cStock: Partnering for Scale to Treat Children and Save Lives in Malawi
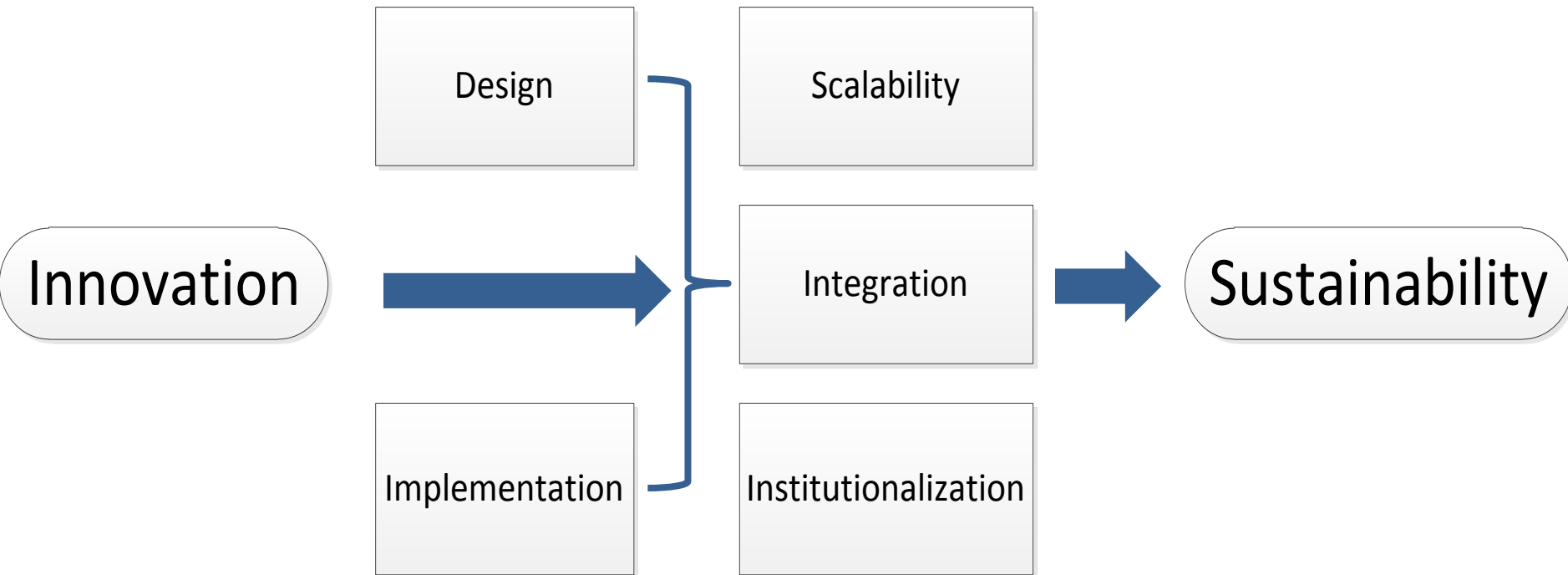
SC4CCM Project

SC4CCM is a learning project to identify **proven, simple, affordable** solutions for the unique supply chain challenges faced by CHWs.

Unique Challenges faced by CHWs:

- Remote, rural locations, difficult geography:
  - transit to resupply points can be long and difficult
- Limited transportation options, often non-motorized:
  - such as bikes, foot, donkeys, public transport
- Low literacy among CHWs:
  - challenges in reporting, recording and submitting data
- Lack of infrastructure:
  - often no dedicated facility to work from
  - Limited storage space
- At the end of the supply chain
  - when shortages of essential medicines exist, CHWs often miss out on supplies

SC4CCM Pathway to Supply Chain Sustainability

Innovation → Design, Implementation → Scalability, Integration, Institutionalization → Sustainability

- Design
- Scalability
- Innovation
- Integration
- Sustainability
- Implementation
- Institutionalization

To sustain an innovation, issues of scalability, integration and institutionalization must be considered from the **start**, during the design and implementation phase.

Malawi Overview

Country Context

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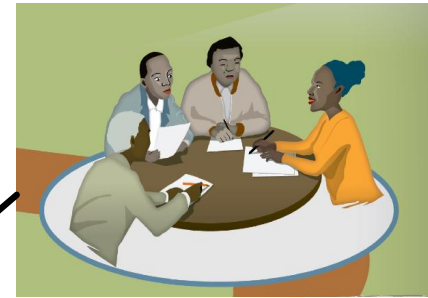- CHWs can manage up to 19 products for CCM, FP and HIV Testing

Baseline Findings - 2010

- Only 27% of CHWs had all CCM products* needed in stock DOV
- 43% of CHWs 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

Part of Solution:

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

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Building Resilience Through Innovation

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*cotrimoxazole, LA1x6 and/or LA2x6, ORS

cStock: Data and Product Flow

District and Central levels **monitor** resupply and stock levels through SMS alerts and a dashboard

The dashboard **displays** reporting rates, stock outs, lead times, consumption and more

3. Health Center receives request via SMS and notifies HSA either **"order ready"** or "out of stock".
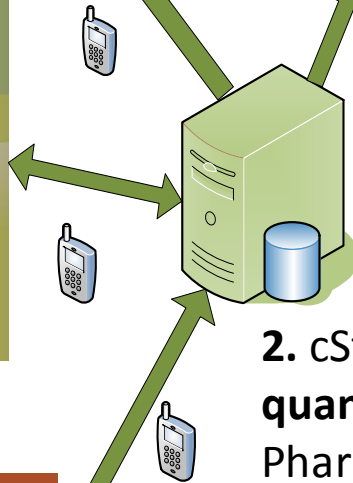
2. cStock **calculates the resupply quantity** and sends SMS to HC Pharmacy

4. HSAs collects products and sends SMS with **receipt**

1. HSA sends SMS with **SOH** each month

↓ (red)	Product Flow
↓ (green)	Data Flow
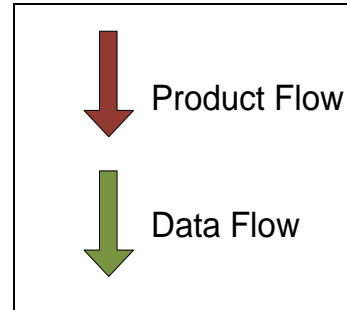
District Product Availability Teams

In addition to cStock, SC4CCM introduced **District Product Availability Teams (DPATs)** that use the increased **data visibility** to improve performance

Enhanced Management (EM)

DPAT/HPAT Meetings

- Quarterly District Meetings with District staff and CHW supervisors

- Monthly HC Meetings with HC and CHWs

- Topics discussed include
  - Performance plans & recognition
  - Reporting timeliness and completeness
  - Stock management, expiries & overstocks, and product availability

Performance Plan

- Supply chain performance indicators and targets

- cStock data and resupply worksheets used to track performance

- Formal recognition system to drive SC performance

- Management diaries used to track issues and actions taken

cStock Data

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Simple Design of cStock

Scalability	Integration	Institutionalization
Uses basic GSM phones	**Streamlines existing resupply process**	**Iterative approach to dashboard design**
•HSAs and HC staff use their **personal phones** to report data via SMS on a toll free phone line	•Calculates quantities for HCs, reducing the burden of calculation	•simple, easy-to-use dashboard reports designed with input from the users 6 months after implementation
Collects minimum data	•Advises HSAs when stock is available for collection preventing unnecessary travel to the HC	**District Product Availability Teams (DPAT)**
•HSAs in Malawi manage up to 19 products		•Introduction of DPATs created a structure for using data making cStock data important to their every day work
•stock on hand and receipts data	•When HCs cannot fulfill orders, districts get immediate SMS alerts to facilitate timely replenishment	
Hosting data on *The Cloud*		
•inexpensive, reliable and easy to manage for a small system like cStock		

Results

*cotrimoxazole, LA1x6 and/or LA2x6, ORS

Product Availability

✓ **62%** of CHWs had the 4 tracer drugs* in stock day of visit (compared to 27% BL)

✓ 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 CHWs** 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

✓ **56% of CHW supervisors** use cStock data for performance monitoring

Teamwork

✓ **100% of District & CHW Supervisors** reported finding product availability teams useful

✓ **92% of CHW Supervisors** know their recognition plan

Translating Evidence into Action

Data Validation Workshops

- Presentation of intervention specific results to selected CHWs, HC, district staff from intervention districts
- Review of key data, interpretation within local context
- Discussion on effectiveness, affordability, value of intervention considering results and experience
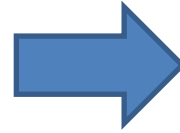
Scale Up Package and Plan

MOH and partner consensus on elements of intervention to implement nationally

A Structured, Planned Approach to Scale Up and Institutionalization

The Pathway to Supply Chain Sustainability Tool

- Developed as a planning tool for scaling and institutionalizing innovations within public sector supply chains

- Participants assess "readiness" for scale up and institutionalization of the innovation on a scale of 1-5 and then develop action plans for how to move to the next level

- Five domains assessed: Organizational Coordination, Organizational Capacity, Funding & Resources, Community & Staff Preparation ,and Tools & Technology

Scale Up And Institutionalization

Partnering to Scale

- Important for sustainability as builds broader/joint ownership and capacity that lasts after project ends

Current Status of Scale up

- 29 of 29 districts have committed funding: 9 WHO, 5 Save the Children, 2 IWG, 6 SSDI, and 7 SC4CCM; as of Nov 2013, 65% of training coverage achieved

Operationalising MOH ownership of the innovation package

- Formation of a **taskforce** (MOH chair) dedicated to the scale up and sustainability of SC innovations

- Finding **champions** in MOH by having central level advocates and trainers in every districts

- **Capacity building** of MOH to provide management and leadership

- Development of comprehensive, multi-year cost estimates for resource mobilization, in the short term, and a transition plan to eventually cover all costs through the MOH
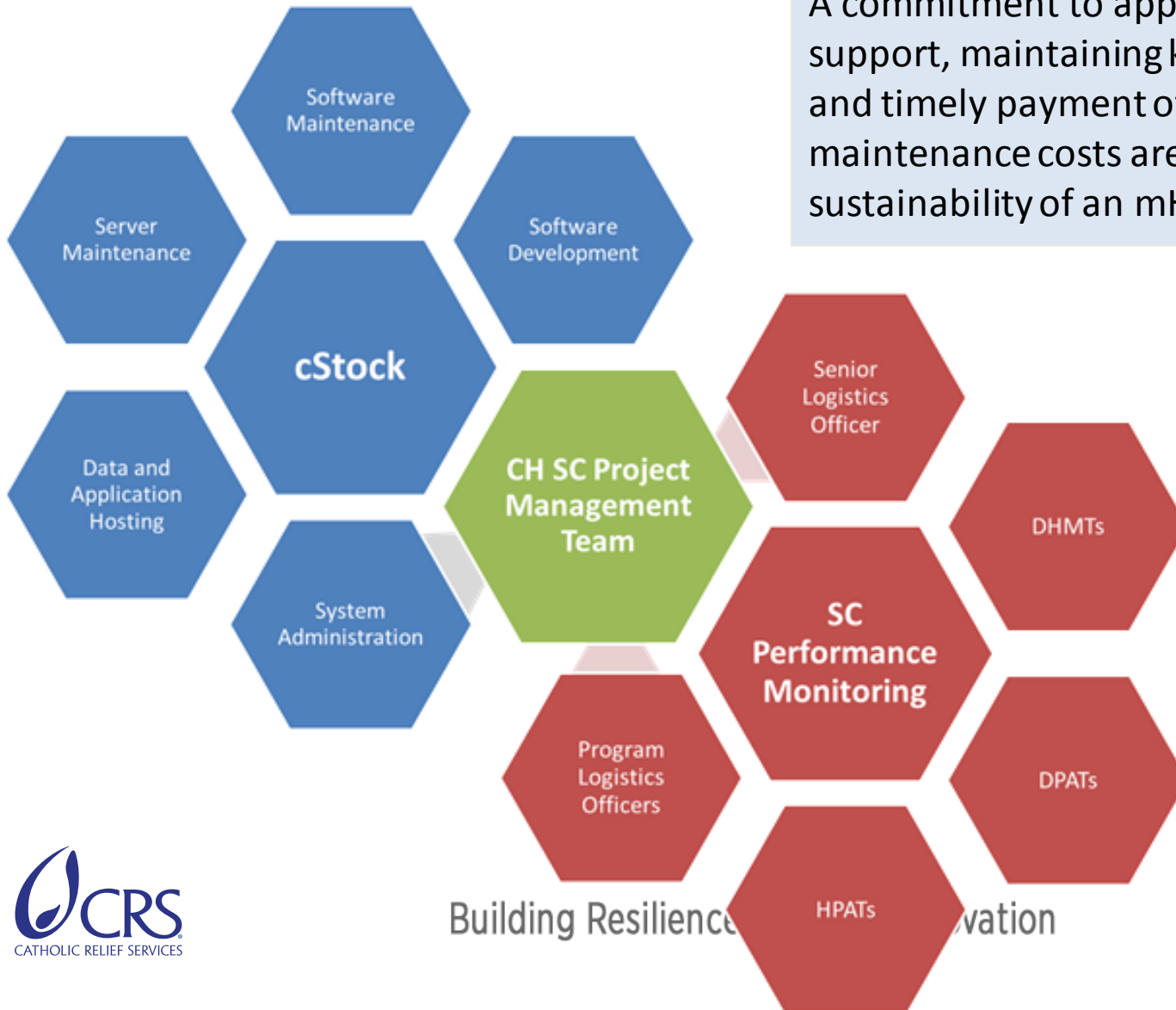
5 Year Transition Plan

Purpose

- Provide a structured and thoughtful process on what is required to **sustain cStock and the DPATs** for the next five years to set a strong foundation for this technology and approach become a core business practice for the MOH.

- Highlights **key capacity building investments** required to address gaps in MOH institutional structures so that MOH is able to manage of cStock at the end of the 5-year transitional period.

Timeline for Transition of cStock Management to MOH – 2014 - 2019

	Year 1	Year 2	Year 3	Year 4	Year 5
Project Management	Senior Advisor	Senior Advisor / HTSS	HTSS Project Manager		
System Administration	External System Administrator		MOH System Administrator		
Data and Application Hosting	Outsourced cloud provider		Outsourced local cloud provider or MOH Server		
Server Maintenance	Outsourced cloud provider		Outsourced local cloud provider		
Software Maintenance	Outsourced to system developer		Outsourced to local system developer		
Software Development	Outsourced to system developer		Outsourced to local system developer		

Reassess Local Options

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Sustaining cStock and the DPATs

A commitment to appropriate institutional support, maintaining key skills and capacity, and timely payment of system hosting and maintenance costs are critical for sustainability of an mHealth system

Software Maintenance

Server Maintenance

Software Development

cStock

Data and Application Hosting

System Administration

CH SC Project Management Team

Senior Logistics Officer

DHMTs

SC Performance Monitoring

Program Logistics Officers

DPATs

HPATs

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Lessons Learned

- Consider sustainability - scalability, institutionalization and integration – from the design phase

- Keep the design simple and suitable for the context

- Plan to revisit some of design early in the pilot when users have experience to draw from

- Engage partners and MOH from the outset and considering partnering for scale up

- Cloud hosting is a cheap, reliable and easy to manage option for small scale systems

- Combining an mHealth solution with interventions that introduce structured processes for routine use of data so staff value the tool

- Develop a transition plan well before the end of the project and help set the ground work for sustainability

Thank you! Visit us at sc4ccm.jsi.com