



Tanzania and Barcodes

Quenching a thirst for data

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High income countries have demonstrated benefits, but barriers remain for global adoption

Benefits

- Reduction in
- Excess inventory
- Time to manage inventory
- Waste

- While improving
- Ability to identify and mobilize in response to adverse event
- Product availability

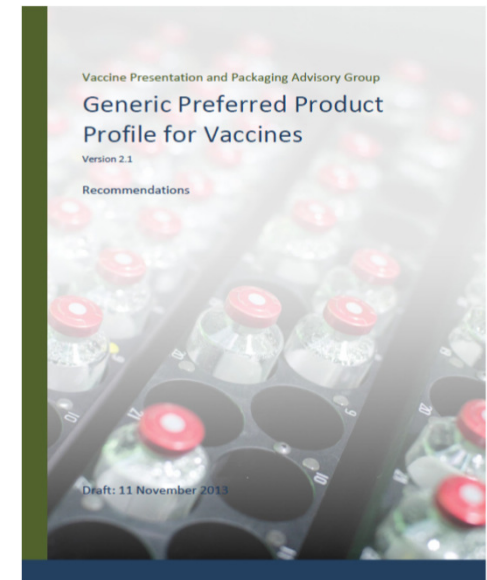
Barriers

- Changing product packaging at point of manufacture
- Deploying stock management software to capture data when scanned
- Obtaining hardware appropriate for environmental conditions



WHO Vaccine Presentation and Packaging Advisory Group (VPPAG) catalyzed improved tracking and traceability

- VPPAG Barcode Subgroup guided updates to the 2015 Generic Preferred Product Profile for Vaccines (PSPQ2)
- Barcodes recommended on all packaging levels used by manufacturers, with the exception of primary packaging
- GS1 standards and associated specifications are being used to encode the Global Trade Item Number (GTIN), lot number, and expiry date

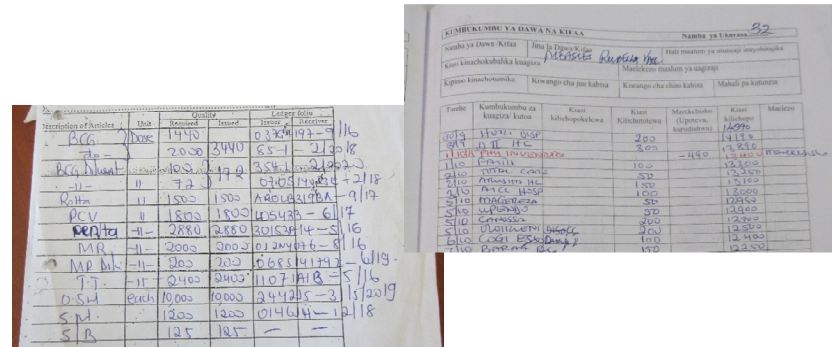




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Paper-prone process limits visibility and requires additional vaccine stores just in case

- Health care workers spend significant time scribing paper records

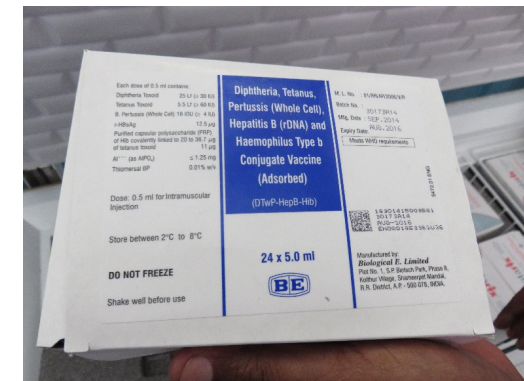


- Walk-in cold rooms and additional refrigerators are purchased to maintain buffer stock



Tanzania has been leading the way on barcode adoption

| | |
|-------------|--|
| 2012 | Discussions with Gavi, the Vaccine Alliance, to partner on barcode pilot |
| 2013 | Country-wide evaluation of immunization supply chain processes and opportunities for barcode use |
| 2014 | Proof of principle completed demonstrating qualitative evidence for scale |
| 2015 | Seven manufacturers shipping vaccine supplies containing GS1 DataMatrix |
| | Barcode libraries and interfaces added to electronic Logistics Management Information System (eLMIS) |
| | Inbound tracking of national arrivals tested at the central stores |



Initial user feedback has been promising

“Improves my work by reducing time used to count the stock during receiving or dispatching of vaccines.”

“Reduces the emergency trips which is usually caused by inadequate vaccine record keeping.”

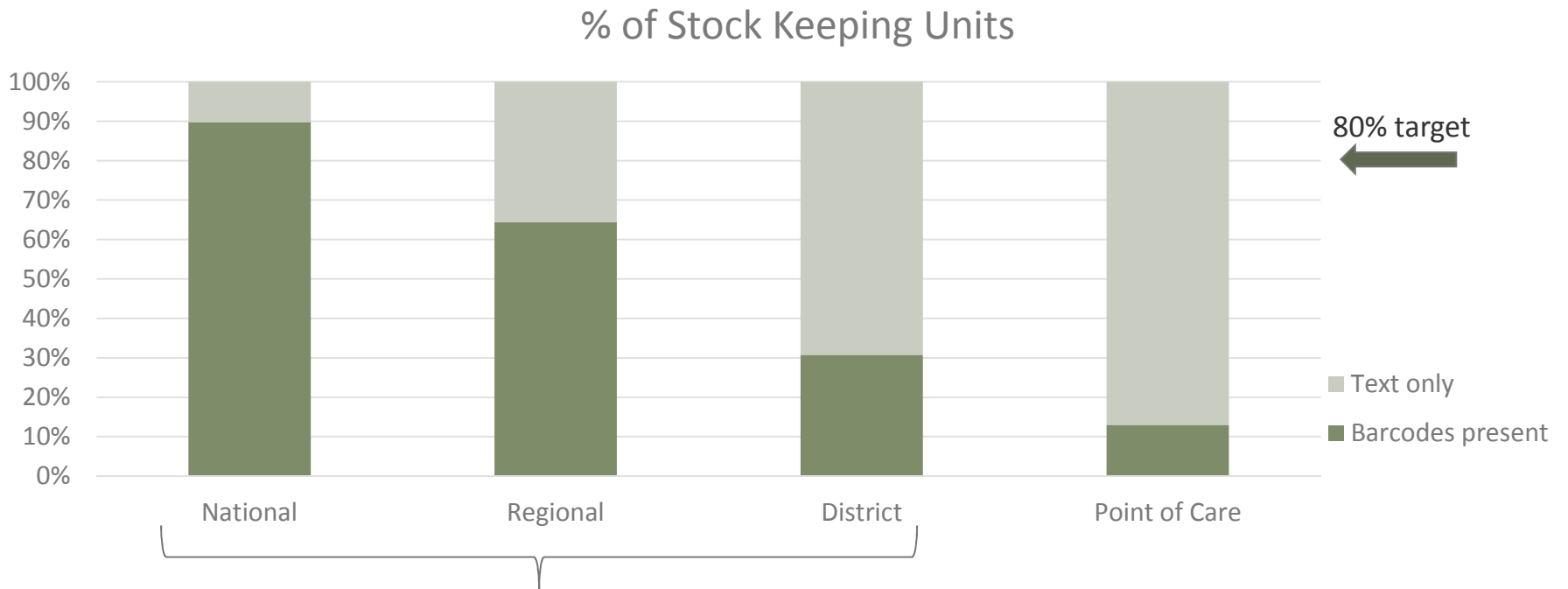
“The improvement of quality of data could be significant when assessing movement of stock (time) from higher levels to low levels.”

Labor savings foreseen across various business processes:

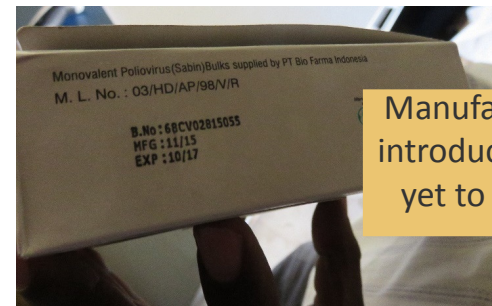
- Tracking stock movement, counting, expiry date management, and ordering (50-60%)
- Demand planning, data cleansing and synchronization (2-5%)
- Reverse logistics associated with the location, identification, return and receipt of recalled health commodities (2-4%)

Way forward –

Increase prevalence of barcodes on vaccine packaging



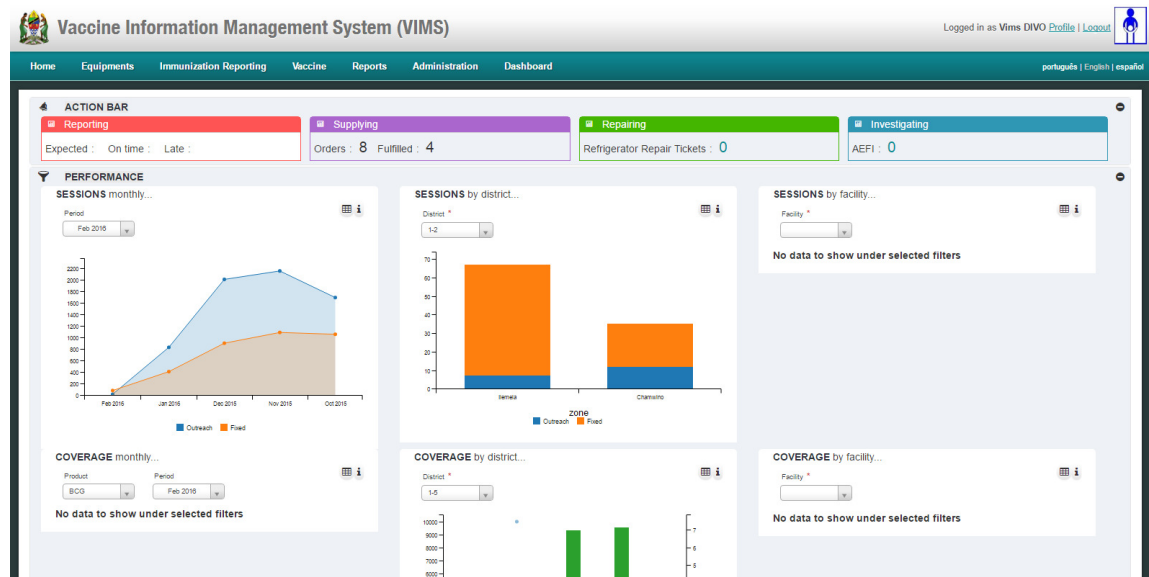
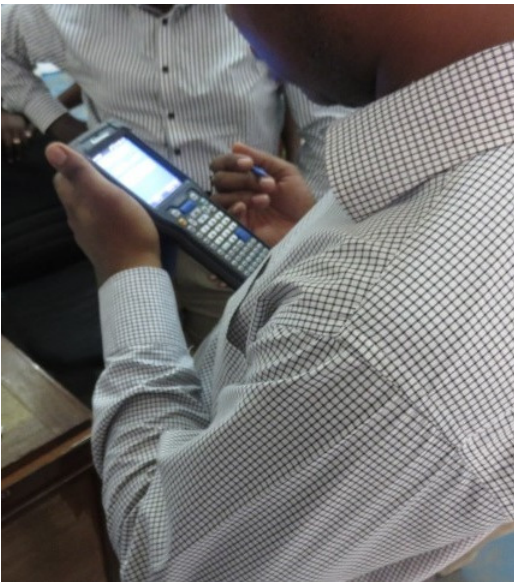
Preferred characteristics



Manufacturer for recent introduction of bOPV has yet to add DataMatrix

Way forward – *Scale up systems for vaccine inventory management*

- Pre-test of national Vaccine Information Management System begins Q2 2016
- Continuing to procure optical scanners for every regional and district vaccine store



Way forward –

Complete study to validate costs and benefits of use

- **Reduced inventory waste** mainly due to expiry, but also to loss and damage (5-30%)
- **Lowered instance of emergency orders** and associated transportation due to stockouts (50-80%)
- A **reduction in buffer stock** (10-15%) due to improved data visibility; potentially reducing the need for additional cold-chain capacity with new vaccine introductions.



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Thank you

Asante

Shukran

شكرا لك

謝謝您

ขอบคุณ

Cảm ơn bạn

Merci

Obrigado

Gracias

Grazie

Danke

Mange tak