

## Making Products Available in the Community: A Manager's Tool to Improving Community Health Supply Chains





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Every year **6.6 million children die** before reaching their fifth birthday from **largely preventable causes** such as malaria, pneumonia, diarrhea, and malnutrition.

**Community health workers** play a critical role in helping to save the lives of these sick children by diagnosing and treating the children **close to home**.

By the time children reach health centers or hospitals, it is often **too late**. Training community health workers to intervene and **treat early** can **save many lives**.







While thousands of trained, committed community health workers strive to ensure that sick children can get the treatment they need close to home, often the supply chains cannot consistently deliver these lowcost medicines to the community level.



# Investing in proven strategies to improve community health supply chains is critical for achieving better child health outcomes.



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## Goal of Today's Session...

Learn about key decisions affecting community health supply chain performance and use a step by step approach to explore and evaluate options for improving the performance of your

community health supply chain and

product availability at the community level.



Supply Chains for Community Case Management (SC4CCM) tested supply chain innovations in 3 countries over 12-24 months to improve product availability and child health outcomes.





#### SC4CCM Mission...

To demonstrate that supply chain constraints at the community level <u>can be overcome</u> and to identify **proven**, **simple**, **affordable** solutions that address unique supply chain challenges faced by CHWs.



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# **SC4CCM Key Findings...**

Community Health Supply Chain Works Best When:

- CHW resupply is based on demand using consumption data
- Data is available and consistently used for decision making
- Formalized structures exist to facilitate teamwork and motivate staff across all levels of the supply chain
- Tools and training are created and utilized to drive group problem solving
- Leadership exists that is committed to product availability at CHW level
- Overall supply chain system is functional and provides products at adequate levels



You achieve the greatest benefit from your supply chain when all these factors are in place and working together.



# Through interventions **conducted over 12 - 24 months**, SC4CCM achieved **significant results**.

#### ✓ Product Availability Improved

- Intervention groups in Rwanda had 25% and 7% greater product availability for all 5 key CCM products, respectively, than the comparison group.
- CHWs receiving the EM intervention in Malawi had 14% fewer under stocks/out of stocks than the comparison group.

#### ✓ Data Visibility Improved Enabling Better Management of Products

- CHW reporting rates in Malawi were consistently above 80%, up from 43% at baseline, and reporting completeness was above 90%.
- 77% of CHWs in Ethiopia knew they should submit reports to the health centres compared to 14% of the comparison group.

#### ✓ Motivation for Supply Chain Tasks Improved

- 99% of respondents in Malawi found the mHealth system, cStock, saved them time in submitting reports and collecting products.
- 92% of CHWs in Rwanda reported that incentives helped to improve management of medicines.





## Agenda for the session...

Introduce the elements that define a high performing community health supply chain

Country proven experiences in improving community health supply chains

Explore options for supply chain improvements

4 Hi

3

Highlight implementation lessons learned for introducing CCM supply chain improvements





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This Manager's Tool **categorises SC4CCM's key findings** into the **three elements that work in harmony** to define the 'goal state' supply chain at community level.



**Routine Quantification and National Coordination** are critical precursors and on-going support pillars to the performance of the community health supply chain.

• Effective national level coordination and routine quantification are fundamental to product availability in order to mobilize sufficient funding and result in timely procurement and distribution.



Without these prerequisites in place, the community health supply chain cannot achieve high product availability on its own.



Effective supply chains require the support of **Strong Organisations** at all levels. Strong Organisations are characterised by:

- Shared Goals staff have common understanding of mission and vision
- **Teamwork** staff collaborate to achieve goals
- Leadership managers are trusted and guide the organisation confidently
- **Structure** defined organisational structure that provides a sense of order
- **Policies** known by all staff and support integrity and consistency
- **Continuous Improvement** commitment to self assessment and change
- Investment in Staff provide opportunities for staff to learn and advance







To understand supply chain challenges, and opportunities for improvement, the product flow, data flow, and effective people elements can be broken down into segments.





### You know you have Product Flow challenges if....



#### Inventory Management –

- Health Centres (HCs) do not determine when and how much to resupply CHWs based on consumption
  - Stock imbalances, including stock outs are common

#### Distribution –

- There are frequent delays in getting products from HC to CHW
- CHWs often make unproductive trips to HC

#### Storage Practices and Conditions –

• CHWs use inappropriate storage practices and experience frequent damage or waste

#### Quantification, Coordination, Strong Organisations

Product Flow

- Product resupply policies are not consistently followed due to lack of role clarity and leadership reflecting deficiency in the organisation
- National product availability is low due to lack of quantification
- Resources inefficiently allocated because of minimal to no coordination





### You know you have Data Flow challenges if....

Data Flow



#### Availability –

- Consumption (actual or calculated) data is non-existent, disorganised, or inaccessible by any level of the supply chain
  - Visibility into stock levels at CHW level by decision makers throughout the system is limited or non-existent

#### Accuracy –

 Consumption data is inaccurate or inconsistent and can't be used for resupply planning

#### Quantification, Coordination, Strong Organisations

- Lack of data prohibits effective national level quantification and coordination
- Information is not routinely used by the supporting organisation for planning, coordination, or recognising staff performance



### You know you have Effective People challenges if....

Effective People

#### Management -

- Standard operating procedures don't exist and roles and responsibilities are unclear
  - Supply chain training is not routinely provided
    - Processes are not enforced
      - No clear champion to recognize good supply chain performance

#### Teamwork –

 A formal structure across multiple levels and/or tools to facilitate group problem solving towards common objectives are lacking or non-existent

#### Motivation –

 CHWs are not recognised for their supply chain accomplishments

#### Quantification, Coordination, Strong Organisations

 Lack of leadership and strong organisations impact process compliance





A key lesson learned from SC4CCM is that **all elements** of the community supply chain **need to work well together** to improve overall performance.

Improvements in any single element will have benefits for others. Equally, weaknesses in any area affect the whole.



#### Example...

Improving data quality and availability in Malawi *and* establishing product-focused teams





Enabled health centres and CHWs to meet regularly to monitor performance and problem solve

Which led to almost 50% faster order response times and better product flow to the community level









Section A: What challenges are your community health supply chain facing?







## Agenda for the session...

Introduce the elements that define a high performing community health supply chain

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Country proven experiences in improving community health supply chains

1. Malawi

2. Rwanda

3. Ethiopia

3

Explore options for supply chain improvements

Highlight implementation lessons learned for introducing community health supply chain improvements





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#### Malawi has implemented...



- 1. A demand based resupply system
- 2. Leveraging a **customised mHealth tool** called cStock
- Bolstered by a teamwork and a performance improvement / recognition programme



#### Malawi Overview



#### **Country Context**

- Heath 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 day of visit (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
- 20% of CHWs identified transport as a constraint for collecting products



#### Intervention Overview

**cStoc** 

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resupply s

	Enhanced Management (EM):
k	3 districts
cts	Roll out DPAT Meetings
	Create Performance Plan and
ent	Rewards & Recognition Programme
nHealth reased	Efficient Product Transport (EPT):
lity in	3 districts
ased	Teach CHWs bike maintenance
ystem	Implement flexible inventory control
	system

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Through the use of SMS, **cStock is the foundation** for Malawi's demand based resupply system.





#### cStock Highlights

- CHWs text **stock on hand data** to cStock, replacing manual resupply forms
- The cStock database calculates the resupply quantity and sends via SMS to the HC Pharmacy, saving them time
- CHWs receive text confirmations from HC when their order is ready for pick-up, preventing unnecessary trips to the HC
- CHWs text cStock receipt confirmations, ensuring accurate record keeping
- District and Central levels **monitor** resupply and stock levels through SMS alerts and a performance dashboard, enabling proactive action when needed



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# mHealth systems do not need to be complex. The **simple design** of **cStock** was key to its success.

In Malawi, SC4CCM partnered with the MOH and an IT vendor to **customise** an **existing** sms-based, web-enabled reporting system, cStock.

#### cStock Overview

- Uses basic GSM phones <u>already owned by</u> CHWs project did not provide phones to CHWs
- Collects <u>minimum</u> logistics data CHWs sends stock on hand and receipts data via SMS on between 8 to 19 products
- cStock calculates resupply quantities for each HSA and transmits to HCs; reducing the need for HC to make the calculation
- A web-accessible dashboard with simple, easy-to-use reports designed with feedback from users in country

Example Costs: \$76,000 to develop and set-up, monthly running costs of \$3-4,000 (for 3,000 CHWs)

#### What we have learned since launching cStock...

- For small scale systems like cStock, using *The Cloud* is cheap, reliable and easy to manage as it does not require recruiting and training your own IT support staff, procuring or maintaining a server.
- Customising an already existing tool saves money and time, but must meet all your requirements.
- Plan for an iterative design approach so users can give feedback and the system can be upgraded to meet their needs.



The EM intervention introduced **District Product Availability Teams** (**DPATs**) and **Performance Plan** initiatives to **encourage teamwork and motivation**.

# Tools Introduced

- ✓ Resupply
  Worksheet
- ✓ Management Diary

#### SC4CCM Key

### Learning

DPATs have proven to be an important complement to cStock. DPATs continuously "demand" updated data that cStock "supplies," thereby reinforcing the importance of the data and motivating CHWs to continue reporting.

#### **Enhanced Management (EM)**

#### **DPAT/HPAT Meetings**

- Quarterly Meetings with District staff and CHW supervisors
- Monthly Meetings with HC and CHWs
- Clear agenda set for meeting
- Topics discussed include
  - Performance plans & recognition
  - Indicators on reporting rates, lead times, expiries, and product availability
  - Actions plan developed

#### 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



#### **Intervention Timeline**





Joint monitoring and supervision (District IMCI coordinators, SC4CCM) of DPAT uptake and sharing quarterly results on performance

### cStock Development – 6 months

EM Test Period- 15 to 18 months



### **End Result -** By targeting all **three elements of goal state supply chain through EM** at the community level, Malawi saw quantifiable improvements across the board.



#### **DPAT Results**

- ✓ 84% of CHW supervisors report DPAT meetings were held
- ✓ 96% of CHW supervisors report conducting a HPAT meeting
- ✓ 100% of District & CHW Supervisors reported finding product availability teams useful



#### cStock Results

- ✓ 94% of CHWs in intervention districts use cStock for requesting products
- 91% of Drug Store ICs in intervention districts use cStock to determine by how much to resupply CHWs, and more than half (56%) prepack orders, saving CHWs time for collection

Districts with DPATs performed better than EPT districts

- ✓ Reporting rates in EM group were **10% higher** than other districts: >90% compared to >80%
- ✓ Completeness of reporting in EM groups was on average 13% higher
- ✓ HCs in EM group took on average **7.6 days** to respond after a request compared to 13.5 days.

#### **Product Availability Results**

62% of CHWs had the 4 tracer drugs\* in stock DOV (compared to 27% BL) CHWs in EM districts using cStock had 14% fewer stock outs or low stocks than other districts

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



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#### Rwanda has implemented...



- 1. A demand based resupply system
- 2. Leveraging a **manual** data collection process
- 3. Bolstered by a **teamwork and an** incentives/motivation programme



#### **Rwanda Overview**



#### **Country Context**

- CCM was initiated in Rwanda in 2009
- Rwanda has 30,000 community-elected, volunteer CHWs (binomes) who provide CCM services across 15,000 villages
- Cell Coordinators (CCs) are experienced CHWs that serve as liaisons between CHWs and HCs
- CHWs and CCs are volunteer positions

#### **Baseline Findings**

- 49% of CHWs had five CCM tracer drugs on stock on day of visit
- 18% had insufficient storage
- Standard resupply procedures do not exist
- CHWs reported lack of motivation to travel to collect supplies due to lack of compensation for time/travel



#### **Intervention Overview**

Standard Resupply Procedures (RSP)

Design simple tools and procedures to ensure CHWs always have enough CCM products to serve clients Quality Collaboratives for Supply Chain Improvement (QCs): Establish network of HC-based improvement teams with shared goals

Incentives for Community Supply Chain Improvement (IcSCI): Leverage existing performance-based financing scheme to incentivize CHWs

# Standard Resupply Procedures were well received in Rwanda and created the foundation for good stock management.

large number of CHWs.



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# The QC intervention in Rwanda facilitated **peer-to-peer learning** and **problem solving.**



#### **QC Highlights**

- In-person team meetings
- Collaborative HC problem solving
- Cross-district knowledge sharing
- Formalized action plans

#### **Country Context**

In Rwanda, team structures, called cooperatives, exist and are highly valued.

QC was able to expand upon this foundation to drive community level SC improvements.



The IcSCI intervention evaluated the effect of **9 community health supply chain incentives** on consistent, accurate usage of **resupply procedures**.





#### **Intervention Timeline**







End Result - By targeting all three elements of goal state supply chain at community level, Rwanda saw quantifiable improvements across the board.

#### **RSP Results**

- Significant difference in stockcard availability with 83%-98% CHWs with stockcards on DOV compared to 65%-83% in comparison group
- High levels of competency in completing resupply worksheets; 83% CCs were able to enter correct quantities required

#### **QC** Results

- 75% of expected members attended QIT meetings
- 100% of HCs documented progress using the Monthly Documentation Journal
- 77% of HCs could show their completed Q3 action plan



#### IcSCI Results

- 96% of CCs were able to show complete Supplemental SC checklists in the last quarter
- All three districts showed significant improvement in three SC indicators across 4 quarters

#### **Product Availability Results**

In both intervention groups in Rwanda, more CHWs had all 5 products in stock on day of visit than the comparison group; the QC group had **25% greater Product Availability,** the IcSCI group had **7% greater Product Availability**.



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#### Ethiopia has implemented...

Ethiopia is currently transitioning to a demand based resupply system.

Therefore, SC4CCM focused on strengthening the system through Effective People initiatives.



 Ready Lesson/Problem Solving (RL/PS) training approach in conjunction with roll out support


#### **Ethiopia Overview**

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#### **Country Context**

- ICCM provided by 38,000+ Health Extension Workers (CHWs)
- CHWs are a paid cadre of the MOH
- Each village has one health post (HP) staffed by 2 CHWs
- CHWs are trained to provide 16 packages of preventive and curative health services and manage over 55 commodities

#### **Baseline Findings**

- Only 20-40% of HPs had all ICCM products needed in stock on DOV
- Only 11% of CHWs and 8% of HC staff had received SC training
- Inadequate storage conditions existed
- 66% of CHWs reported lack of transport as a major constraint for resupply



#### Intervention Overview

Identify the most affordable, practical, scalable and effective training approach for providing SC "basics" to CHWs

#### **Intensive Group:**

#### 8 woredas in 4 regions

- Ready Lessons/Problem Solving training of trainers for HC staff (*RL/PS*)
- Roll out support from Woreda (district) management

#### **Non-Intensive Group:**

8 zones in 4 regions

 Ready Lessons/Problem Solving training, of trainers for HC staff (*RL/PS*) Supply chain knowledge and basic skills can be effectively taught through utilization of existing activities, using modular content imparted by health center storekeepers in non-traditional learning settings.

Ready Lessons/ Problem Solving (RL/PS)	The introduction of Primary Health Care Unit (PHCU) in 2012 included mandatory monthly meetings between HC and CHWs focused on <b>attitudes, skills and supplies.</b> "Ready lessons" are short, self- contained lessons that can be used <b>individually or in combination</b> and in any order.	<ul> <li>RL Included:</li> <li>Introduction to IPLS</li> <li>Completing the Bin card</li> <li>Reporting and resupply, HPMRR</li> <li>Receiving &amp; physical count</li> <li>Proper storage of pharmaceuticals</li> </ul> PS Included: <ul> <li>Why tree root cause analysis</li> <li>Problem solving tracking tool</li> </ul>
Roll Out Support	<ul> <li>Conducted joint support to HCs and select HPs with Woreda staff</li> <li>Assessed progress of HCs in cascading 5 RLs and PS</li> <li>Provided OJT to HC store managers and select CHWs</li> <li>Advocated for HC director to maintain monthly meetings with CHWs</li> <li>Provided Trainer Guide, Flip Book, and PS briefing to Woreda logistic officers</li> <li>Developed action plans with HCs of activities to be done before next visit</li> </ul>	

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### **Intervention Timeline**



#### **Country Context**

Conducting orientation with zonal and woreda staff proved to be critical for attaining buy-in and ensuring alignment with intervention goals across all levels of supply chain.





End Result – Training coverage and CHW competency increased as a result of the SC4CCM intervention.



#### **Intervention Results**

Survey conducted **six months** after training included a competency test for CHWs.

#### **Training Coverage**

- **54% of CHWs** surveyed across all groups had been trained, a five-fold increase over baseline.
- Coverage was higher, 84% of CHWs in intensive areas where HC staff received roll out support.

**CHW Competency** varied by task:

- On average CHWs scored highest for starting a **bin** card (85%).
- Lower for the most complicated skill of completing the Health Post Monthly Report and Resupply form (49%).

#### **CHW Knowledge**

 77% of CHWs in Ethiopia knew they should submit reports to the health centres compared to 5% at baseline.



### **Translating Evidence Into Action: Country Scale Up Packages.**



MOH and partners in all three countries developed consensus on elements of intervention to implement nationally based on review of effectiveness, affordability and value of intervention.

	SCa
Malawi Product Flow Boy Boy Boy Boy Boy Boy Boy Boy Boy Boy	Entire EM packa modified slightly during impleme
Rwanda	RSPs and the qua component of Q sessions and two discarded based during implement
Ethiopia	The national trai

#### le Up Packages

ge (cStock plus DPATs), / through lessons acquired ntation.

#### **Scale Up Plan**

MOH leading a consortium of partners - WHO, Save the Children and SSDI - to scale up to ALL 29 districts by mid 2014.

ality improvement team Cs will be scaled up. Learning o tools from QC intervention on cost and lessons acquired ntation.

Being scaled up to ALL 30 districts. MOH has included RSP and QIT curriculum into CHW integrated training package.



ning curriculum for IPLS for HEWs has been revised to incorporate both a group training and OJT approach using modular lessons and problem solving skills for health center staff.

The modified curriculum is being rolled out to 300 of the remaining HCs.



# Achieving the greatest supply chain benefits will require an investment in time and money, costs will depend on system structure.



**Long term cost/benefits** not known yet; potential for Malawi to have low cost/benefit ratio due to improved data and decision making as a result of cStock.

	Extent of Benefits Achieved			Design &	
		Product	Data	Effective	Start-Up Costs
L. Product Flow 3. Effective Pople	3,000 CHWs 29 districts	Flow High Reduced stockouts	Flow High Visibility at all levels, Data used for resupply	People High Trained, motivated CHWs, Functional teams	<b>+++</b> . Highest cost and level of effort to design, implement. <u>Cost factors</u> : training CHWs directly; monthly SMS fees, system maintenance / data hosting.
Rw: Product How 2. Dat Row 3. Effective People	anda 30,000 CHWs 30 districts	<b>High</b> Improved product availability	<b>Medium</b> Data used for resupply	<b>High</b> Trained, motivated CHWs, Functional teams	<b>++.</b> Mid-level cost and effort to design, implement. <u>Cost</u> <u>factors</u> : allowances/incentives; savings by training CCs only using cascade method.
					<b>+</b> . Lowest cost and effort for
Eth Part Part Part Part Part	30,000 CHWs 69 districts	N/A	N/A	Medium Trained, motivated CHWs	design and implementation. <u>Cost</u> <u>factors</u> : supervision; savings by training and empowering HC staff to train CHWs and problem solve.





What **similarities and differences** do you see between the community supply chain challenges in your country and those faced in Malawi, Rwanda and Ethiopia?

What interventions that were tested and proven successful in Malawi, Rwanda or Ethiopia do you think could be **useful in your country** in improving the community health supply chain?

**Why** do you think the interventions you chose could work? Why wouldn't the other interventions work?





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Explore options for supply chain improvements

a. Product Flow

b. Data Flow

3

c. Effective People

Highlight implementation lessons learned for introducing community health supply chain improvements





The tool considers the **three elements in this order** to explore the options for the community health supply chain.

#### **Collaborative Decision Making Process:**

- 1. Product Flow decisions will be discussed first because how you choose to resupply CHWs determines required levels of Data and Effective People.
- 2. Because Data Flow decisions directly build upon Product Flow decisions, this step will come second.
- 3. Effective People decisions and needs will vary based on how Products and Data Flow through the system so this is considered last.



The decision making cycle is a continuous process that should be repeated with decisions reviewed as programs mature and new goals and objectives are set.





 In Ethiopia, as logistics system is in transition CHWs currently receive a fixed quantity of ICCM products through kits

- In Rwanda, resupply was unstructured, but is now demand based with formalised standard resupply procedures
- In Malawi, resupply is demand based, previously using non-standardised forms, but moving towards universal use of data from cStock, an sms-based mHealth system

Resupply of products can be considered in three categories...

#### Unstructured

No rules or process drives resupply

#### **Fixed Quantity**

Resupply of a standard amount occurs regardless of actual demand Example: pre-packed kits

#### **Demand Based**

Resupply quantities are based on reported consumption

Example: Logistics Management Information Systems (LMIS)



Rwanda baseline data highlighted that **inconsistent processes were being used** by health centres.

#### **SC4CCM Best Practice**

Following processes consistently will improve product availability.

In Rwanda, prior to the interventions, Health Centres were asked how they determined resupply quantities...



A **lack of consistency** in responses indicated that there were **no harmonised procedures** for determining resupply quantities for CHWs.

Rwanda therefore had an '**Unstructured**' Resupply mechanism.





### **Section C:**

How are CHWs in your program resupplied?

Is the process for resupply the same for all CHWs?





# SC4CCM field work found **demand based resupply systems** to be the most effective in achieving **high product availability.**



	Unstructured	Fixed Quantity	Demand Based
Inventory Management	<ul> <li>High potential for stock- outs</li> <li>Potential for oversupply and expiration of products</li> <li>Inefficiencies in the system as need is not predictable</li> </ul>	<ul> <li>In the absence of data allows for somewhat informed resupply</li> <li>Potential for oversupply and expiration of products</li> <li>Potential for stock-outs when demand peaks unexpectedly</li> </ul>	<ul> <li>HCs can allocate stock based on individual need and better respond to shortages</li> <li>High visibility of stock levels – can respond to stock imbalances</li> <li>Requires access to timely, accurate data</li> </ul>
Storage Practices and Conditions	<ul> <li>Lack of defined SC processes often means lack of storage guidelines</li> </ul>	<ul> <li>Oversupply may result in improperly stored products</li> </ul>	<ul> <li>Storage space can be accommodated to match demand or vice versa</li> </ul>
Distribution	<ul> <li>CHW makes irregular 'just in time' visits to health centre</li> <li>HCs aren't prepared with products needed</li> </ul>	<ul> <li>Typically set delivery schedule</li> <li>Often no mechanism for HCs to respond to shortages between kit delivery</li> </ul>	<ul> <li>CHW trips to health centres are minimised</li> <li>Health centres more prepared with products needed</li> </ul>

# Demand based resupply of products results in the **best product** availability, stock transparency, and distribution efficiency.









### CHWs in Malawi, Ethiopia, and Rwanda recognise the value of demand based resupply.

## CHW – Kasungu, Malawi

"In the past we used to travel to the health facility, first and we could go two or three times to HF with no drugs made available to us....now we only travel when the products are ready."

## PHCU Director – Ethiopia

"Before [the intervention], the supply amount is vague due to no reporting. Now we leverage tools (Bin card and HPMMR) and communicate frequently and efficient between HC staff and HEWs (CHWs)."



# CHW Supervisor – Bugesera, Rwanda

"Before...there was total chaos as CHWs could come to the pharmacy any time to request for products. This would create endless congestion and out of stock for products. We could not know who has taken what or who still has products in stock."

# **Demand based resupply systems** are more costly and complex to set up, but offer better performance over the long term.





#### **Cost-Benefit Impact by Resupply System**

#### **SC4CCM Best Practice**

Programmes striving for high levels of product availability should eventually aim for a demand based system: fixed quantity systems will always result in some over-stocking and become costly in terms of waste at higher levels of overall availability. **Fixed quantity systems should only be used for a limited period** until a demand based system can be established.



Before designing a demand based resupply system, **review** the **implementation and maintenance prerequisites**. These capabilities **may need to be developed** before launching program changes.

# Reliable replenishment operations at high levels in the supply chain

- \* Routine Quantification\*
- Product availability at the community level is not possible without sufficient quantities of products at the national, district and health centre levels to meet the needs both at facilities and with CHWs.
- Regularly estimating program requirements will facilitate coordination and mobilisation of resources to secure sufficient financial resources for procurement of products.

#### **Data is available for resupply decisions**

Data is available at the resupply points so that resupply can be based on individual consumption.

#### □ Reasonable transportation between HC and CHW location

Demand based resupply only works if CHWs can feasibly make the trip to the HC on a regular basis.

#### □ Workforce skilled in fundamental supply chain practices

To implement demand based resupply, there must be sufficient funding to train CHWs in supply chain best practices and HCs in resupply based on consumption and how to support CHWs.

#### SC4CCM Key Learning

Product availability at the resupply point is necessary but not the only factor influencing availability for CHWs.

Results from Rwanda baseline showed instances in which **resupply points had stock, but corresponding CHWs were stocked out** and the reverse, where **CHWs had stock but the resupply point was stocked out**.







### **Section D:**

What does your community health supply chain have in place to support a demand based resupply system?









# Section E:

Is a demand based resupply system right for your community health supply chain?





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#### **Data Flow**

USAID

In Malawi, SC4CCM partnered with MOH and an IT vendor to **custom-build** a simple smsbased, web-enabled reporting system, **cStock**, which uses two data points from CHWs to provide HCs and districts with timely visibility into community consumption.



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The Data Flow for product consumption and stock data is critical to a demand based resupply system– there are **three categories** reporting systems fall into...

Misaligned<br/>Reporting SystemManual<br/>Reporting SystemmHealth<br/>Reporting SystemData flow does not support<br/>resupply decision makingConsumption and stock data<br/>is recorded in ledgers and<br/>physically transferredA specially designed mobile<br/>phone system to record and<br/>transmit consumption and/or<br/>stock data

# In Rwanda, CHWs reported to **multiple places**, but often not to the resupply point.

In Rwanda the flow of information was **not streamlined nor aligned** with the flow of products. CHWs used to report to multiple places, but not always the resupply point, so data was not available for good decision making.



#### **SC4CCM Best Practice**

Having a clear and standard procedure for how and where to report data is a critical.

The right data must be available at the resupply point to allow for demand based resupply, and available at the central level for quantification.







# **Section F:**

Do you have a data reporting system for the community health supply chain?

If yes, does it need improvements?



mHealth Systems are powerful tools to support demand based resupply systems because they are the **most effective way to obtain timely and accurate data** for supply chain decision making.



	Misaligned System	Manual System	mHealth System
Data Availability	<ul> <li>Lack of visibility into stock levels by decision makers</li> <li>CHWs reporting data not used to make resupply decisions – waste of time</li> <li>No data available for quantification and planning</li> </ul>	<ul> <li>Data capture requires availability of forms</li> <li>Data transmission requires transportation of forms delaying availability of data</li> </ul>	<ul> <li>Faster capture, processing, and transmission of data</li> <li>Low level of effort required for reporting</li> <li>Reporting requires network connection and charged mobile phone</li> </ul>
Data Accuracy	<ul> <li>Less motivation to report accurate data</li> <li>If data being reported to multiple places higher likelihood of double counting or missing data</li> </ul>	<ul> <li>Human element introduces potential for error</li> <li>Potential for error increases as data is summarized for more aggregated views</li> <li>Verification of data takes longer because review of paper based forms required</li> </ul>	<ul> <li>Automating calculations minimizing error</li> <li>Automating error identification, minimizing reporting discrepancies</li> <li>Enables more frequent and streamlined data verification</li> </ul>



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mHealth Systems are powerful tools to support demand based resupply because they are the **most effective way to obtain timely and accurate data** for supply chain decision making.

	cStock Results	mHealth System
Data Availability	<ul> <li>94% of CHWs in Malawi report monthly stock data to HCs using cStock</li> <li>59% of CHWs spend 20 mins or less to report using cStock compared to 89% who spend more than 20 mins submitting paper reports</li> </ul>	<ul> <li>Faster capture, processing , and transmission of data</li> <li>Low level of effort required for reporting</li> <li>Reporting requires network connection and charged mobile phone</li> </ul>
Data Accuracy	<ul> <li>99% of CHWs report cStock saves time in submitting reports</li> <li>Receiving data by cStock enables 56% of HCs to prepack orders for CHWs, saving wait times of over an hour when paper reports are used</li> <li>District managers access current CHW stock and consumption data at least once per week using the cStock dashboard</li> </ul>	<ul> <li>Automating calculations minimizing error</li> <li>Automating error identification, minimizing reporting discrepancies</li> <li>Enables more frequent and streamlined data verification</li> </ul>



### **Response to the mHealth System in Malawi is overwhelmingly** positive.



#### **Health Facility**

"[Before the mHealth system], we used to work everyday because we would never know when CHWs were going to come to the HF for

resupply."



"the report goes the fastest and gets me the supplies I need in time, whilst the paper form can take 3 days."

#### **CHWs**

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





If an mHealth System is not feasible in the short term, manually supporting a demand based resupply system can be a viable option.

# **Example Process...**



CHWs **log stock on hand** on standardised template or stock card.



CHWs bring stock card to the HC for their monthly meeting; HC uses **standardised formula for calculating resupply quantities.** 



CHWs collect products from the health centre on a **routine and consistent schedule.** 



Rwanda implemented a simple resupply process supported by manual tools which resulted in greater product availability in the intervention groups.



mHealth Systems are more costly and complex to set up, but offer **better performance and cost effectiveness at large scale**.







#### SC4CCM Best Practice

To realise the potential of a demand based system, **mHealth and manual systems will require training and rollout support** to implement new processes and skills at community level. If these investments are unaffordable, a fixed quantity system may be a better alternative than partially implemented demand based systems.





# Is my community health supply chain a candidate for an mHealth System? Understanding the system requirements is key.

#### **Reliable mobile coverage**

mHealth Systems rely on CHWs being able to text stock on hand data and receive order ready confirmations reliably.

#### **G** Funding

*mHealth Systems will require an upfront investment in designing or customizing technology and training users.* 

#### □ Internet connectivity (minimum at central level)

*System data will be viewed and monitored via the web requiring access for managers and decision makers at higher levels.* 

#### Organizational unit able to administer and manage the mHealth system

Software and data hosting server maintenance, telco contract management and general administration of adding/deleting and helping users is required for successful implementation.

According to a 2010 Gallup Survey, **57%** of adults in sub-Saharan Africa **have mobile phones**.

But of the 17 countries surveyed, penetration ranges from 16-84%!

Gallup World, 2011





### What does it take to run a manual demand-based system?



#### **Reliable availability and distribution of manual tools**

Printed forms and/or tools must be managed, updated, and available at all levels of the supply chain.

#### Data collection

Clear roles and responsibilities must exist around data collection so that it data flows from the community level up to the levels that need it to make decisions.

#### Data managers for data processing and dissemination

In a manual system data managers have to compile and aggregate data so it can be used for performance monitoring; if a data manger position does not exist, it must be created.

### All data reporting systems require the following:

# Managers skilled in understanding, interpreting and using data and reports

Training in how to review and use data and reports from the manual reporting system for make resupply decisions and monitor performance is necessary for ensuring product availability.

#### Resources for initial and on-going refresher training

Due to high turnover of staff at lower levels of the system, refresher training is important to ensure that everyone has basic skills and understands their role.







# **Section G:**

Is your community health supply chain ready for an mHealth system for data reporting?



TTEP



## **Section G:**

Can you set up a simple and affordable manual system?

Or can you make an existing one work better?



**Resupply Poir** 





# **Section H:**

What data reporting system is most appropriate for your community health supply chain?





## Agenda for the session...

Introduce the elements that define a high performing community health supply chain

Country proven experiences in improving community health supply chains

Explore options for supply chain improvements

a. Product Flow

b. Data Flow

3

c. Effective People

Highlight implementation lessons learned for introducing community health supply chain improvements



Effective People Effective People extends strong organisational requirements to lower levels and ensures that you get the **most out of your resupply system.** 

#### Management

Teamwork

#### **Motivation**

Focuses on having appropriate organisational placement for supply chain activities, clear roles and responsibilities, training, supervision, leadership support and overall compliance to resupply policies Provides the structure and format to facilitate group problem solving across the different levels of the community supply chain

Ensures that CHWs and HCs are recognized for their efforts and their impact on the community level supply chain performance Because they are **interconnected**, improvements should be made in **all three areas to drive maximum benefit**.



Significant benefits are generated when all 3 areas are in place and working together

- Alignment of individual goals within the team
- Better working relationships between levels of the system and support from management
- Improved awareness of the importance of maintaining supplies of CHW commodities

- Awareness of supply chain performance and continuous improvement
- Greater motivation at all levels to perform supply chain roles
- Improved product availability at resupply points




Clear management practices ensure that **resupply is executed** in the **manner it was designed** and that **each member** in the supply chain knows and is supported in their role.



#### CHW Supervisor – Ngoma, Rwanda

"[Prior to new resupply procedures] it was jungle law and often many CHWs went away empty handed. The quick ones took away too many drugs which kept expiring in the community...As a result of all this confusion, [we] were in constant conflict with pharmacy staff...now...total harmony reigns between us and the pharmacy staff. No unnecessary drugs are expiring."

#### CHW – Yilma Densa from Ethiopia

"We were able to do physical inventory as a result of taking IPLS training. We did not know why and how inventory is done before."

#### CHW – Sorro from Ethiopia

"After the training I separated all products I had in my store based on their category. I arranged them based on FEFO and undertook physical inventory for each product and I also opened BIN card for each product after the physical inventory was done. We didn't do things this way before."



#### In Rwanda...

CHWs highlighted their appreciation for and the value of having CCs conduct home supervision. CC visits were perceived to greatly improve communication between CHWs-HCs and to help with reinforcing resupply procedures s and skills...

And they reported that **if they receive feedback** on what they are doing **they are encouraged to put forth more effort** and improve.





## Teamwork throughout the levels of the supply chain promotes continuous improvements in supply chain tasks and performance



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2

3

#### What Works

Implement <u>regular occurring</u>, face-toface meetings that bring together the different levels of the supply chain

- HC meetings focused on CHW/HC issues
- District meetings focused on cross-HC issues
- HC and District trained on how to facilitate problem solving sessions

Meetings are learning sessions <u>focused</u> on group problem solving and coaching; they have a clear agenda and are not just "updates"

Teams <u>record SC issues</u> and <u>create action</u> <u>plans</u>

#### **SC4CCM Results**

 In Malawi, 100% of District and CHW
Supervisors reported finding team based meetings useful.

In Rwanda, **100%** of those who attended Learning Sessions **reported learning something** that helped **improve supply chain** performance in the district.

In Rwanda, 97% of HCs reported that they received at least one visit from a district coach and 77% said the visits were either very good or outstanding.

In Malawi, **100% of District Coordinators** used documentation **to track** actions/decisions.



#### Pharmacy Manager – Ngoma, Rwanda

"[Team problem solving meetings] built such a good relationship along the entire chain. For me the biggest prize has been to learn how to work on plan and be able to achieve it every month."

#### CHW Supervisor – Nyahibu, Rwanda

"[Team problem solving meetings] were very important. Each group would exhibit their achievements and challenges. This allowed us to learn from those who had faced a similar challenge in the past and how they solved it."

#### Health Centre – Nsanje, Malawi

"We use the papers where the vision, mission and the targets are recorded and we always refer to the targets when having [team problem solving] meetings."



What the CHWs in Malawi reported discussing in their team meetings...

#### Nsanje –

"We talk about our reporting rate and how best to improve it, the products."

#### Kasungu –

"Sometimes it happens that you receive less products when you see more cases, we discuss how best to cater for the cases."

"For the drugs used, we compare the cases and drug consumption and we are able to report if the work done has achieved completeness." **Maintaining** a supply chain focused on **performance** and continuous improvement **requires a workforce that is motivated** to execute well.





#### CHW – Nkhotakota, Malawi

"sometimes when we are in our meeting the MA compliments one of the [CHW] and when he does so, we are motivated as well to perform better so that we can be complimented."

#### CHW – Nkhotakota, Malawi

"For us, when he recognises that I am doing a good job in-front of my colleagues, that is good, just the recognition suffice it all."



### In Malawi, CHWs reported they may get these if they perform well:

- encouragement, praise, certificates, promotion
- post one's picture in the newspaper
- display CHW profile at district health office
- attend national meetings and recognition at meetings
- have a party at the district
- travel to other facilities to share best practices
- travel locally or internationally
- bicycle, money, cloth material, clothes/ t-shirts
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Remember...when designing Effective People programmes, Management, Teamwork, and Motivation all need to work well together to improve overall supply chain performance.









### **Section I:**

How effective are the people working in your community health SC and the organisation which supports them?

## How do you support the staff in your supply chain?









What actions could be taken to make the people working in your community health supply chain more effective in ensuring product availability?





### Agenda for the session...

2

Introduce the elements that define a high performing community health supply chain

Country proven experiences in improving community health supply chains

Explore options for supply chain improvements

Highlight implementation lessons learned for introducing community health supply chain improvements



### We recommend a **3 step implementation approach**; activities may vary based on desired 'goal state'.





#### **Programme Management**

- Identify and engage stakeholders, gain input and participation in design, implementation if possible
- Assign roles and responsibilities ; identify unit to provide supply chain leadership
- Create timeline/roadmap for implementation, build foundation for institutionalisation

### $\bigstar$

#### **SC4CCM Best Practice**

Ensure all key stakeholders are involved and informed throughout the process to build broad/joint ownership that will outlast the initial pilot phase



### Lessons learned from implementations in Malawi, Ethiopia, and Rwanda – **Design Phase.**







## Lessons learned from implementations in Malawi, Ethiopia and Rwanda – Build & Test Phase.



### Lessons learned from implementations in Malawi, Ethiopia, and Rwanda – Implement & Refine Phase.



#### Invest in follow up training and support

Anticipate the need to train new staff and do refresher trainings. Train trainers that are based locally (i.e. district level) so they can continue to meet long term training needs.

#### **Share Lessons Early**

Draw and share lessons continuously with other stakeholders to fast track overall improvement.



## Lessons learned from implementations in Malawi, Ethiopia, and Rwanda - Organisational Capacity.



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## Lessons learned from implementations in Malawi, Ethiopia, and Rwanda – Quantification.



#### **Key Lessons Learned**

#### **Quantification and Coordination**

#### **CHW Consumption Data**

Ensure consumption and stock data from the CHW level is visible in disaggregated format at higher levels, rather than aggregated with HC data.

#### **Routine Updates**

Community health programs take time to mature, so regular trends in use of services and disease seasonality may take time to emerge; forecast data should be reviewed and the supply plan updated regularly.



#### Coordination

Health products used for CCM may be funded or procured by multiple programs or donors; therefore it is important to coordinate estimated need, funding, and procurement plans to ensure adequate stock levels

#### Advocacy

Estimating community health program needs as a subset of national need provides information to advocate for sufficient quantities of supplies to reach the last mile.



**SC4CCM Key Learning** – Promote equitable access to products at community level

CHWs are the last level of the supply chain and most vulnerable if there are insufficient quantities of products in the system; quantification must account for all levels of the system and HC / CHW treatment goals must be aligned so that HCs share products with CHWs – even when there are shortages.

### Lessons learned from implementations in Malawi, Ethiopia, and Rwanda – Strong Organisations.





# What have we learned so far?







### Making a Plan for Improvement







- How can you gain buy-in for these changes?
- What range of capabilities will you need to implement your plan?
- What information is required to begin the design phase?
- Who can champion this improvement process?





# SC4CCM would like to acknowledge and thank its key partners in this work, the Ministries of Health



# and community health workers everywhere working hard to improve the health of children

