

cStock: A sustainable approach to using mHealth to support the community health supply chain



SC4CCM Project



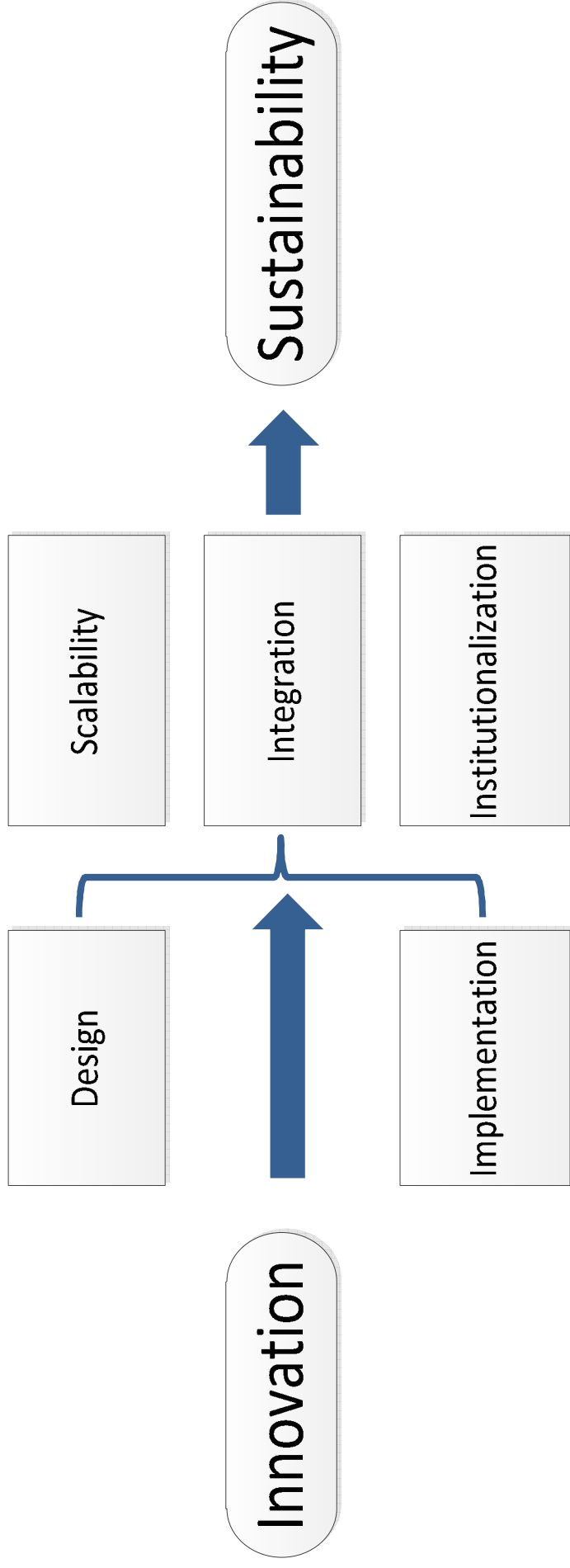
SC4CCM is a learning project that identifies **proven, simple, affordable** solutions that address unique supply chain challenges faced by CHWs.

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 there are shortages of essential medicines in the system CHWs often miss out on supplies



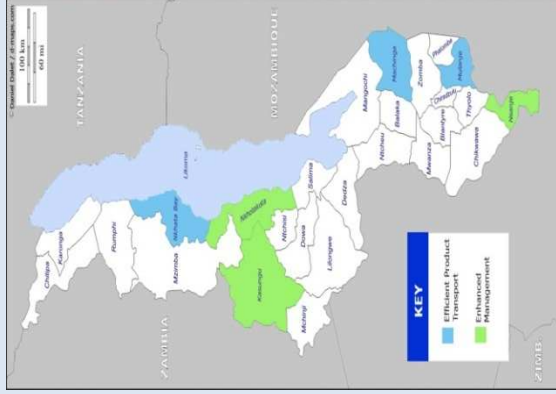
SC4CCM Pathway to Supply Chain Sustainability



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

- Health Surveillance Assistants (CHWs) introduced in 1970s for health promotion and sanitation activities
- CHWs are paid cadre of MOH
- CCM was initiated in Malawi in 2008, CHWs in hard to reach areas provide CCM
- 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
- Only 13% of HCs reported CHW data separately from their own data to districts
- 94% of HSAs surveyed had a mobile phone, 85% had network coverage at least sometimes

*cotrimoxazole, LA1x6 and/or LA2x6, ORS

Part of Solution:

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



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



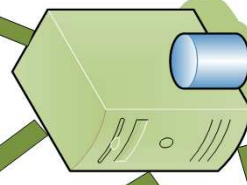
3. Health Center receives request via SMS and notifies HSA either “**order ready**” or “out of stock”.



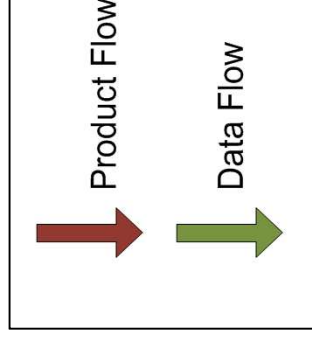
4. HSAs collect products and sends SMS with **receipt**



2. cStock calculates the resupply quantity and sends SMS to HC Pharmacy



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



District Product Availability Teams



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



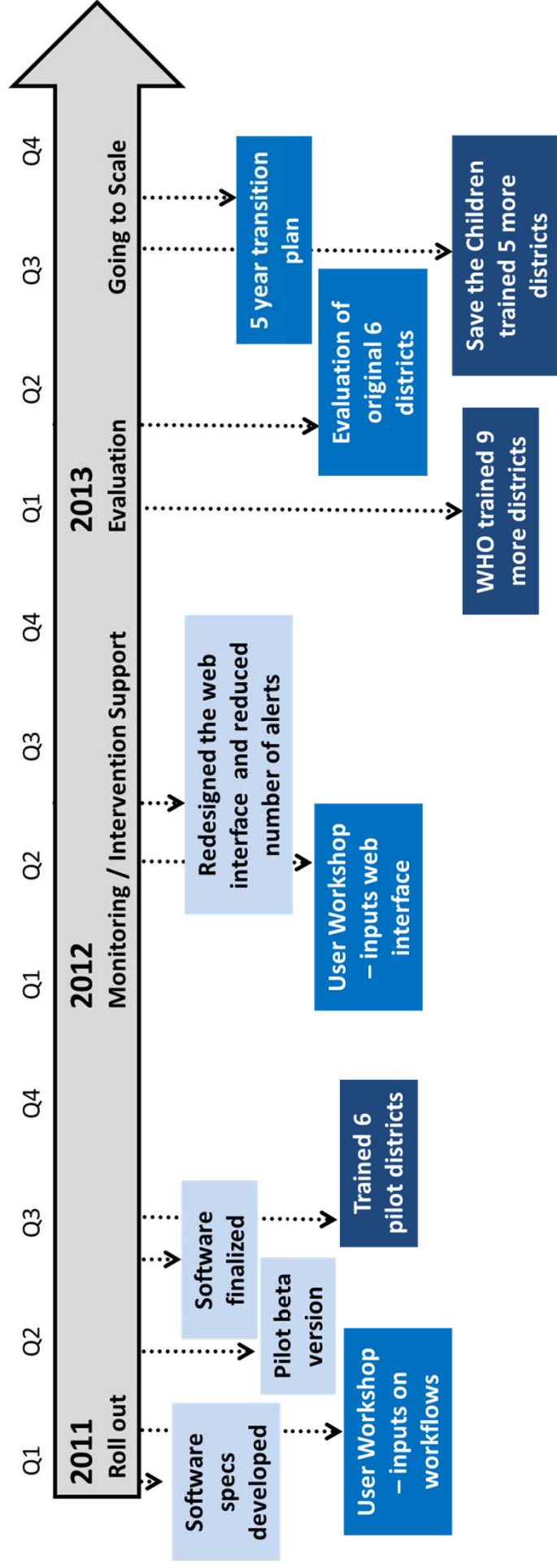
Simple Design of cStock



Scalability	Integration	Institutionalization
<p>Uses basic GSM phones</p> <ul style="list-style-type: none"> • HSAs and HC staff use their personal phones to report data via SMS on a toll free phone line <p>Collects minimum data</p> <ul style="list-style-type: none"> • HSAs in Malawi manage up to 19 products • stock on hand and receipts data <p>Hosting data on <i>The Cloud</i></p> <ul style="list-style-type: none"> • inexpensive, reliable and easy to manage for a small system like cStock 	<p>Streamlines existing resupply process</p> <ul style="list-style-type: none"> • Calculates quantities for HCs, reducing the burden of calculation • Advises HSAs when stock is available for collection preventing unnecessary travel to the HC • When HCs cannot fulfill orders, districts get immediate SMS alerts to facilitate timely replenishment 	<p>Iterative approach to dashboard design</p> <ul style="list-style-type: none"> • simple, easy-to-use dashboard reports designed with input from the users 6 months after implementation <p>District Product Availability Teams (DPAT)</p> <ul style="list-style-type: none"> • Introduction of DPATs created a structure for using data making cStock data important to their every day work



Pilot Timeline



cStock Development – 6 months

cStock Test Period– 15 to 18 months



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					



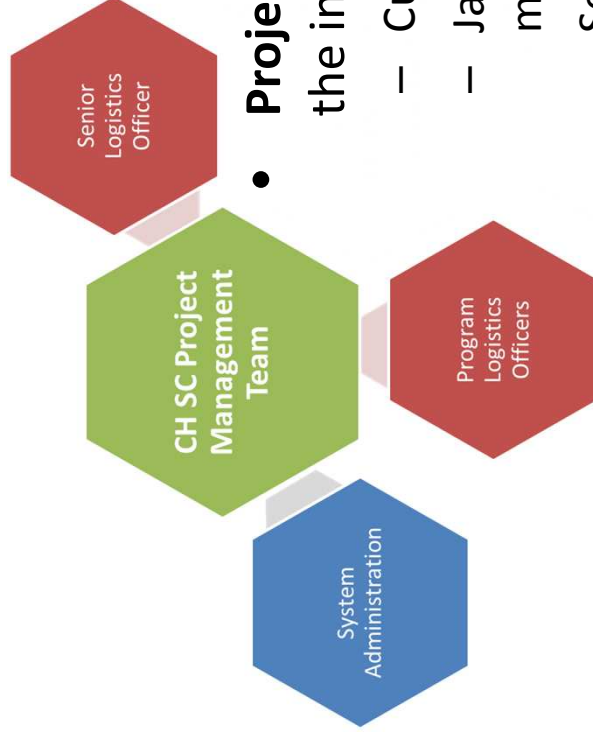
Sustaining cStock and the DPATs



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

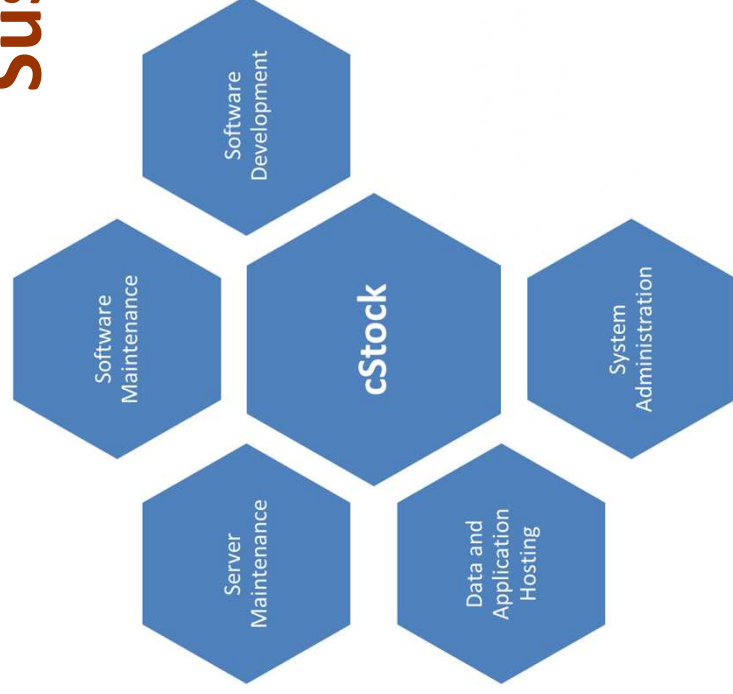


Project Management



- **Project Manager:** provide a strategic view and vision for the innovation.
 - Currently performed by project
 - January 2014 will hire a Secondee funded by IWG for 18 months
 - Secondee will work to provide a seamless transition for all processes to MOH designated person before the end of their term.
- **Project Management Team:** to guide the transition, institutionalization and sustainability of cStock.
 - Project Manager
 - System Administrator - monitors system performance; manages and support users, liaise with vendors.
 - Senior Logistics Officer - interact regularly with the Project Manager to support the implementation and use of cStock as a key MOH LMIS tool.
 - Program Logistics Officers - regularly review data on the cStock dashboard and reports and use it to improve product availability for program products at HSA level.

Sustaining the cStock System

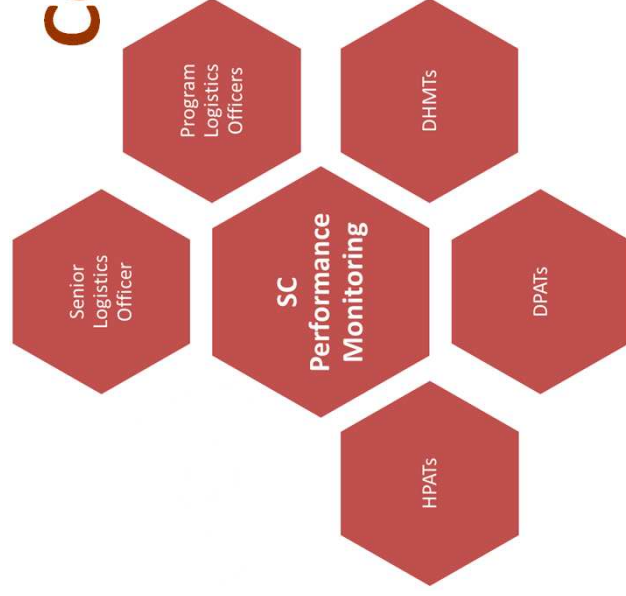


- **Data and application hosting / server maintenance options:**
 - US based data hosting company (current)
 - Local cloud hosting company
 - MOH owned server / MOH hire IT support
- **Software Maintenance / Development options:**
 - US based software developer (current)
 - Local software developer
 - MOH hire IT support

Assessment of current options for hosting / software support for cStock:

- **Local capacity** in Malawi to provide hosting services and/or software development is in emerging stages.
- **MOH** does not have suitable infrastructure or staff at this stage to host or maintain cStock in house.
- There is potential opportunity in the medium term to leverage other systems within MOH for infrastructure support, e.g. dhis2
- Current recommendation to maintain **US based** data hosting company and US based software development company

Community Health Supply Chain Performance Monitoring



The formation of **district product availability teams (DPATs)** have been critical to the success of cStock as this is the mechanism through which users begin to work as a team and appreciate how data can be used to improve performance.



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





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