



# SC4CCM Malawi:

## Evaluating

June 16, 2014



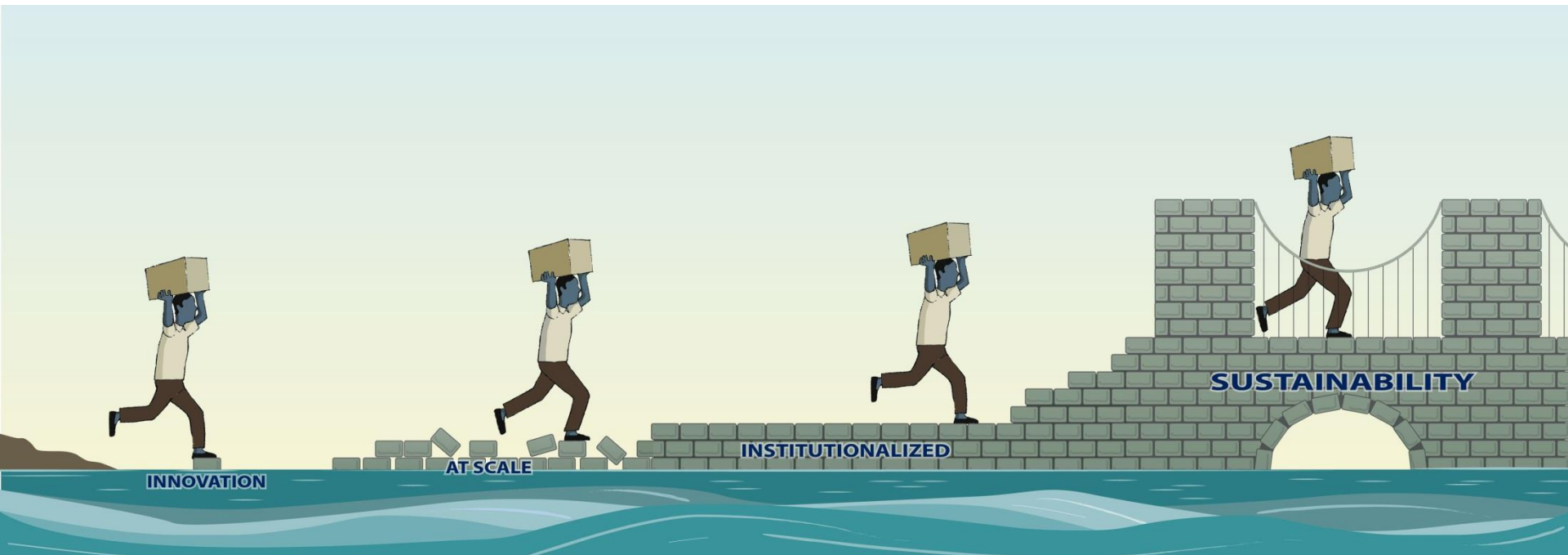
JSI Research & Training Institute, Inc.



# SC4CCM Project



SC4CCM is a learning project that seeks to identify **proven, simple, affordable** solutions that address unique supply chain challenges faced by CHWs. The project seeks to foster a sustainable approach to scale up and to ensure that **MOH can own and adapt successful models** to strengthen community supply chain practice. This will be achieved through facilitating the establishment of coordination mechanisms to guide stakeholders as they embark on institution building.





## Country Context

- Health Surveillance Assistants (HSAs) introduced in 1970s for health promotion and sanitation activities
- HSAs are paid cadre of MOH
- CCM was initiated in Malawi in 2008, HSAs in hard to reach areas provide CCM
- 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 (cotri, ORS and both ACTs) in stock on day of visit
- **43% of HSAs** reported they submit a report containing logistics data to health centers (HCs): only 13% of HCs reported HSA data separately from their own data to districts
- **80% of HSAs** relied on bicycles, 11% travelled on foot to collect products: challenges cited as "transport was always broken," "no transport available," "difficulties carrying supplies," and "too long to reach the resupply point."
- **94% of HSAs** surveyed had a mobile phone, 85% had network coverage at least sometimes



# Intervention Strategy



## **cStock – 6 districts**

a SMS-based reporting and resupply system, to improve data visibility.  
cStock plays a different role in each intervention.

### **Enhanced Management (EM) - 3 Districts**

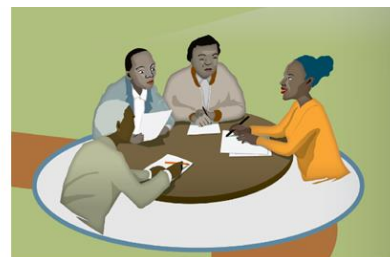
- 1. District Product Availability Teams** team-based, goal focused approach for supply chain improvement
- 2. cStock** used for HSA resupply and performance monitoring

### **Efficient Product Transport (EPT) - 3 Districts**

1. Bicycle maintenance training
2. Flexible continuous review inventory control
- 3. cStock** for HSA resupply

...both with the goal of **reducing stock outs and improving product availability**

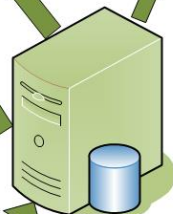
**District, Zonal and Central staff** access HSA logistics data via **dashboard**



**Health Center** supplies the HSA based on SMS message



**HSA** sends SMS with SOH each month



Product flow

cStock data flow

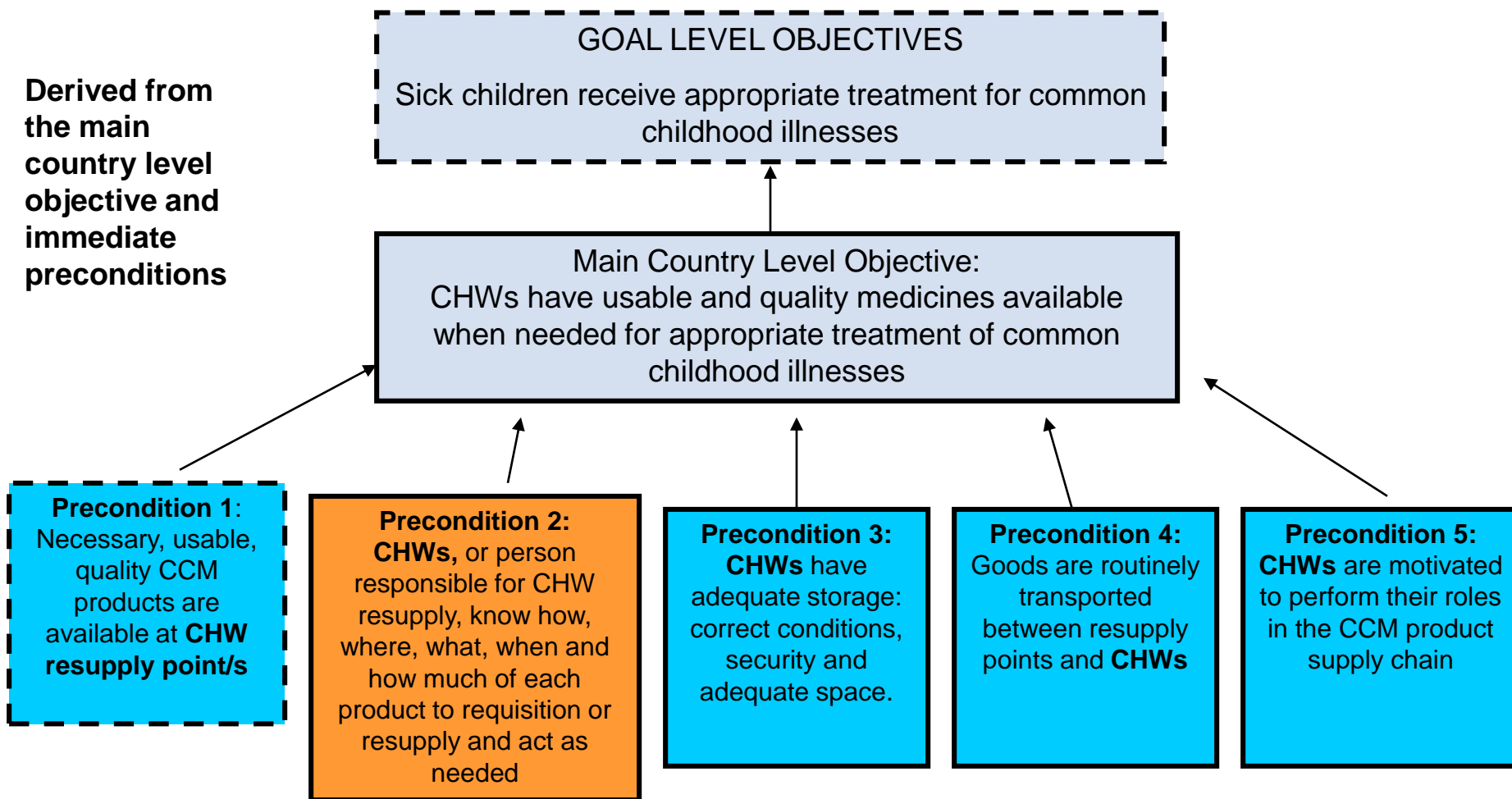
The database calculates - MOS and resupply quantities, reporting rates, number and duration of stock outs, displays on **dashboard**

# Evaluation Design

- 1. Project Midline** (Feb 2013): Quasi-experimental design, comparison with 2010 baseline survey, based on a Theory of Change
- 2. cStock Dashboard:** custom reports for supply chain monitoring
- 3. Rapid Data Quality Assessment, RDQA** (Dec 2013)



# SC4CCM Theory of Change: Core Indicators





# Midline Evaluation



## Objectives:

1. Assess & compare the **impact of the two intervention groups** (EM and EPT) on improving supply chain performance at the community level with non-intervention districts over time
2. Provide **evidence about cStock** as an effective system for making community supply chain data more visible
3. Provide evidence around the interventions tested by SC4CCM to identify successful SC practices and support the Malawi MOH to identify and take action towards **scaling up promising activities**

## Mixed Method Evaluation

- **Quantitative:** Facility based survey (**based on USAID | DELIVER LIAT**) using mobile data capture (Magpi)
  - 3 x EM Districts, 3 x EPT districts and 4 x non-intervention districts (comparison group)
- **Qualitative:** Focus Group Discussions (FGD)
  - HSAs (2 male/female per HC) and HC staff (HSA Supervisors, Drug Store In-Charge)



# Midline Measures

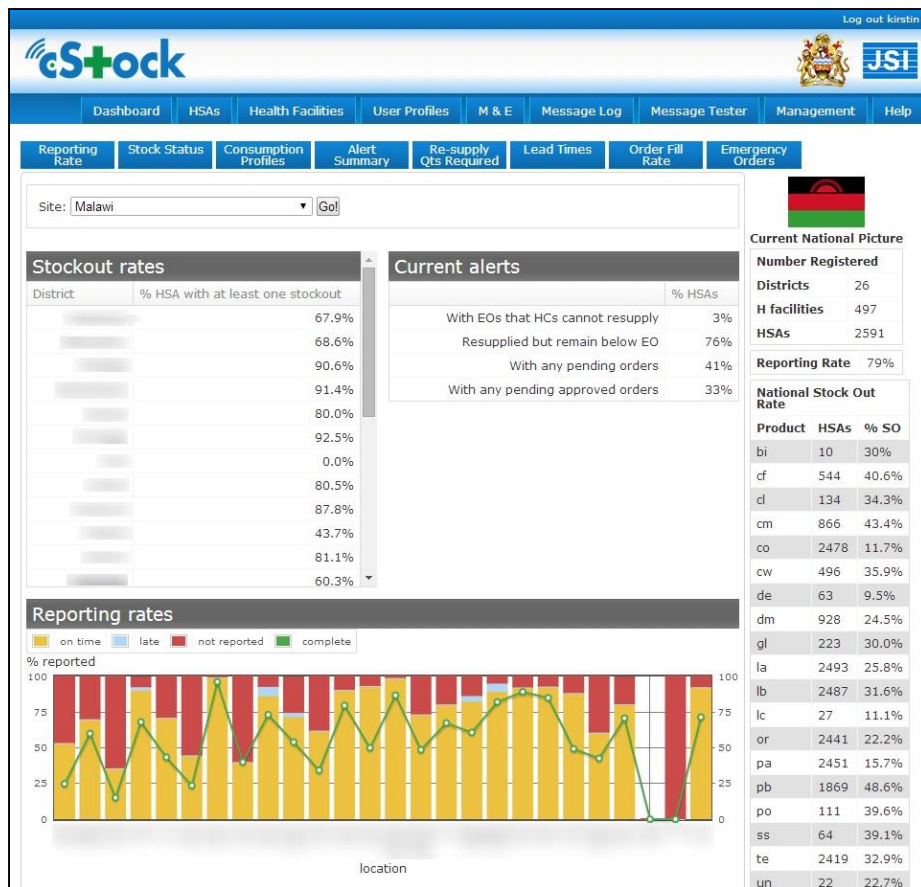


## Outcomes:

- CCM Product Availability (on day of visit)
  - **62% of HSAs** at ML (compared to **27% at BL** ) had the **4 tracer** drugs\* in stock DOV
- Feasibility (e.g. ease of use)
  - **56% HSAs** said they could complete the cStock report in less than 20 mins compared to **8% for the paper report**
  - District staff in **all three EM districts** reported being comfortable accessing and navigating the dashboard.
- Acceptability (e.g. routine use)
  - **97% of HSAs** reported that cStock had become their primary means for requesting health products from their resupply point
  - **91% of Drug Store in Charges** use cStock to inform resupply quantities

\*cotrimoxazole, LA 1x6, LA 2x6, ORS

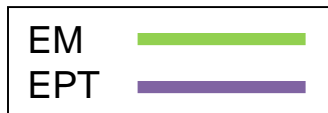
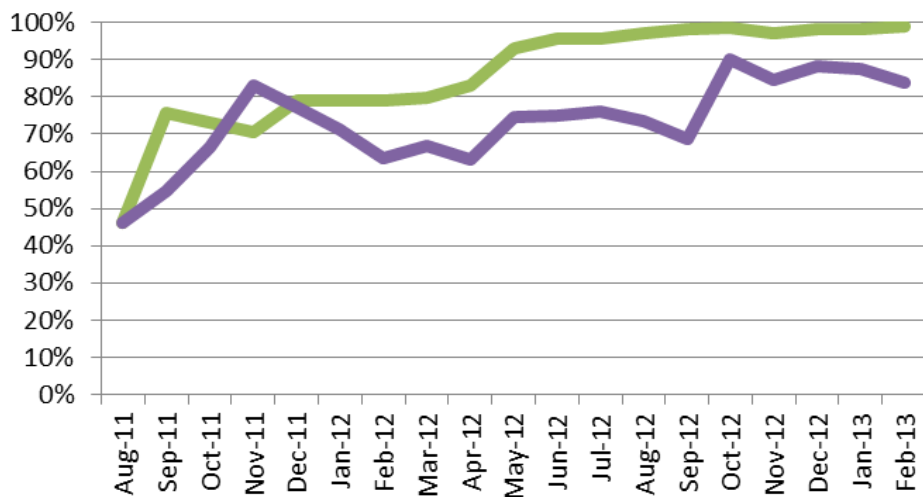
# cStock Dashboard



- Custom reports by time period, district, facility
- Time trends allow performance monitoring and comparison between districts, intervention groups
- Available Data:
  - CCM Product Availability (reported),
  - Stock Status,
  - OFR,
  - Lead Time,
  - Reporting Rates (i.e. same outcomes as Midline)

# Dashboard Outputs

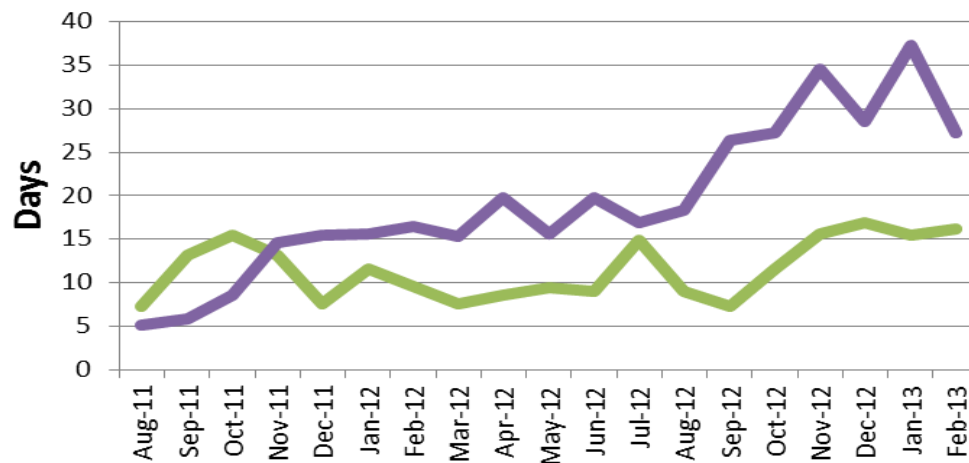
## Reporting Rate



In general EM districts performed better than EPT districts on all aspects of reporting

On average HC's in EM group took **7.6 days** to respond after a request and the EPT group took **13.5 days**.

## Average Total Lead Time





# Rapid Data Quality Assessment



(Based on MEASURE Evaluation RDQA tool)

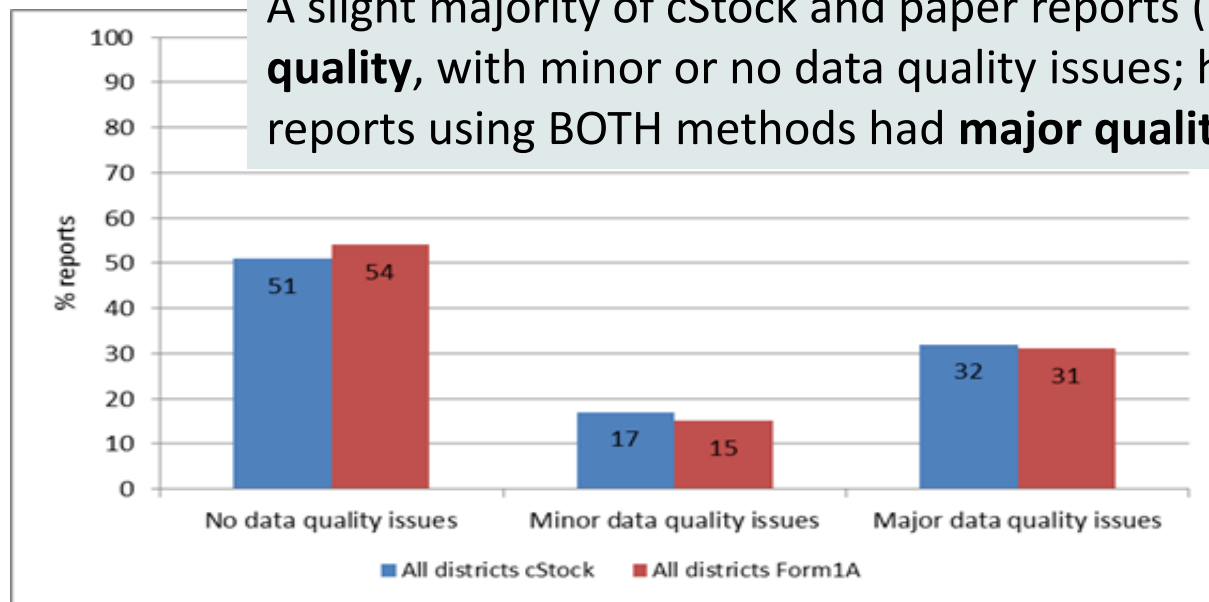
## Objectives:

- To verify **rapidly**:
  - Quality of stock on hand (SOH) data reported by HSAs through cStock, compared with SOH on reporting day
  - Quality of SOH data reported by HSAs by cStock, compared with the quality of data reported for the same period using paper forms (Form 1A or LMIS-01G)
- Provide immediate feedback to staff
- Identify measures for strengthening the data management and reporting system and improving data quality
- Identify potential cross-cutting systemic data quality challenges



# RDQA: Summary of Findings

A slight majority of cStock and paper reports (Form 1A) were **good quality**, with minor or no data quality issues; however more than 1/3 of reports using BOTH methods had **major quality issues**



*Verification Factor Classification, All Districts*

**Quality of cStock** data was determined to be **equivalent to paper reports**, with minimal differences detected between the two reporting methods

\*Most common reason cited for data discrepancies in reporting, by cStock and Form1A was failing to conduct a physical stock count either correctly or at all before compiling and sending reports.

**Poor quality data was therefore a result of a gap in supply chain practices rather than a flaw of either reporting system per se**



# Research Challenges

Midline	cStock Dashboard	RDQA
<ul style="list-style-type: none"><li>– External factors greatly affect key indicator – Product Availability; DiD model inconclusive:</li><li>+ Focus on process and outcome data from Midline and cStock</li></ul>	<ul style="list-style-type: none"><li>– Data not available for non-intervention districts until after midline:</li><li>+ Use EPT as ‘comparison’ group for EM to determine scale up package at ML. Both use cStock, but results show that EM helped users excel beyond EPT users</li></ul>	<ul style="list-style-type: none"><li>– Data source requires visiting multiple sites at same time:</li><li>+ Deploy small data collector teams (2 MOH staff) to multiple districts</li></ul>
<ul style="list-style-type: none"><li>– One point in time measures of limited value for SC:</li><li>+ Use cStock dashboard reports to supplement</li></ul>	<ul style="list-style-type: none"><li>– Report data already aggregated into %, difficult to manipulate</li><li>+ Design specific analysis plan, request data from system administrator as needed</li></ul>	<ul style="list-style-type: none"><li>– Small quantities of products make quality issues stand out:</li><li>+ Noted in interpretation section of the report</li></ul>
		<ul style="list-style-type: none"><li>– Outliers values:</li><li>+ Included outliers in ‘poor quality’ group</li></ul>

# Lessons Learned

- A variable environment around key indicators can prevent establishing the impact of systems intervention; Use multiple data sources to tap into alternative indicators
- In a system with poor data visibility, the mHealth system itself can be a key source of data and supporting evidence for its' value
- Local stakeholders see data quality as valuable evidence for credibility



Thank You  
Questions?  
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