

The 5th Global Health Supply Chain Summit



cStock: Making Community Stock Data Visible

**November 14 -16, 2012
Kigali, Rwanda**

2010 Malawi Baseline Assessment

Key Findings:

27% of HSAs 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

94% of HSAs surveyed had a mobile phone and **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



cStock: Overview

cStock is an SMS-based, open-source, web-based **logistics management information system** for

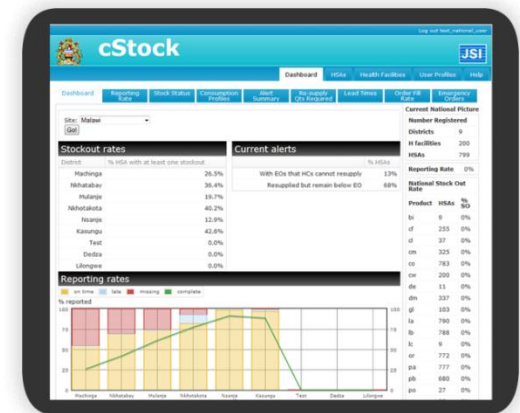
reporting
calculating resupply
managing
monitoring

all 19 community-level health products
(CCM, FP and HIV testing)

cStock: Basic Design Features

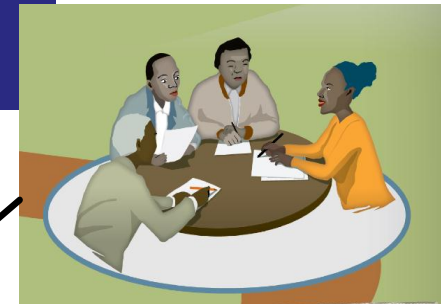
- Uses **basic GSM phones** already-owned by HSAs, which enabled rapid uptake of the system, reduces scale up costs
- Collects **minimum** logistics data: SOH and receipts
- **Nags** remind HSAs to report and **alerts** notify higher levels of unresolved stock issues

- Translates the data into **simple, easy-to-read performance reports** to facilitate effective management decisions



cStock: Data and Product Flow

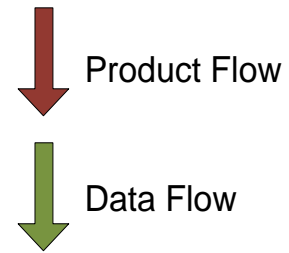
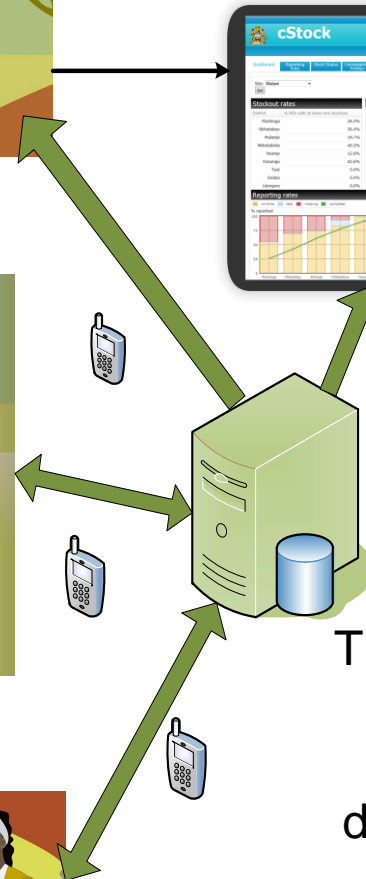
District, Zonal and Central staff access HSA logistics data via dashboard



Health Center supplies the HSA based on SMS message



HSA sends SMS with SOH each month



The database calculates - MOS and resupply quantities, reporting rates, number and duration of stock outs, displays on **dashboard**



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cStock: Reports

Stockout rates

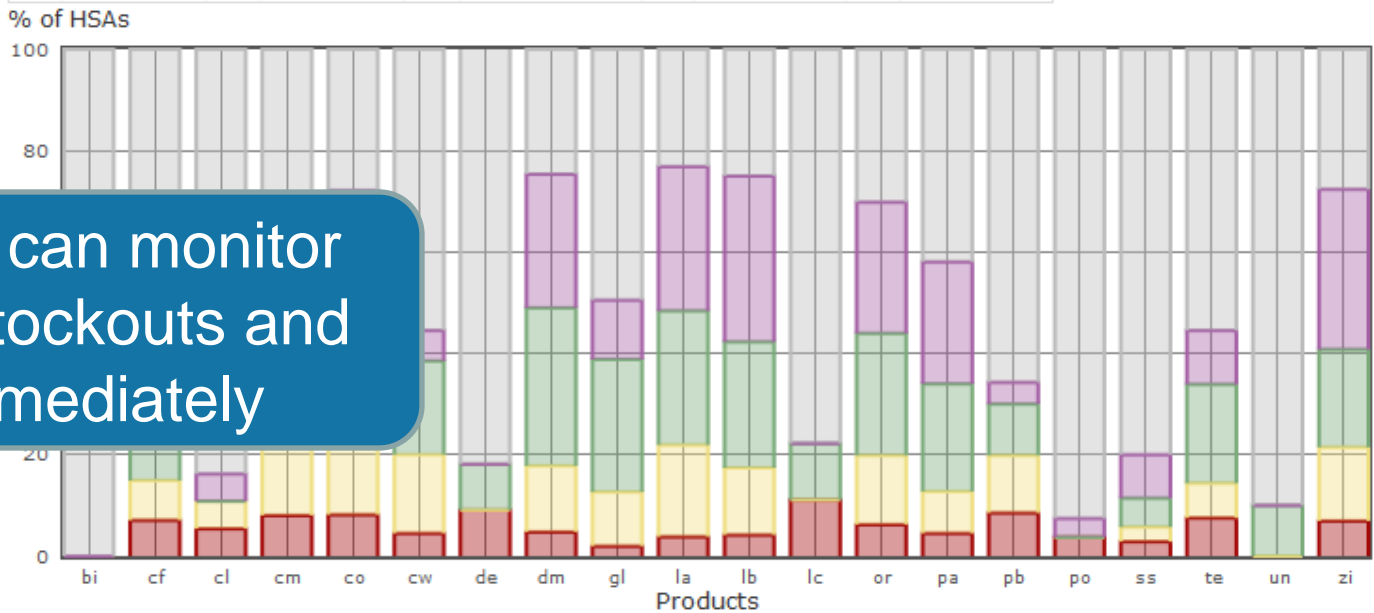
District	% HSA with at least one stockout
Machinga	0.0%
Nkhatabay	0.0%
Mulanje	0.0%
Nkhotakota	0.0%
Nsanje	0.0%
Kasungu	
Test	
Dedza	
Lilongwe	

Current alerts

	% HSAs
With EOs that HCs cannot resupply	13%
Resupplied but remain below EO	68%

Current stock status by product

■ Stocked out
 ■ Under stock
 ■ Adequate stock
 ■ Overstocked
 ■ Missing Data



SC managers can monitor stock levels, stockouts and respond immediately



cStock: Pilot Implementation

6 districts trained between July 2011 to December 2011

12 Master Trainers

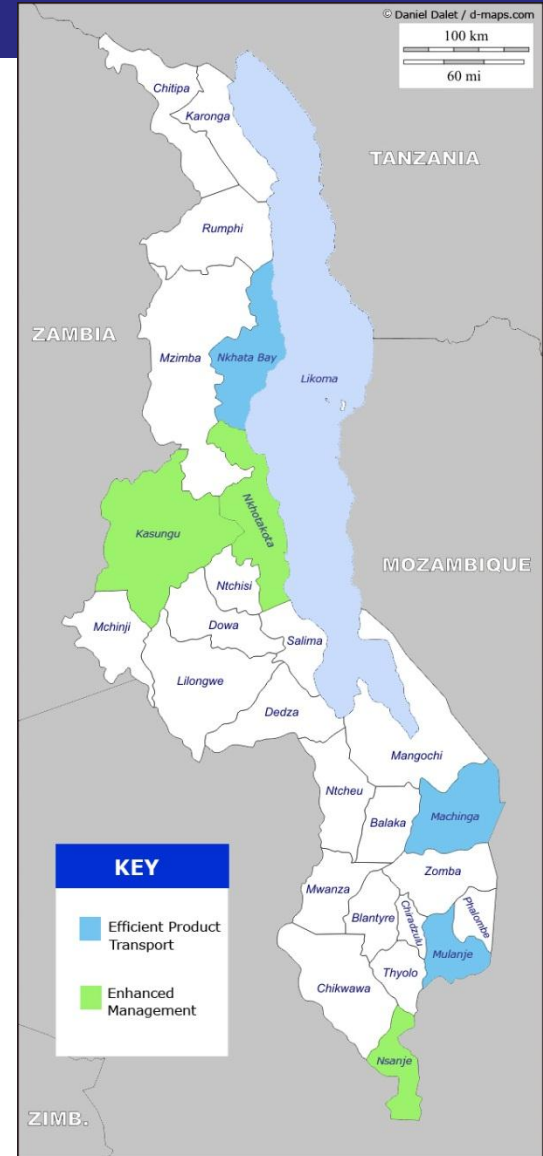
18 district IMCI Coordinators and Pharmacists

6 partners

73 Drug Store i/c (HC)

107 HSA Supervisor (HC)

765 HSAs





cStock: Scale Up

Demand for scale up to other districts to expand supply chain visibility at HSA level:

- MOH Senior Management has endorsed cStock and recommended partners support scale up to other districts to enhance visibility and managerial oversight at national level
- Partners, such as WHO, UNICEF, PSI, and Save the Children expressed interest and commitment to support MOH scale up plans

WHO rolled out to 2 more districts in October 2012 and another 9 by end of December 2012



Monitoring Results from Pilot

Reporting rates:

- Over **80%** of HSAs report logistics data via cStock each month (BL - 43%), with **70%** reports submitted on time

Reported use of dashboard:

- Q1 - **4 of 6** district supervisors accessed dashboard less than once a week
- Q2 - **5 of 6** district supervisors accessed dashboard between 1 & 5 times a week

Indicator		Use cStock for Resupply				Partner Supported			Total
		N'Bay	Nsanje	Kasungu	Av.	Nkhota	Machinga	Mulanje	Av.
% HSAs who reported	Q1	95%	97%	97%	96%	97%	97%	96%	97%
	Q2	74%	93%	96%	88%	68%	63%	59%	76%

Evaluation set for January 2013



cStock: Improved Data Visibility

- Significant adoption of cStock among HSAs has **greatly improved visibility** into HAS stock levels
 - Initial high reporting rate has dropped slightly, but still good
 - Districts with larger decline are where partner distribution undermines use of cStock
- Improved visibility means that managers have **increased and timely access** to indicators that were previously unavailable or hard to access
 - Stockout rates, reporting rates, stock status, lead times, order fill rates



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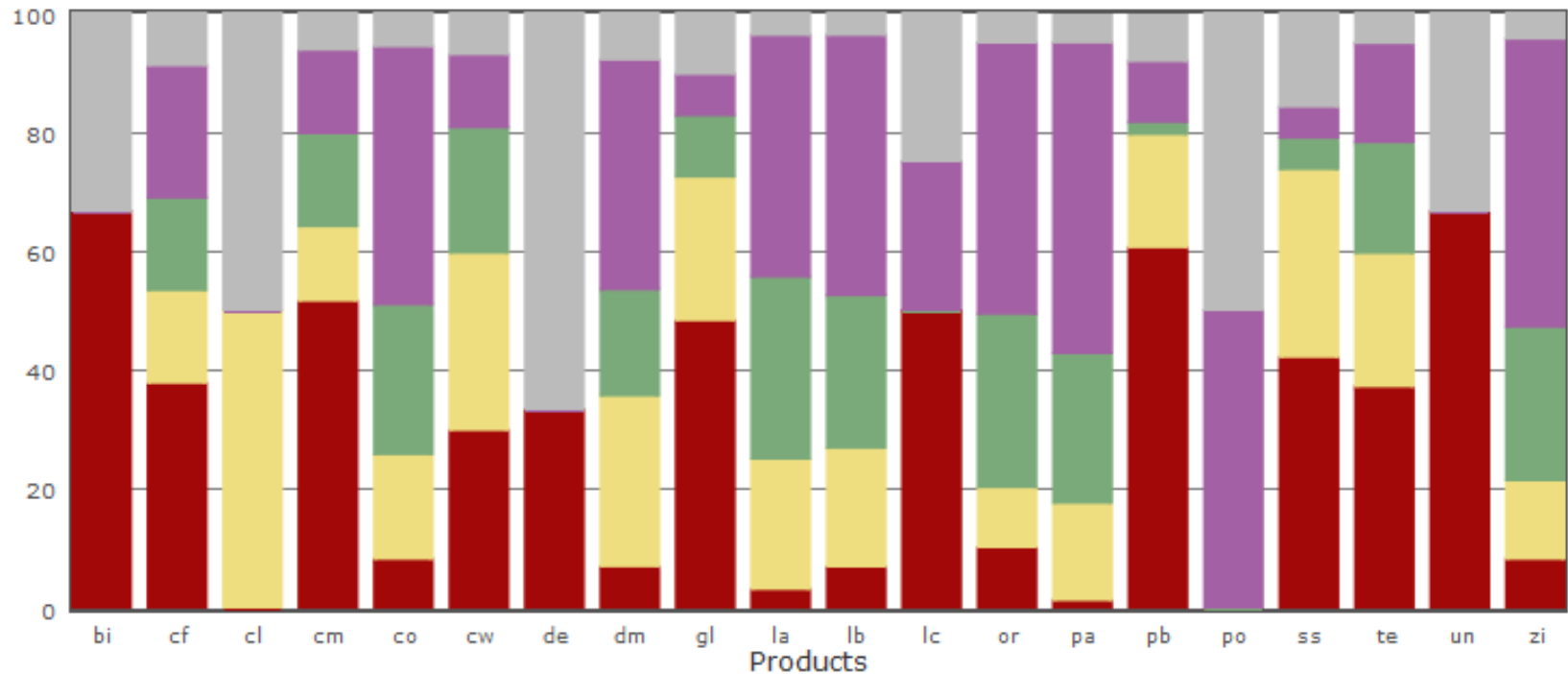
Data visibility: Stock Status by Product

Managers can easily access data on stockout rates and stock status to monitor and manage supply chain performance

Current stock status by product

Stocked out Under stock Adequate stock Overstocked No Data

% of HSAs



*Source: cStock, Nov 2012

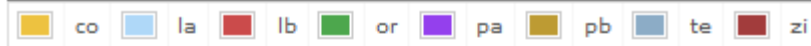


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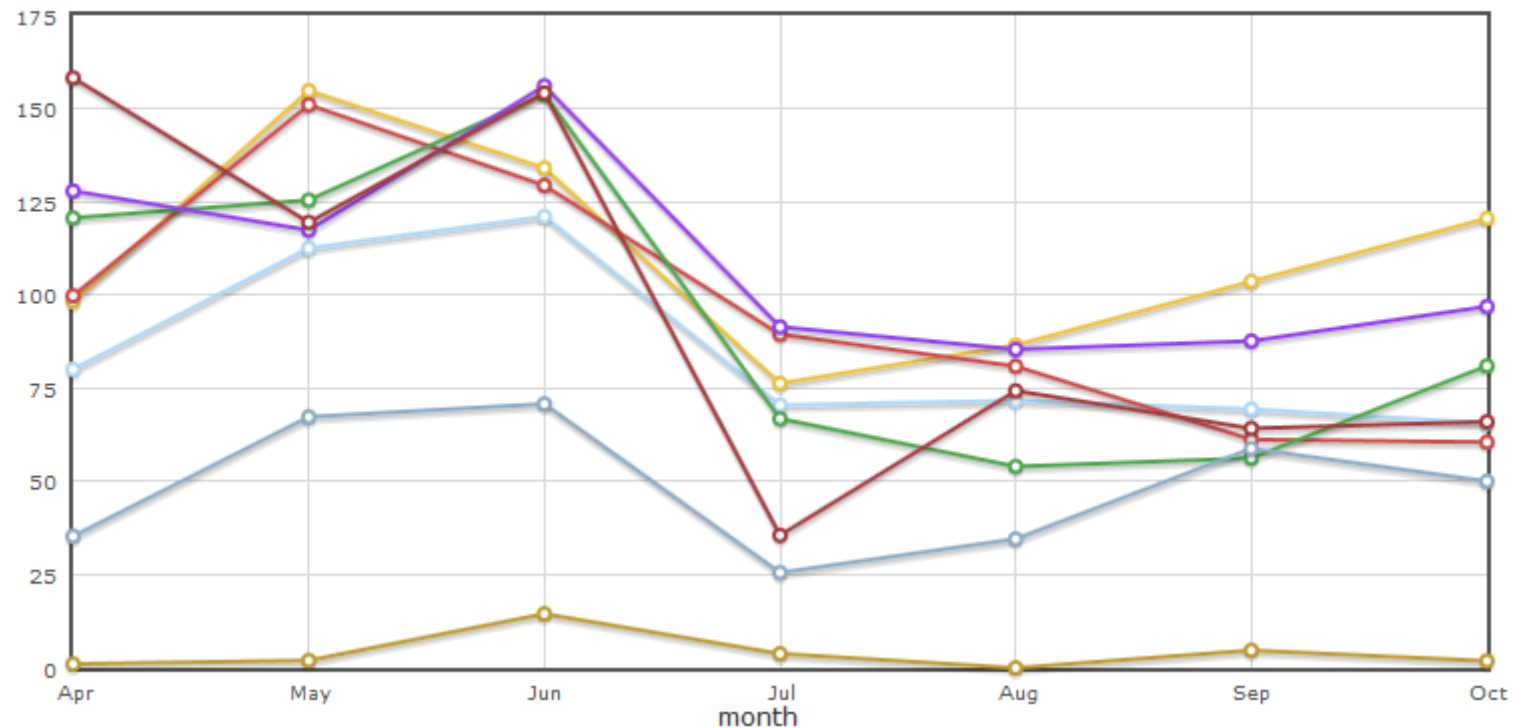
Data visibility & Use of data for resupply: Order fill rates (Apr-Oct, 2012)

While stockouts get the most attention, order fill rates show opportunities for improvement through reducing overstocking and understocking

Monthly average OFR by product



OFR %





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Lessons Learned: Alignment

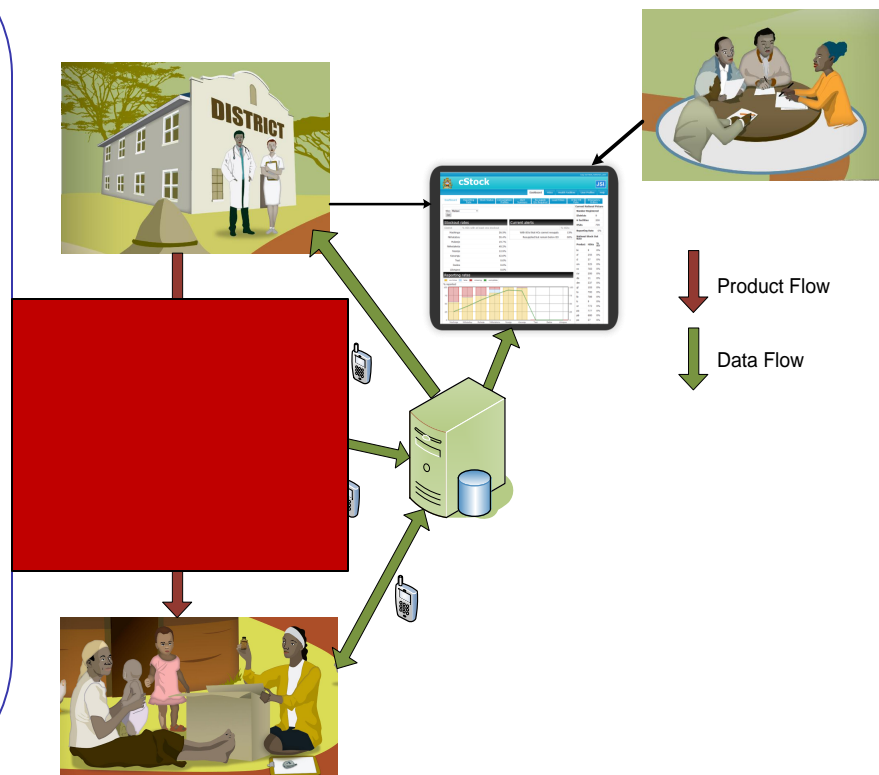
Aligning the distribution system with information flow is critical for successful realization of system objectives

Pre alignment:

- Health centers not resupplying using cStock (timing, calculations) → 1 district reporting rates averaged **60%**
 - HSA's saw little value in reporting

Post alignment:

- Since the district began using cStock, reporting rates improved to about **96%**, with nearly **90%** completeness.

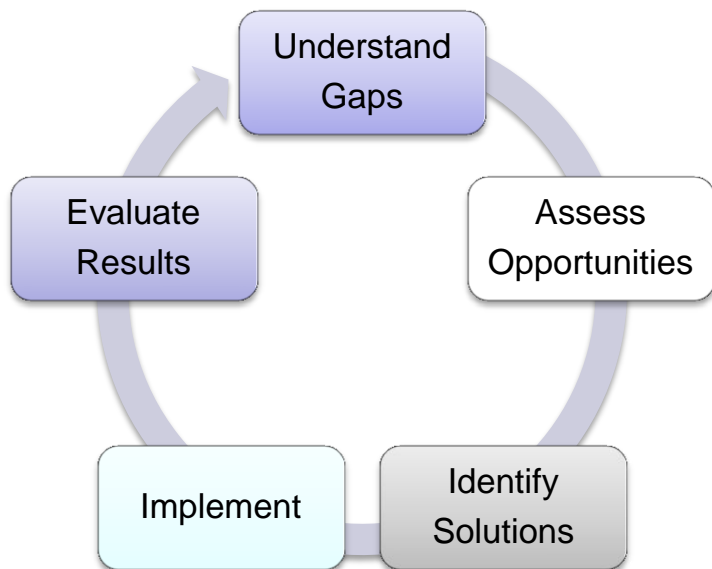




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Lessons Learned: Iterative Learning

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



Iterative requirements gathering

- A “learning by doing” approach can be practical yet effective for system deployment in settings where users have no prior experience with e-systems and resources are constrained
- User interface can be refined after experience gained
 - Group messaging
 - Enhanced data visualization

Lessons Learned: Focused Vision



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



The logo for Global Health, featuring a stylized globe with a person silhouette inside, surrounded by a circular arrow, with the text 'GLOBAL HEALTH' below it.

Conclusions

Simple, SMS-based stock reporting systems can have a powerful impact on improving data visibility in the supply chain but is only **one** aspect of improving product availability

Factors for success:

- Define the problem
- Understand the context and environment
- Well thought out strategy and focused objectives
- User requirements workshop
- Constant M&E and improvements



**Thank You
Questions?**

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