Simple Solutions for Improving CCM Product Availability in Communities

Enhancing Logistics Data Visibility with cStock in Malawi

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JSI Research & Training Institute, Inc.

SC4CCM

Supply Chains 4 Community Case Management

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SC4CCM

- Identifies innovative, affordable and sustainable solutions to the supply chain challenges faced by CHWs when treating childhood illness in remote communities
- Implemented in Ethiopia, Malawi & Rwanda
- 5 year project funded by the Bill & Melinda Gates Foundation

2010 Malawi Baseline Assessment

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CCM targets children U5 in hard to reach areas via HSAs, who provide services and medicines, but many programs are hampered by low levels of supplies

Key Findings:

27% of HSAs (CHWs) who manage health products had **four CCM tracer drugs*** in stock on day of visit

Poor HSA logistics data visibility with only **43% HSAs** reporting logistics data to HC

- Limited ability of resupply point to respond to HSA stock needs, including stockouts

94% of HSAs surveyed had a mobile phone

- **85% with** network coverage at least sometimes

Proposed Solution:

SMS-based system to manage reporting and resupply process

*cotrimoxazole, Artemether Lumefantrine 1x6 and 2x6, ORS

Intervention Strategies

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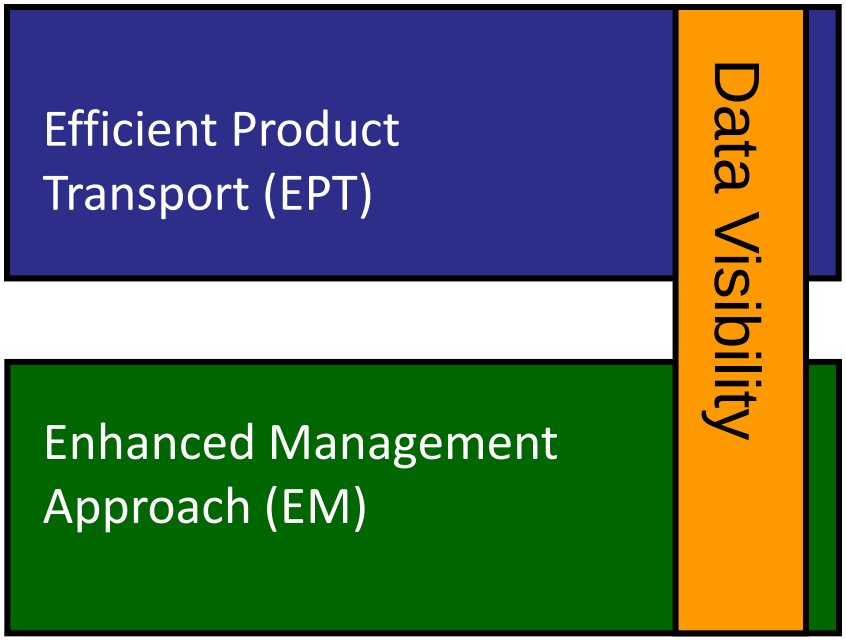

Two interventions to improve supply chain performance

- **EPT** to address transportation barriers between resupply points and HSAs
- **EM** to create a customer service oriented supply chain by aligning objectives and motivating SC staff

cStock

- to improve data visibility
- support problem-solving
- enhance quality of decision making

<u>to meet customer needs</u>

cStock: Overview

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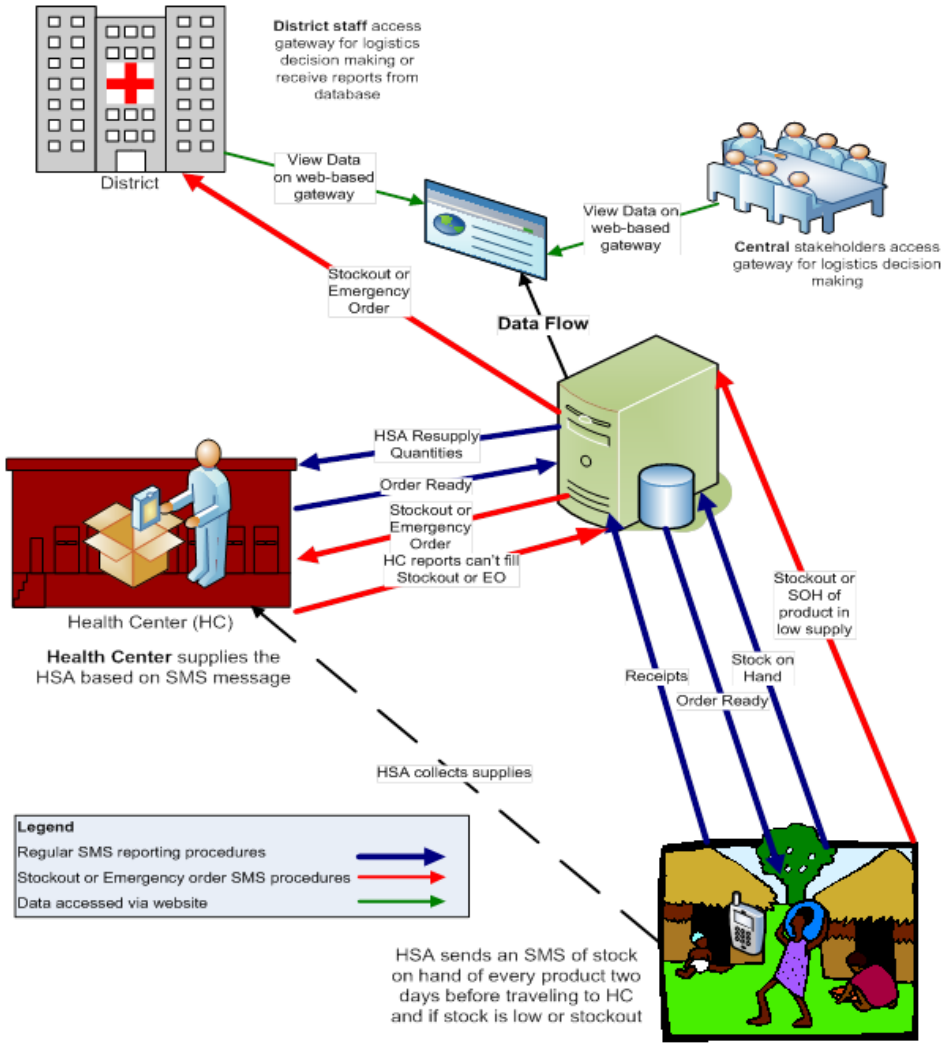

cStock is a rapid SMS, open-source, web-based **logistics management information system** for managing and monitoring community-level essential medicines

- ✓ HSAs send stock information via SMS to cStock
- ✓ cStock uses reported stock data to calculate and transmit resupply quantities for each HSA via SMS to the health centers
- ✓ Health center staff pre-pack orders so they are ready when HSAs arrive to pick up products

cStock: Vision & Objectives

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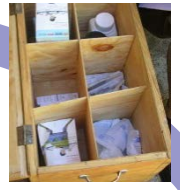
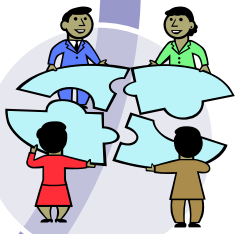
Provide real-time, actionable HSA logistics data for managers, stakeholders to coordinate, plan and identify solutions to better meet customer needs in a timely manner



Improve resupply procedures and visibility into HSA stock levels

Empower SC managers at all levels of the supply chain with HSA logistics data



Improve coordination among stakeholders

Create and promote a culture of data driven decision making

Sustainable, affordable system = no phones provided to HSAs

Improved CCM product availability at community level

Dashboard Screenshot

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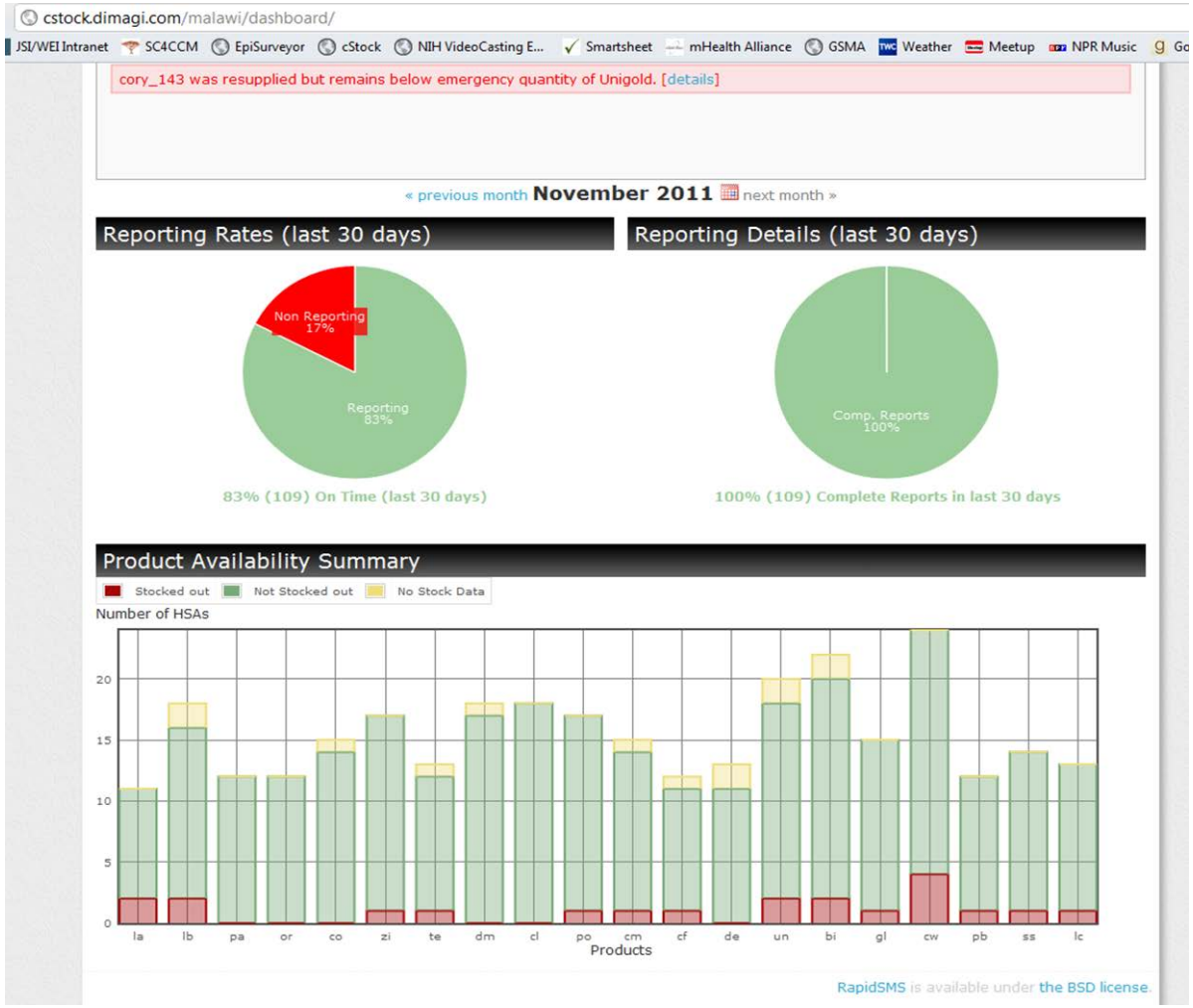

SC4CCM

Supply Chains 4 Community Case Management

cStock: Implementation

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12 Master Trainers

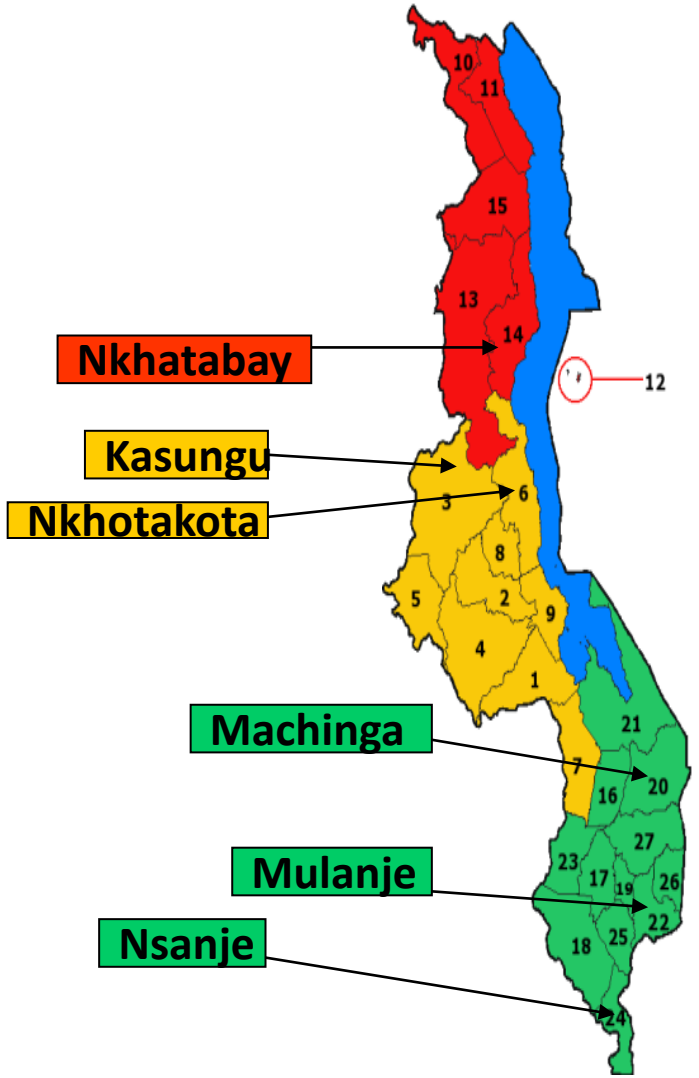
18 district IMCI Coordinators and Pharmacists

6 partners

73 Drug Store i/c (HC)

107 HSA Supervisor (HC)

765 HSAs (all districts)



- cStock training was administered as part of intervention training in 6 districts from July 2011 to mid December 2012
- 1-2 days of cStock training for all users
- New HSAs receive refresher training through partner support

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Outputs

cStock sends SMS to HC with order quantities for each HSA

Dashboard shows districts and soon, partners real time stock levels, reporting rates, and alerts for 20 different products managed by HSAs

Enhanced Management' gives Districts, HCs and HSAs methods for problem-solving as a team using data

Results

Simplifies packing orders in advance of HSAs arrival, reduces calculation errors, reduces burden on HC staff

Helps track usage, address and avoid community stock outs, improve monitoring, and enable recognition of good performance

Ensures adequate resupply from HC to HSAs, to alert District of impending stockouts, to recognize and reward improved performance. Team + data = enhanced management

Q1 Monitoring Results

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Monitoring Sample

System Level	EM	EPT
District Health Office and Pharmacy	3	3
Health Centres	6	7
HSAs	18	18
Total # of HSAs in HTR areas registered in cStock per group from which sample was drawn	337	256

Sources of Data (Quantitative & Qualitative)

- Personal interviews (HSAs, HSAs supervisors, HF Drug store In-Charges, District Pharmacy, IMCI Coordinators) using structured phone-based data collection forms and monitoring log books
- Observations
- cStock data

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Objective: HSAs have usable and quality medicines available when needed for appropriate treatment of common childhood illnesses

Finding:

Of registered† HSAs who manage health products **61%** had the **4 tracer** drugs* in stock compared to **27%** at baseline on DOV

Key Message:

More than two-fold increase since baseline; most of gains likely driven by targeted product support by partners to community level, cStock also likely contributor

† Registered in cStock

*cotrimoxazole, Artemether/Lumefantrine 1x6, 2x6, ORS

HSAs with no stockouts over past 30 days of Q1 (Dec), by group

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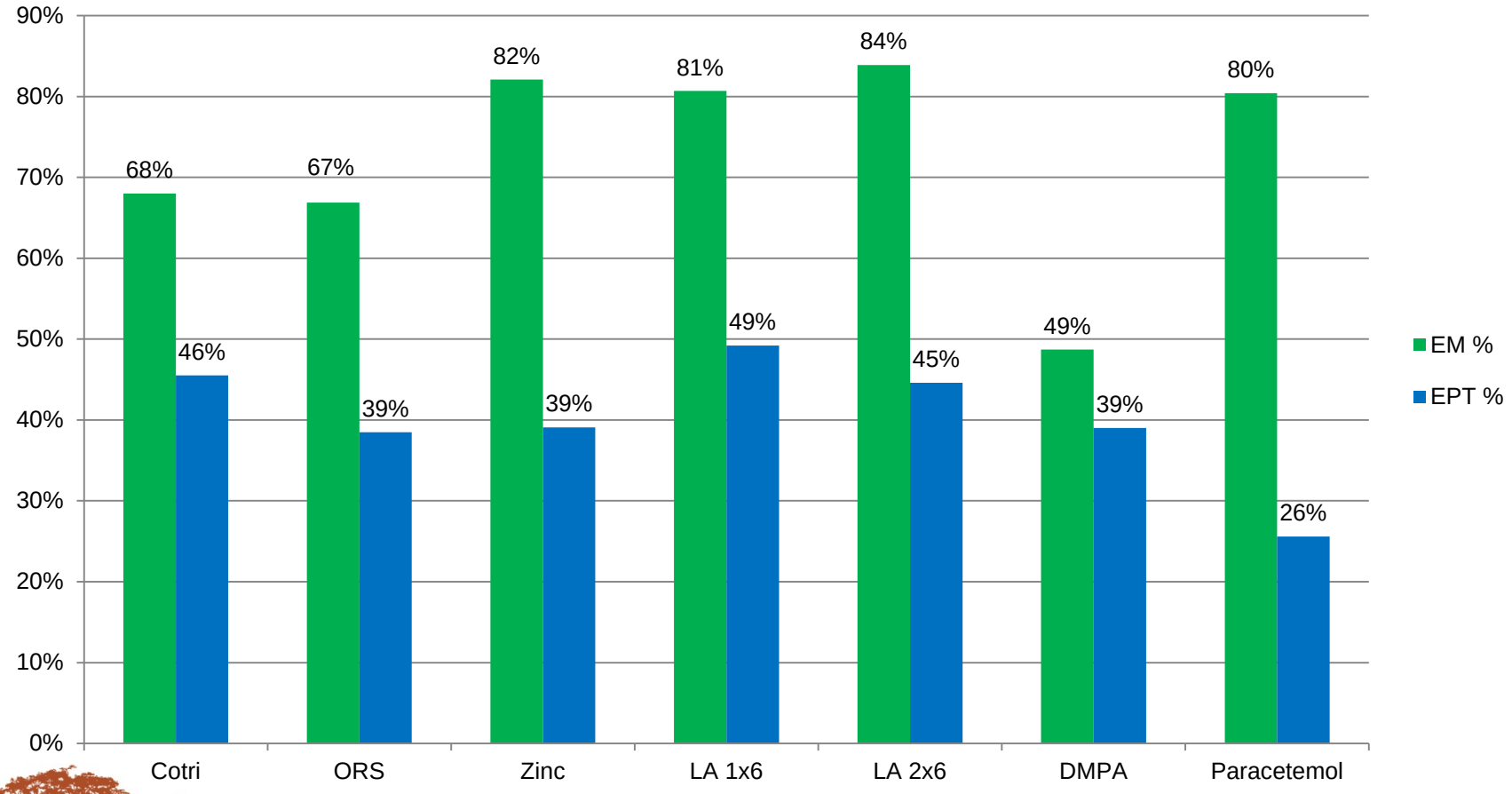
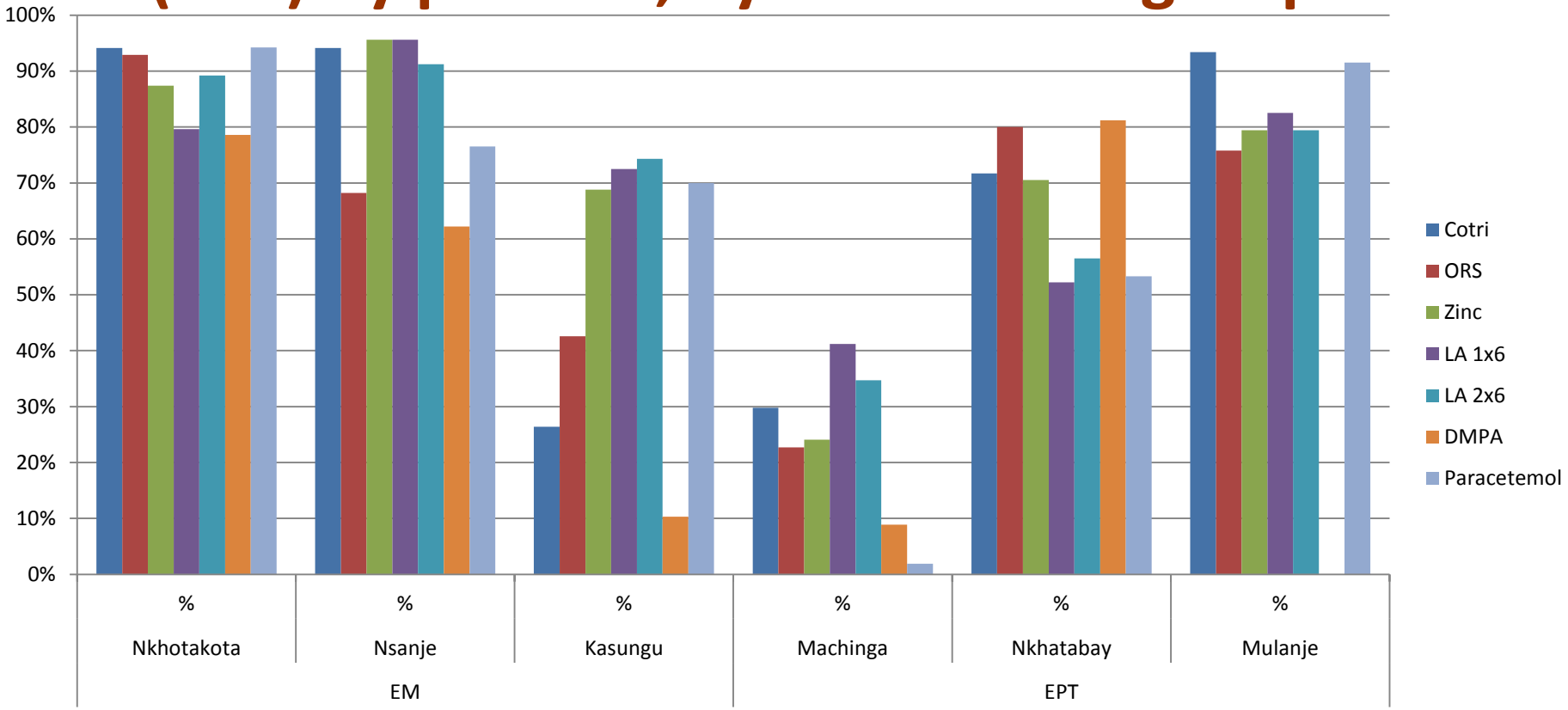


*Source: cStock M&E report

HSAs with no stockouts over past 30 days of Q1 (Dec) by product, by district and group



*Source: cStock M&E report

Objective: HSAs, or persons responsible for HSA resupply know how, where, what, when and how much of each product to requisition or resupply and act as needed

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Findings:

- Very high **reporting rate of 97%**
- Report quality measures are lower but still good
  - **80%** of reports are complete
  - Only **50%** HSAs in the EM group report on time by 2nd of month
- Supervisors reported **about half** of HSAs (**57%** EPT and **56%** EM) collected products within 1-2 days of receiving "ready" message

Key Message:

- Significant adoption of cStock among HSAs
- Visibility into HSA stock levels greatly improved, with high uptake and capacity in using cStock
- Timely availability of data can improve timely collection of products

Lessons Learned: Implementation

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Context specific solutions: Understanding the specific system, bottlenecks, and resources is critical to designing solutions that improve supply chain performance for CHWs

- **Peer-to-peer learning**:
  - For cStock in Malawi, not all HSAs knew how to send SMS so pairing unskilled and skilled HSAs together facilitated peer-to-peer learning during training

- **Telecommunications infrastructure**: the presence/absence of an SMS aggregator, relative experience of telcos in working with the public sector, and the type of network coverage (GSM, GPRS, CDMA) can all increase time and complexity of system implementation

Lessons Learned

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Iterative learning approach: Understand the gaps, assess the opportunities, identify the solutions, implement, monitor the data, tweak the intervention, improve results

- Baseline evaluation
- Lack of data
- cStock user requirement workshops
- Implementation period
- Intervention monitoring and user feedback
- **cStock feature enhancements, reflecting greater user experience**

Iterative requirements gathering

- Initial requirements may not fully reflect user needs due to inexperience with the system
- User interface can be refined after experience gained
  - Group messaging
  - Enhanced data visualization

Lessons Learned

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A clear vision, objectives and principles can ensure that a successful system does not get overloaded with non-core requirements

- Successful implementation can lead to users wanting the system to become everything to everyone, which could ultimately harm the system
- Explore creative ways to link data from multiple systems to meet policy maker needs

Conclusions

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As e-Health, mHealth systems proliferate, advocacy for and implementation of a National eHealth Strategy and Infrastructure is critical

- Risk is that the standard for a good system will be determined by the first system in line, rather than via a deliberate strategy
- Policy makers need to understand the difference between one system/platform versus one application
  - A LMIS reporting system targeting 3,000 health centers may have very different requirements than a system for 30,000 community health workers -- the solution might be two separate applications

Thank you!
Questions?

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