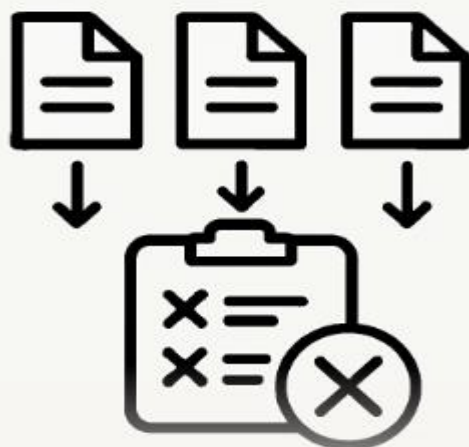
Just imagine

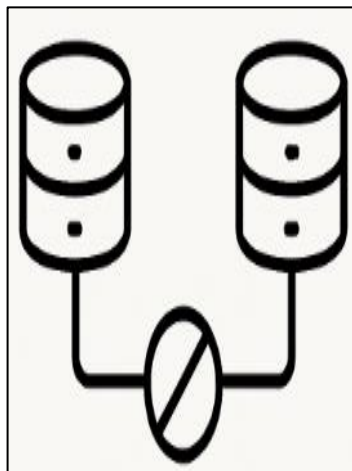## Health Centre without Smart data

Manual Data Entry

Manually input Data, often leading to delays and errors

Inconsistence Reporting

Missing fields, and conflicting numbers from different health facilities can lead to unreliable heath data

Poor Data interoperability

Disconnected systems and siloed institution seamless data exchange leading to inconsistencies and blind spots in health planning

Limited drugs in Stock

Drug stockout leads to patients frustration and lack of data-driven supply planning

CAN SMARTER DATA IMPROVES LOCAL LIVES?

Just imagine

Health Centre with Smart data

Automated Data Entry

Consistent Reporting

Data interoperability

Medicine`s Stock based on smart Data.

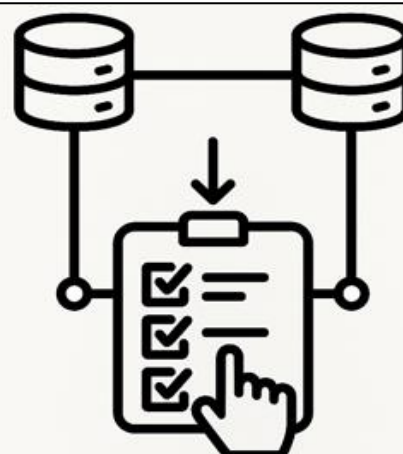**Used SDMX Data Structure Definition (DSD) to create uniform reporting templates for all the health facilities**
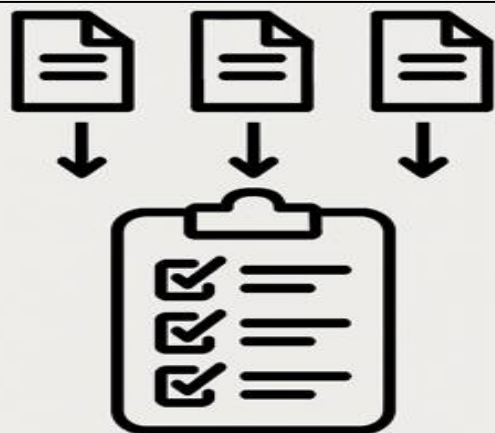
Consistent Reporting using SDMX templates across health facilities.

Data Sharing across all health MDAs

SDMX-enabled systems provide real-time visibility into inventory levels, enabling smarter procurement and proactive redistribution. Hence improving lives

A GAME CHANGER AND A UNIVERSAL LANGUAGE FOR SMARTER DATA

National Health Policy Maker

Ministry of Health H/Q

National Drug Regulator

National Statistical Office

Drug Procurement Centre

National Drug Authority (NDA)

Data Interoperability

National Data Centre

Data Interoperability

National Medical Store (NMS)

System Integration Stage

Health Integrated Management Information System (HIMIS)

National Medical Supply Chain Management System (NMSCMS)

National Referral Hospital

Standardized Data Collection

Automated Validation

Standardized Data Collection

Health Centre IV

General Hospital

SDMX

Health Centre III

A SIMPLE ANALOGY FOR SMARTER DATA:

Health Facilities → **SDMX** ↔ **Local Health Systems** → **National Data Office** → **National Health Policy Maker**

Health Facilities	Local Health Systems	National Data Office	National Health Policy Maker
National Referral Hospital, General Hospitals, Health Centre IVs, and IIIs	Health Integrated Management Information System (HIMIS), and National Medical Supplies and Chain Management System (NMSCMS)	National Statistical Office and Data storage Centre	Ministry of Health and National Health Policy Maker

THE FIVE (5) INTERCONNECTED MECHANISMS FOR THE LOCALIZED SDMX APPLICATION.

1. Standardized Data Collection at the Source

Used SDMX Data Structure Definition (DSD) to create uniform reporting templates for all the health facilities

2. Automated Validation

SDMX validate Data from different sources

3. Enhanced Data Coherence and interoperability

Data Sharing across all health MDAs

5. Optimized Distribution and Logistics

Real time visibility into medical stock

4. Improved forecasting and Demand Planning

From Guesswork to Precision, Data-driven forecasting

UGANDA`S SUCCESS STORY

A 35% Reduction in Stockouts result

Application

Kampala and Wakiso Districts. *The 5 mechanisms were fully integrated into the Health Integrated Management Information System and the Medical Supplies Chain Management System enabling health facilities uniformly report and share data freely*

Impact

35% *Essential medicines Stockouts reduction*

Smarter Data improves Local Lives

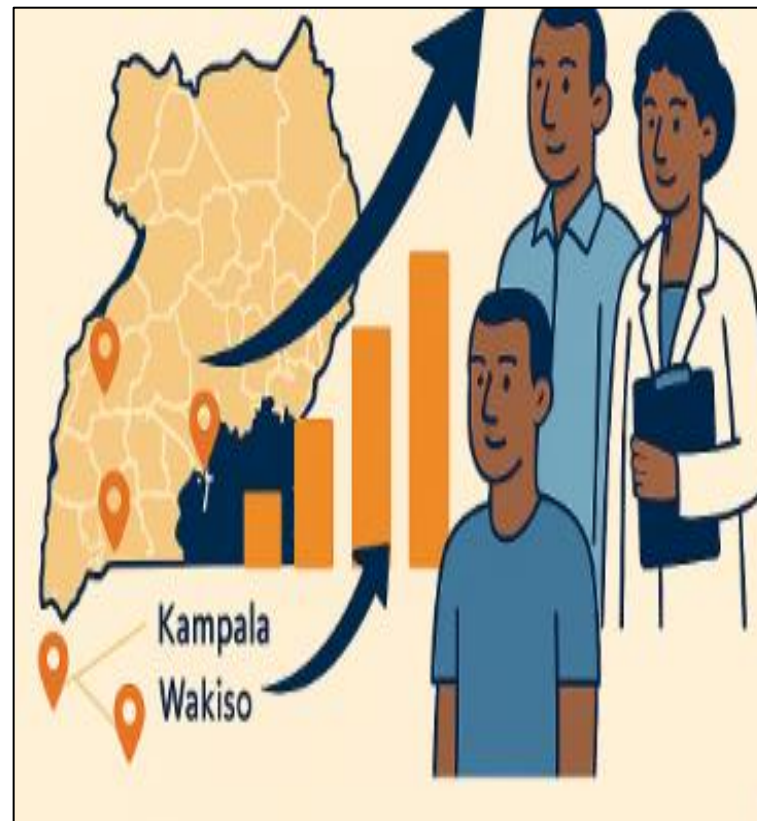
Therefore, Smarter Data Improves Local Lives

UGANDA`S NEXT STEP

Scalability and Innovation

❑ *Signaling the country's move from localized success in Kampala and Wakiso Districts to nationwide transformation.*

❑ *This will require policy adoption, expanded training, and deeper community engagement.*

❑ *After the successful implementation of SDMx in Kampala and Wakiso, it will be scaled up across the country.*

❑ *It will be scaled up in 136 Districts, 40 Municipalities and 15 cities. However, this reacquires an extra and external support from the development partners.*

A REPLICABLE MODEL FOR ALL