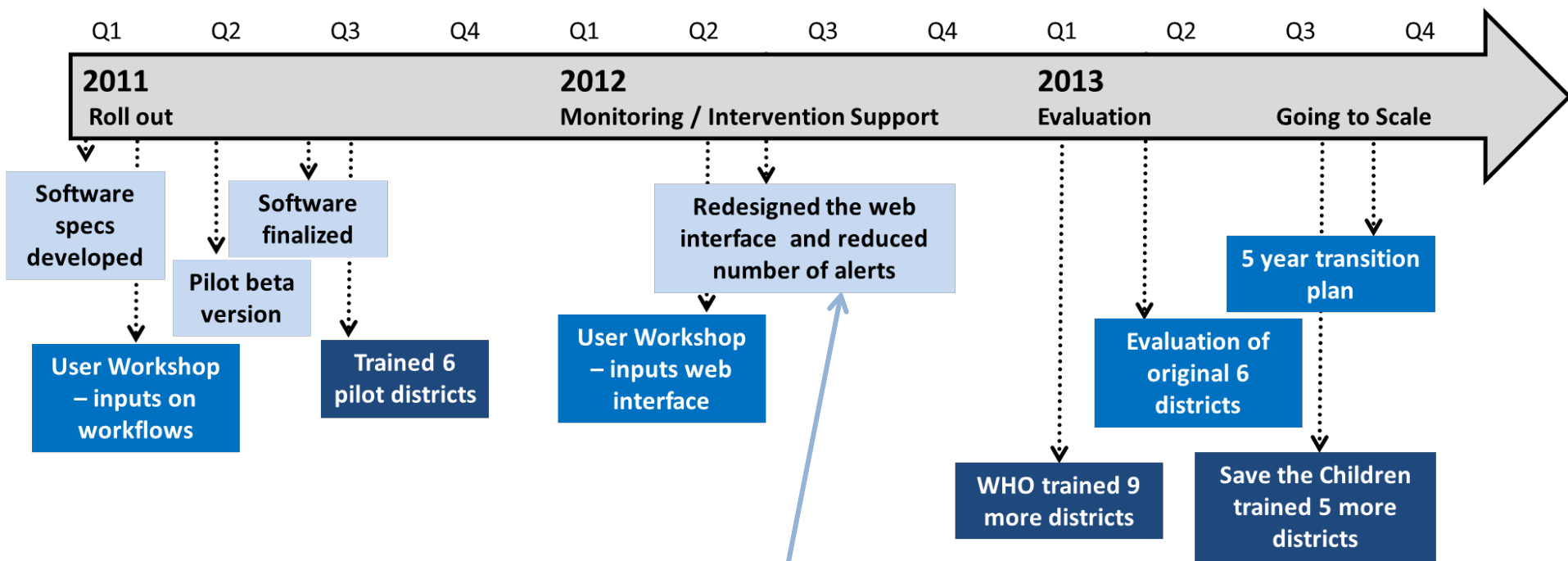




**cStock: Deploying mHealth for improved product availability in Malawi**



# SC4CCM Project: Malawi



**District Product Availability Teams** were created that use cStock data to monitor their supply chain performance. Their input into what should be included on the cStock dashboard during redesign was critical to the usability and acceptance of cStock.

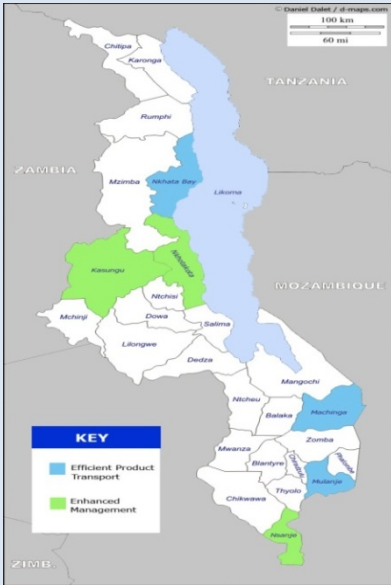
19 of the 29 districts (2000+ HSAs) in Malawi are currently using cStock, and will be at full scale by mid 2014.



# Malawi Overview

## Country Context

- Health Surveillance Assistants (HSAs) introduced in 1970s for health promotion and sanitation activities
- CCM was initiated in Malawi in 2008, targeting HSAs in hard to reach areas provide CCM
- HSAs are paid cadre of MOH
- There are currently over 3000 village clinics
- HSAs can manage up to 19 products for CCM, FP and HIV Testing



## Baseline Findings - 2010

- Only 27% of HSAs had all CCM products\* needed in stock DOV
- 43% of HSAs reported they submit a report containing logistics data to HCs
- 94% of HSAs surveyed had a mobile phone, 85% had network coverage at least sometimes
- District and central staff had access to computers and internet at least some of the time

## Solution:

SMS-based system to manage reporting and resupply process: **cStock**

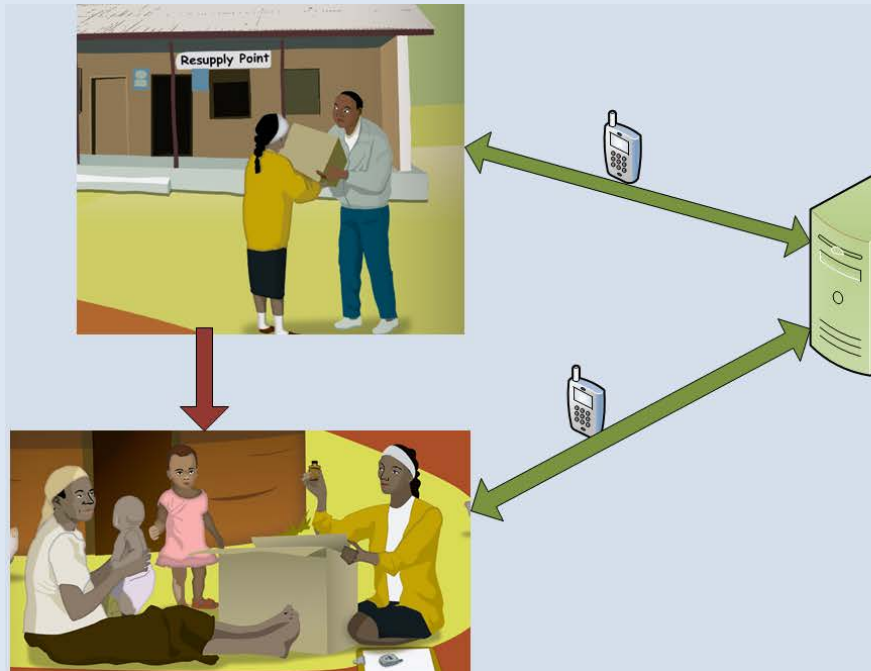
\*cotrimoxazole, LA1x6 and/or LA2x6, ORS





# cStock: Design

## SMS Process



## Dashboard



### HSA and HC communicate via SMS.

- HSAs send SMS with **stock data** each month
- cStock calculates the **resupply quantity** and sends via SMS to the health center
- Health center sends an SMS **order ready** to HSA
- HSAs send SMS receipt confirmations on collection

### District / central level managers view data on the dashboard :

- **Real time data** - alerts, stock out rates and current stock status, enabling SC managers to respond immediately to issues.
- **SC indicators** - reporting rates, lead times, consumption rates, order fill rates, for system monitoring and coordination.

# cStock: Key Design Features

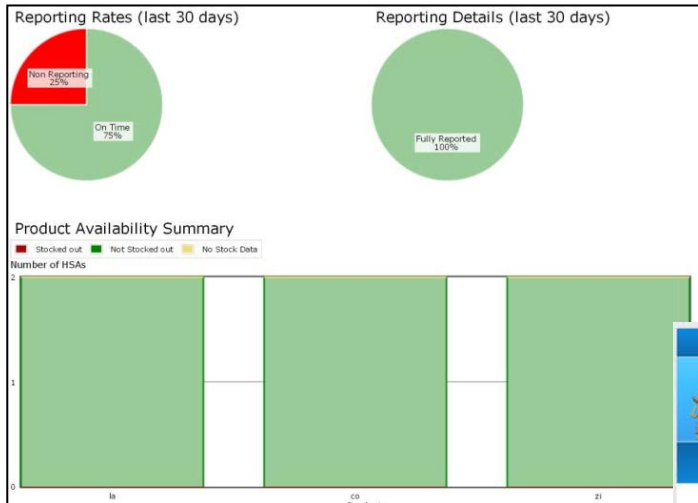


Initial Design Phase	Dashboard Redesign	
	Supply Chain Experts (6 months after roll out)	In-country Review (10 months after roll out)
	Redesign of dashboard to improve <b>usability</b>	Input from <b>key users</b> : central and district managers
<ul style="list-style-type: none"><li>• Use basic GSM phones</li><li>• Collect minimum data</li><li>• Data hosted on the cloud</li><li>• Workflows developed with users of the system</li><li>• Dashboard was developed quickly based on another system with little input from users</li></ul>	<ul style="list-style-type: none"><li>• Identified key indicators and reports required by DPATs and central level to monitor SC performance</li><li>• Redesigned navigation to facilitate easy access in districts with limited internet connectivity</li><li>• Upgraded data warehousing to accommodate scale up</li></ul>	<ul style="list-style-type: none"><li>• Prioritized indicators and reports important for day-to-day decision making</li><li>• Feedback to enhance visuals and navigation based on dislikes</li><li>• Identified new features to enhance their use of the system</li></ul>

**Iterative approach** allowed for a rapid deployment of the system without large investments in the dashboard before users had any experience.

The result is a **easy-to-use** dashboard that meets the **needs of the users**.

# cStock Dashboard Redesign

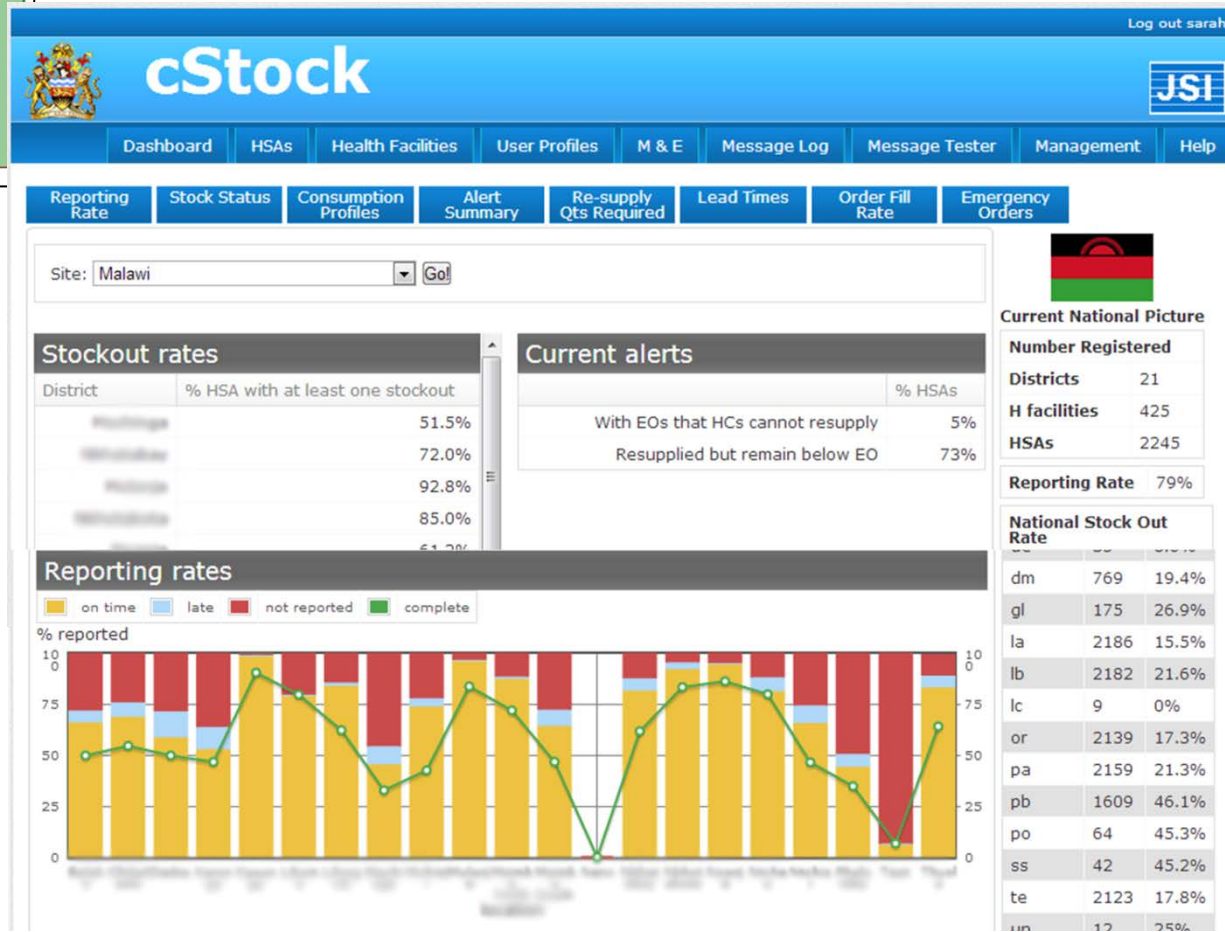


## Original Dashboard View

- Minimal reports, very basic, clunky looking graphics
- Data not centrally organized, accessible, not easy to navigate
- Dashboard very slow to load

## Redesigned Dashboard View

- Redesigned dashboard with frequently used reports
- Redesigned reports to facilitate decision making
- More logical, streamlined navigation to get to HSA data



# Results

## Product Availability

- ✓ HSAs in districts using cStock and DPATs had **14% fewer stock outs or low stocks** than other districts on day of visit

## Data Visibility

- ✓ More than **80% of HSAs** report logistics data to **cStock** every month (vs. 43% at BL)

## Use of Data

- ✓ **91% of Drug Store in Charges** use cStock to inform resupply quantities



### IMCI Coordinator

“Before the intervention, medicine could not be tracked.”

### Health Facility

“[Before the mHealth system], we used to work everyday because we would never know when HSAs were going to come to the HF for resupply.”

### HSAs

“the travel time has been reduced because we are only forced to travel when our products are ready.”





***Thank you! Visit us at [sc4ccm.jsi.com](http://sc4ccm.jsi.com)***