



Supply Chains **4** Community Case Management

Ethiopia

Intervention Strategy for Improving the Community Health Supply Chain

Implementation and M&E Plan

October 2011 – October 2014



Ethiopia

Intervention Strategy for Improving the Community Health Supply Chain: Implementation & M&E Plan

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SC4CCM Project

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Abstract

In 2010, the SC4CCM Project conducted a baseline assessment of the community health supply chain in Ethiopia. Based on the results of the baseline assessment, SC4CCM developed interventions to learn how to significantly improve CCM product availability at the community level and strengthen the community health supply chain accordingly. This implementation plan presented to the FMOH includes the basis for how the interventions were developed and the anticipated methods for monitoring and evaluating the impact of the interventions.

Cover photo: HEW assessing sick child at Amharit Health Post, SC4CCM Project 2012.



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Acronyms

ACT	Artemisinin-based combination therapy
CCM	community case management
FMOH	Federal Ministry of Health
HEP	health extension program
HEW	health extension workers
HC	health center
HF	health facility
iCCM	integrated community case management
IMCI	Integrated Management of Childhood Illnesses
KII	key informant interviews
LIAT	Logistics Indicators Assessment Tool
LMIS	logistical management information system
LQAS	lot quality assurance sampling
LSAT	Logistics System Assessment Tool
ORS	oral rehydration solution
PFSA	Pharmaceuticals Fund and Supplies Agency
SC	supply chain
SC4CCM	Improving Supply Chains for Community Case Management Project
SCM	supply chain management
SOPs	standard operating procedures
TOC	Theory of Change

Executive Summary

In Ethiopia, SC4CCM's objective is to collaborate with the Pharmaceutical Fund and Supplies Agency (PFSA), Federal Ministry of Health (FMOH), Regional Health Bureaus (RHBs) and integrated community case management (iCCM) and supply chain partners to learn how to significantly and sustainably improve product availability at the community level. The project believes that learning how to significantly improve supply chain processes for iCCM and other products managed at the community level will lead to significant improvements in product availability at the community level, and ultimately enhance the ability of community health workers or health extension workers (HEWs) to better serve their clients.

SC4CCM, in partnership with JaRCO conducted a baseline assessment of the community health supply chain in July-August 2010. Results from the baseline were validated by health workers at all levels of the system and then used to identify chronic weaknesses in the community health supply chain. Intervention strategies were designed based on the premise that unless HEWs are provided with basic supply chain knowledge, skills and capacity to implement core processes and procedures, subsequent improvements aimed at significantly improving supply chain performance will not be feasible. An equally important criteria, especially given the large number of HEWs and challenges posed by the terrain and vastness of the country, was that all interventions needed to be affordable from a resource perspective if taken to scale and should be flexible so as to accommodate Ethiopia's diverse geography. Developing the strategy was an iterative process, as the project consulted widely with local implementers at all levels of the system and concurrently performed analyses on the sustainability of the approach.

The baseline results suggest that the preconditions that appear to drive product availability, or influence product quality, at the community level in Ethiopia are:

- Precondition 1: Product availability at the resupply point
- Precondition 2: Lack of basic supply chain knowledge and skills among HEWs
- Precondition 3: Poor storage conditions and inappropriate use of storage space at HP level
- Precondition 4: Transportation challenges, especially of bulky, heavy products, between the health post and resupply point
- Precondition 5: Lack of motivation of HEWs to perform their supply chain roles; only 2% of HEWs identified supervision as a motivating factor

Based on the results the project and its partners, PFSA, FMOH and RHBs, chose to take a two phased approach to the intervention strategy:

Phase I: IPLS ready lessons and basic problem solving. This intervention takes advantage of existing opportunities where HEWs and HC staff come together as a way to impart basic but important SC skills to HEWs.

Phase II: Strengthen implementation of the IPLS pull system for Health Posts. This intervention will involve intensive efforts to monitor and support HCs and HPs in operationalizing and adjusting procedures and will offer insights into possible solutions that can be applied across all regions.

Phase II: Testing the feasibility of a mHealth solution to improve data visibility. Taking advantage of the growing access to mobile technology by people in both rural and remote areas of Ethiopia the project

will demonstrate the value of using mHealth systems to make data visible and further enhance the efforts being made to strengthen the pull system.

All these components, approaches and activities have already been shared with and received approval and endorsement from PFSA, FMOH, RHBs and many other relevant stakeholders in Ethiopia. Activities for phase I will run from January to September 2012, following phase I there will be a midline survey to assess the impact of phase I and collect baseline data for phase II. Activities for phase II will begin in February 2013 and will run until June 2014, with the mHealth system being launched in the middle of 2013. An endline assessment to evaluate phase II activities will be conducted in July and August 2014. The project will likely seek a three or six month extension to the project timeframe in Ethiopia to enable sufficient time to measure the impact of the mHealth system.

Introduction

The purpose of this document is to share the implementation plan and M&E plan to support the rollout of the intervention strategies for improving the community health supply chain in Ethiopia. SC4CCM, in collaboration with the Pharmaceuticals Fund and Supply Agency (PFSA), Federal Ministry of Health (FMOH) and Regional Health Bureaus (RHB) in Ethiopia and its iCCM and supply chain implementing partners used a systematic process of collecting baseline data and applying it to a Theory of Change framework to best understand what aspects of the community health supply chain in Ethiopia needed improvement. In Ethiopia, the community health supply chain refers to the supply chain that delivers products to the health extension workers (HEWs) at their health posts. Using an iterative and consultative process, the project devised a series of interventions to address supply chain weaknesses at the community level. The process of developing both phases of the intervention strategy included wide consultation to gather input from local staff within PFSA and FMOH and other projects. The resulting interventions were geared towards identifying solutions that are feasible given the size of the country, diverse terrain and geography and the large number of HEWs.

There are two, successive phases to the Ethiopia intervention strategy. To significantly impact product availability in the Ethiopia context it is necessary to address the supply chain challenges in stages by first building the foundational SC skills of HEWs and their supervisors and then working to fully implement and strengthen the supply chain system.

This document includes multiple components in an effort to serve as a comprehensive reference for the testing phases of the project, including:

- Relevant excerpts from the baseline assessment data,
- A description of the Theory of Change both as a technical framework and as an M&E framework,
- The purpose and intent behind the intervention strategies,
- The explanation of our role in the implementation plan and the plan as a Gantt chart, and
- The M&E plan

The document pulls together all the pieces that provide the context for the learning phase the project is currently engaged in. All these components, approaches and activities have already been shared with and received approval and endorsement from PFSA, FMOH, RHBs and many other relevant stakeholders in Ethiopia.

Theory of Change for the Community Health Supply Chain in Ethiopia

In Ethiopia, SC4CCM's objective is to collaborate with PFSA, the FMOH and its iCCM and supply chain partners to learn how to significantly and sustainably improve product availability at the community level. The project believes that learning how to achieve significant improvements in supply chains for community case management (iCCM) and other products managed at the community level will lead to significant improvements in product availability for serving clients.

SC4CCM uses a Theory of Change (TOC) that serves as a technical framework for analyzing the performance of community health supply chains in its focus countries. SC4CCM has a project TOC, which serves as the umbrella framework for country-specific TOCs. While all the TOCs aim to achieve the same objective, the country-specific TOCs have variations in steps that constitute the causal pathways that are necessary to achieve that objective. The country level objective for all TOCs on the SC4CCM project is to achieve CCM product availability at the community level when, and in the quantities, needed in order to enable HEWs to treat common, curable illnesses of childhood in the community.

The TOC serves multiple purposes. From an operational perspective, the TOC provides a way in which data can be organized to guide strategic decisions about where in the supply chain to test interventions that are likely to result in significant improvements in product availability, and helps to identify the kinds of interventions that are needed. From a learning perspective, the TOC serves as a monitoring and evaluation framework to guide data collection, analysis and interpretation as well as to develop hypotheses and causal pathways for change within the community health supply chain. Each precondition leading up to the overall main country objective on the TOC has a corresponding indicator to provide an assessment of performance.

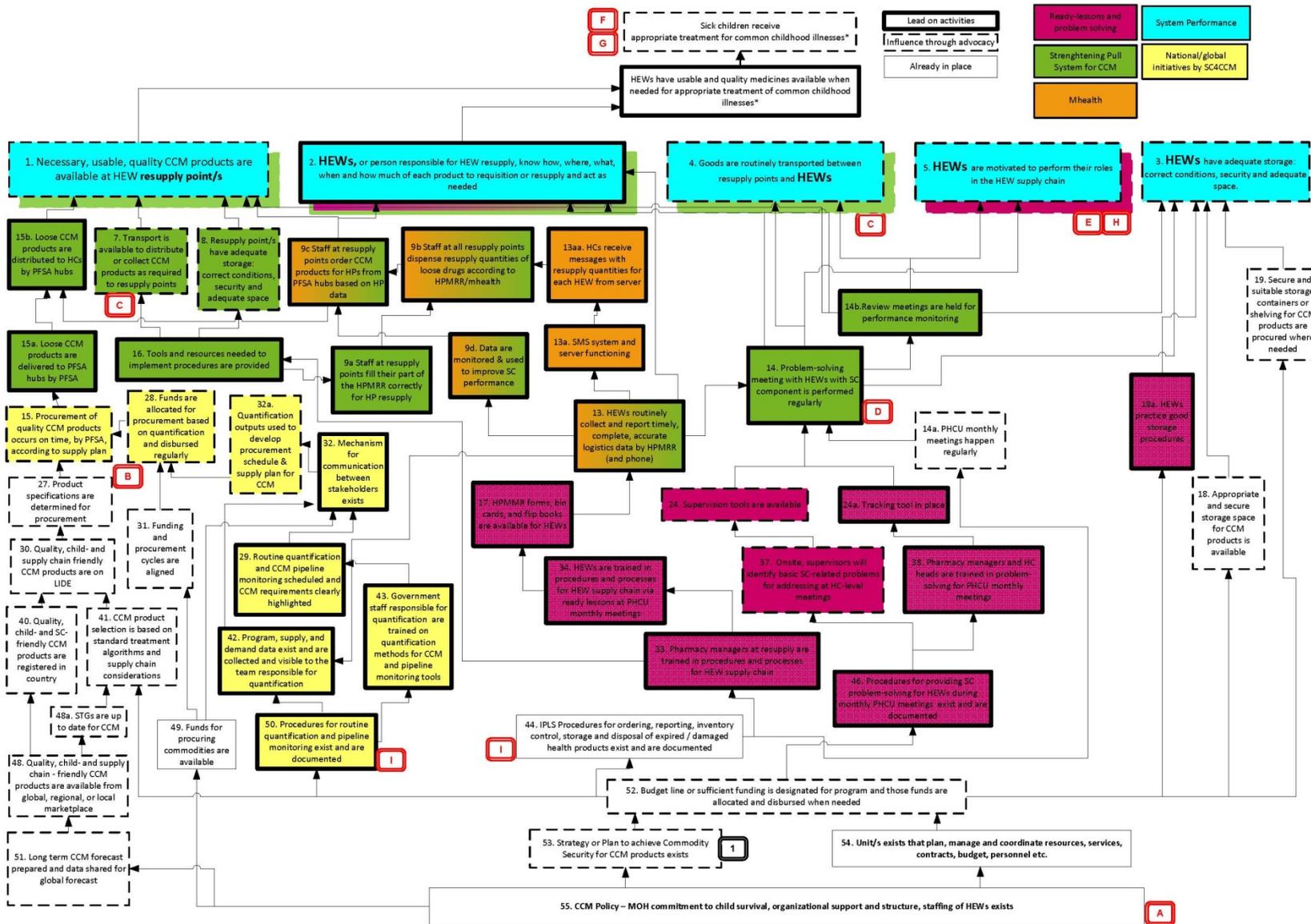
Figure 1 depicts the complete Ethiopia-specific TOC, with its causal pathways linked to each of the learning interventions being implemented. The second and third rows show the main country level objective and the five important preconditions that contribute to achieving the main objective.

Baseline Results from the TOC

To develop the Ethiopia-specific TOC, the SC4CCM project used the results from the baseline assessment in Ethiopia conducted from July to September 2010 that determined the overall performance of the community health supply chain as well as indicators for each of the five main pre-conditions of the Theory of Change. Product availability data was collected for 14 tracer products of the 55 managed at the community level. Full details of the baseline results are contained in a separate report¹. Organized by the TOC framework, the results enabled SC4CCM and its partners to identify the major drivers of product availability at the community level and use the results for multiple preconditions on the TOC to identify possible solutions to overcoming SC bottlenecks and barriers to product availability at the community level.

¹ SC4CCM. 2011. *Preliminary Report on the Baseline Assessment of Community Case Management Supply Chain*. Arlington, VA. SC4CCM.

Figure 1: Theory of Change Diagram



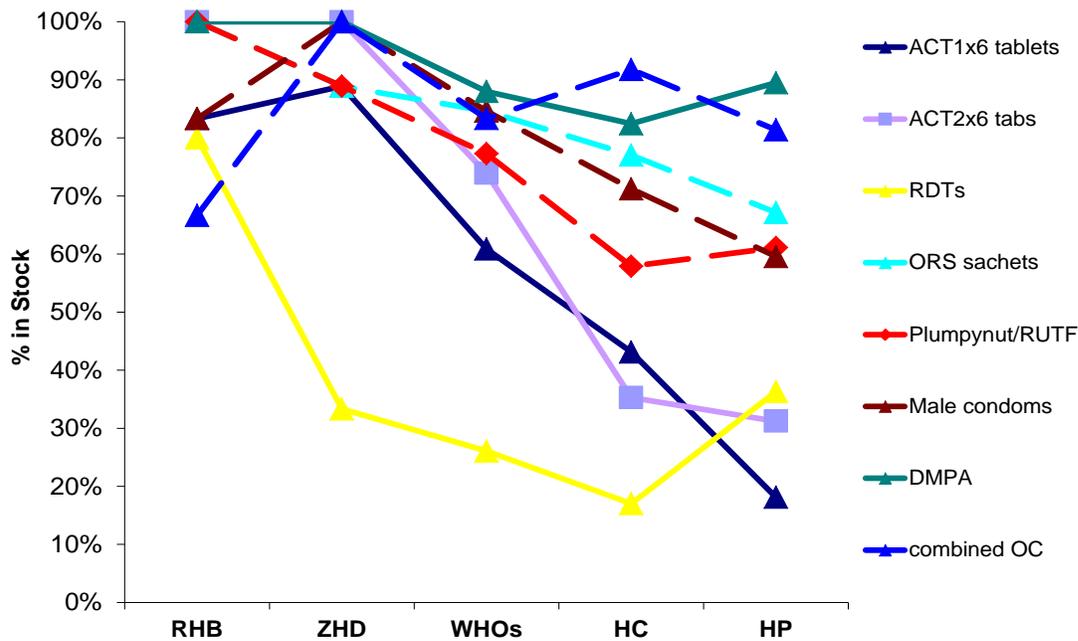
The baseline results suggest that the preconditions that appear to drive product availability, or influence product quality, at the community level in Ethiopia are:

- Precondition 1: Product availability at the resupply point
- Precondition 2: Lack of basic supply chain knowledge and skills among HEWs
- Precondition 3: Poor storage conditions and inappropriate use of storage space at HP level
- Precondition 4: Transportation challenges, especially of bulky, heavy products, between the health post and resupply point
- Precondition 5: Lack of motivation of HEWs to perform their supply chain roles; only 2% of HEWs identified supervision as a motivating factor

Precondition 1

For products to be available at the lowest level of the supply chain, they must also be available at the higher levels of the supply chain. Resupply points for health posts in this assessment are health centers (HC) and/or woreda health offices (WoHO). Figure 2 graphically represents the decreasing trend in availability of products when one goes down along the health system structure, with better availability of most products at higher levels of the system and overall product availability generally lower at the health post level, though this varies by product. However figure 2 also demonstrates that product availability at the resupply point is not the only driver of product availability at health posts as we see for DPMA and RDTs more health posts had these products available than at the resupply points.

Figure 2: Product Availability at All Levels



Precondition 2

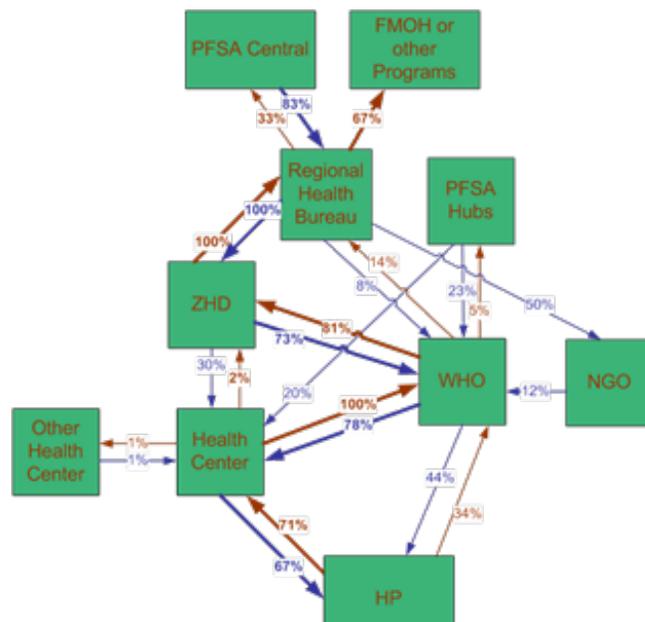
The assessment results identified a lack of basic SCM knowledge and skills among HEWs; only 11% of HEWs reported being formally trained on supply chain management. Of the 99 HEWs who report using forms for requesting health products: 43% reported learning through on-the-job training, 6% learned at a workshop and almost half (46%) reported they figured it out themselves. As only 8% of HC supervisor staff reported being trained on supply chain management the quality of on-the-job training is questionable. More than 60% of HEWs either submit requests when stock runs low or when they stock out rather than based on the monthly schedule as outlined in the standard operating procedures for the Integrated Pharmaceutical Logistics System (IPLS).

Essentially, the results show that basic supply chain knowledge and skills such as recording and reporting logistics data, preparing logistics reports, proper transportation, storage and handling of medicines, managing inventories using stock management tools and managing waste and expiries do not exist or exist at very rudimentary levels.

Another important finding related to the implementation of a standardized system. While IPLS represents the vision for where the public health supply chain is going under PFSA's leadership, at the time of the survey, the transition to IPLS was still in its infancy. Thus,

several information and distribution systems are operating concurrently with products flowing from multiple locations to HPs and information also flowing in different directions, as depicted in figure 3. Similarly, standardized tools designed under IPLS for managing commodities were mostly unavailable, with HCs and HPs using a variety of forms for commodity transactions. As an example, while 41% of HEWs reported using a form to request products, 80% of them used Model 20 which is not part of IPLS and does not provide sufficient data to manage the community supply chain.

Figure 3: Flow of commodities and information



Precondition 3

While storage was not necessarily a driver of availability per se, it has an impact on product quality. Results showed that HPs are plagued by poor storage conditions and inappropriate use of storage space. Very few health posts upheld all correct storage conditions, the majority met 4 to 6 of the 8 conditions assessed. The main challenges HEWs reported were insufficient shelving at HP and using the proposed storeroom as a living space.

Precondition 4

Transportation challenges between the health post and resupply point contribute to low product availability of some products, especially bulky and heavy ones. The majority of HEWs (71%) walk; 32% use public transport and 9% use animals to transport products from the resupply points. 66% of HEWs who reported problems related to collecting health products reported lack of transport as the major constraint. During the data validation workshops HEWs reported leaving some products behind if they could not carry all their resupplies, and when probed, admitted they were the low volume, bulkier products such as ORS, male condoms and RUTF.

Precondition 5

HEWs were asked to list the factors which motivate them to do their job better; HEWs identified motivating factors related to training, having the products and tools to perform their role and their relationship with the community. Only 2% of HEWs identified supervision as a motivating factor, perhaps because they reported that feedback was often not consistently provided.

Learning Hypotheses:

Based on the results from the baseline assessment and analysis within the context of the TOC, SC4CCM and its partners developed an intervention strategy for improving community health supply chains based on the following hypotheses.

Hypothesis I: *Supply chain knowledge and basic skills can be effectively taught to HEWs through opportunistic utilization of existing activities using modular content imparted by health center pharmacists in non-traditional learning settings.*

Hypothesis I will be tested during phase I of the intervention strategy; the SC4CCM project believes that a foundation of basic SC skills must exist first before further interventions to strengthen the supply chain and improve product availability can be implemented. This is supported in our Theory of Change where each causal pathway begins with the development of standard procedures followed by training relevant staff in those practices. Hypothesis I addresses the challenge of training a large number of HEWs in a country as large and geographically diverse as Ethiopia by using innovative teaching methodologies that make good use of existing resources and time through incorporating trainings into existing meetings held at the health center level with HEWs. A 12 month supply of tools to implement the standardized system are also distributed at the same time as training, thus reinforcing implementation of the new processes and promoting availability of tools previously not found at that level of the system.

Hypothesis II: *To implement a strong standardized system and provide a roadmap for integrating other commodity categories into IPLS, it is necessary to identify gaps and bottlenecks in the current implementation and provide ongoing support to adjust processes that will lead to effective supply chain outputs and ultimately improved product availability.*

Hypothesis III: *Implementing a mHealth system to capture logistics data at health post level for use in decision making by HCs and managers will demonstrate whether or not mobile technology is effective at improving data visibility at HPs, thereby further enhancing the pull system strengthening and improved product availability.*

Hypothesis II and III will be tested during phase II of the intervention strategy. Phase II focuses on supporting the HEWs and staff at resupply points to act on their new skills to operationalize a strong, robust supply chain for products to flow to the health post. In the Theory of Change this is depicted with hypothesis I activities making up the lower portions of the causal pathways, and hypothesis II activities appearing on the higher parts of the causal pathways as procedures' and processes are strengthened. Essentially hypothesis II acknowledges that implementing a standardized, robust supply chain in the context as complex as the one in Ethiopia's public health system will require a lot more than just training and availability of tools; the intensive efforts to monitor and support HCs and HPs in operationalizing and adjusting procedures will offer insights into possible solutions that can be applied across all regions.

Hypothesis III takes advantage of the growing access to mobile technology by people in both rural and remote areas of Ethiopia to improve visibility of community level logistics data. As it is not certain whether the current infrastructure, in terms of network coverage and mobile phone use, will support nationwide implementation of this solution, the purpose is to demonstrate the value of using mHealth systems to make data visible and further enhance the efforts being made to strengthen the pull system.

In addition to testing these hypotheses, SC4CCM is also working at the national level to support and build capacity in quantification and supply planning for CCM products. While the majority of the project's focus is on identifying supply chain solutions that address specific bottlenecks at the community level, product availability within the national pipeline is a critical prerequisite for ensuring product availability at the community level. Recognizing that a national level intervention is not within the project's mandate and that there are multiple donors and partners at the national level supporting commodity procurement, SC4CCM sees its role as a catalytic, advocacy and coordinating one to ensure that CCM products for HSAs are effectively and routinely quantified for and that sufficient funding can be made available for their purchase and availability.

Intervention Strategies for Improving Product Availability at the Community Level

Ethiopia's intervention strategy is divided into two phases, with the second building on activities completed during the first. During phase I SC4CCM in collaboration with PFSA and the USAID | DELIVER Project will provide national coverage of SC knowledge, skills and tools among HEWs consistent with IPLS for HPs to ensure basic processes and competencies are in place to contribute to *incremental* improvements in product availability. In the second phase, SC4CCM proposes to build on this foundation by strengthening IPLS down to the HP level by supporting all levels including HEWs to operationalize the system by applying their new skills, using tools consistently and reviewing and adjusting processes if necessary to ensure key products are available throughout the supply chain.

Figure 4: Description of phase I and phase II



Phase I: IPLS ready lessons and basic problem solving

The ready lesson and problem solving approach uses modular content and takes advantage of existing opportunities where HEWs and HC staff come together as a way to impart basic but important SC skills to HEWs to enable them to implement IPLS. Given that HEWs currently number approximately 30,000 and that the Integrated Refresher Training (for HEWs) lasts 30 days and does not currently include a pharmaceuticals management component, the challenge that PFSA, FMOH, and partners face is how to provide HEWs with basic pharmaceuticals management skills without undertaking the significant cost of providing classroom style training of all 30,000+ HEWs. The USAID | DELIVER PROJECT has been testing and implementing a model which emphasizes on-the-job (OJT) training for HEWs following a three day training for HEW supervisors and Health Center storekeepers. Evidence suggests that OJT is most effective after an initial group training event has occurred - without this initial training, the OJT is less likely to have a positive impact on pharmaceuticals management skills. The SC4CCM Project will compliment this effort by finding ways to incorporate group training sessions into routine activities involving the HEWs. The objectives of this approach are to:

- Roll out the new Health Post Resupply Program, a component of IPLS to 9,000 Health Posts, through 1200 existing Health Centers.
- Provide HEWs with basic pharmaceuticals supply chain management skills and procedures in order to affect measurable improvements in product availability at MOH Health Posts.

A new directive from FMOH for health center and surrounding health posts to form a primary health care unit (PHCU) provides an opportunity to implement this approach as each PHCU is expected to hold a monthly meeting at the HC to focus on skills, attitudes and supplies. Ready lessons are short, self-contained lessons that can be used individually or in combination and do not require that the participant has completed any prerequisites. As such these lessons can be incorporated into regular meetings and

activities that involve the intended recipients. Included in these sessions is time for facilitated problem-solving to provide support to the HEWs by identifying the challenges and working together to find solutions. The problem solving is seen as a means to empower local PHCU teams to identify and address supply chain issues routinely and together, to ensure teams can be flexible in solutions which are important in the Ethiopian context, and to maximize agility in the system.

Acknowledging that IPLS has yet to be rolled out to the HP level, this intervention strategy addresses this underlying issue by imparting basic supply chain knowledge and skills to all HEWs in the iCCM initiating regions of the country and building basic procedures to follow. The HEWs will learn about the logistics system, learn skills to help them manage their products, understand how to use LMIS forms and SOPs, and learn how to ensure quality storage for pharmaceuticals so that they can serve their clients better. This will enable HEWs to determine supply needs; order, receive, and store supplies properly; distribute and maintain adequate supplies; manage expired and waste products, and record and report accurate information about supplies and their use. The problem solving involves a structured approach and tools to help identify and prioritize important problems, as well as potential solutions. The project believes this combined approach will *contribute* to improve product availability at the HP levels.

Phase II: Strengthen implementation of the IPLS pull system for health posts and introduce a mHealth solution to improve data visibility

Many pharmaceuticals managed at the HP are distributed via ad hoc push systems (kit and quota supplies). These systems were initially introduced to fill a gap as HEWs had not been trained in supply chain management or IPLS. Despite the recent trainings on IPLS, the kit systems have persisted due to concerns related to the management of some pharmaceuticals; many of the same pharmaceuticals included in the kit and designated to be provided free to HPs, are also sold at health centers (HC) and the funds used to build up the HC revolving fund or are labeled on the report to be used at the HC level only. The concern is that without sufficient guidance in how to simultaneously manage the same products which are sometimes free and sometimes incur a cost, accounting for partner-procured, free pharmaceuticals could be compromised. While over the short term, kits appear to be a viable solution to promote availability and improve health outcomes, in the long run the IPLS pull system will be a more sustainable, effective and efficient system. So it is critical to better understand success factors for operationalizing IPLS at health post level, which the pull system strengthening strategy will offer. The objectives of this intervention are to:

- Strengthen pull system in order to operationalize IPLS at the PHCU level
- Provide technical support to fully integrate ICCM products into the IPLS pull system
- Implement a mHealth system to improve logistics data visibility at health post level

Strengthening the IPLS pull system to HPs will include three components: 1) each step of the IPLS supply chain will be closely monitored and support provided to identify gaps and bottlenecks and adjust processes to improve outcomes; 2) iCCM products, which are currently kitted, will be integrated into the IPLS pull system for HPs; and 3) a mHealth system for reporting and resupply will be tested in a smaller number of areas to determine the feasibility of using this approach to improve data visibility of HP logistics data.

Given the transition to IPLS is ongoing; site selection will be driven by those health centers that have already transitioned and receive direct delivery from PFSA hubs. Another key criterion for selecting

intervention areas is identifying supportive, strong PFSA hubs that are ready to embrace change and strive to improve supply chain performance. Integration of iCCM products into the pull system will involve working with the PFSA hubs that supply these health centers to manage and distribute these products individually, rather than as a kit. This will involve ensuring the products are included on the request forms, that the PFSA hubs have the storage and personnel capacity to order and manage the products and that the health center pharmacy staff have the skills to order and manage these products.

To strengthen the overall system the project in collaboration with its partners will provide ongoing monitoring and support at each level of the IPLS supply chain and work with local staff and FMOH to adjust processes to address any challenges in implementation. For example if it appears that certain procedures are not practical based on the situation, or a certain data item is very difficult to collect or a health post has trouble accessing the resupply point in the rainy season, solutions will be addressed either locally or at a broader level depending on the nature of the challenge. If the solution requires changing national IPLS procedures then this proposal will be taken to the PFSA/FMOH level for consultation and approval; however if the problem can be addressed locally such as adjusting the reporting procedures during the rainy season this will be done locally. SC4CCM proposes to integrate a promising practice from one of its other interventions – Quality Collaboratives in Rwanda – as part of the intervention approach. On a quarterly basis, representative woreda and health center staff and HEWs from our intervention areas will come together to share problems and solutions identified with their peers to facilitate cross fertilization of effective solutions developed from the ground up.

The mHealth solution is yet another building block to institutionalizing a strong and robust supply chain to the health post. Using mobile phones to transmit data at this level is a simple solution that allows information to flow quickly and widely to all facilities from resupply point to woreda to zone to central level so informed actions can be taken to avoid stock shortages and monitor and manage the supply chain performance. The main aim is to determine whether or not a simple mHealth system can be implemented in the Ethiopia context to improve HP logistics data visibility. A side benefit of the proof of concept system will be to illuminate what is happening with products – paid or free – and improve accountability of products that are meant for the health post. The mHealth solution for the HP supply chain will be designed to interact closely with PFSA’s HCMIS and other automated supply chain solutions as well as FMOH’s other mHealth efforts to ensure interoperability and future integration.

Implementation Plan

The implementation plan outlines the specific activities that the SC4CCM project will oversee, lead and support for each intervention area during the testing phase in Ethiopia. The implementation plan is divided into activity streams around the intervention areas (see Appendix C).

Activity Stream 1 – Overall

The first activity stream is focused on mechanisms for communicating with MOH and stakeholders regarding the progress of interventions to share lessons learned and successes. Activities include quarterly staff meetings, coordination meetings with regional, zonal and woreda level health offices and keeping stakeholders informed on the progress of interventions to ensure a smooth transition from testing to scale up and institutionalization of the interventions.

Activity Stream 2 – Monitoring and Evaluation

Activity stream two refers to the monitoring and evaluation activities as outlined in the M&E plan that follows this section. The implementation plan clearly shows the beginning, middle and ending of the testing periods in Ethiopia. The phase I testing period will last six to nine months (given that training all HCs is a three month process) and the phase II testing period will be at least twelve months (probably longer for the pull system) covering a full national procurement cycle and multiple reordering cycles at the lower levels. A lot quality assurance sampling (LQAS) will be conducted midway through the phase I intervention period to evaluate the extent of roll out and help identify key intervention support activities. LQAS monitoring will also be supplemented by data collection through SMS messaging to assess coverage and rollout of the ready lessons and problem solving activities for each module. During phase II monitoring will be conducted as an ongoing process evaluation, where data will be reviewed as often as quarterly and will feed into the system strengthening approach and activities.

Activity Stream 3 – IPLS Ready Lessons and Problem Solving

Activity stream three details the process of developing the materials for the ready lessons and problem solving to implementing those materials into our intervention areas. Activities include: orienting both Regional PFSA hubs and Regional Health Bureaus trainers on the materials so they can co-facilitate the training of trainers' (TOT) workshop for health center staff, conducting a TOT workshop for 465 health center staff in eight zones in the four biggest regions of Ethiopia. The TOT workshops will include both pharmacy managers and PHCU directors from 465 health centers and will be conducted between January and May of 2012. Orientation sessions for woreda and zonal staff in all eight zones will be held in parallel to the TOT workshops.

Due to the short testing period the intervention woredas will be divided into intensive and non-intensive woredas for intervention support. Intervention support will be provided more intensively in eight intensive woredas within the eight zones and will focus on advocating for roll-out of the ready lessons through zonal and woreda level meetings and directly supporting implementation through supportive supervision to health centers and health posts.

Activity Stream 4 – Strengthening the IPLS Pull System

To strengthen the IPLS pull system, practical, refresher trainings and orientations will be conducted with zonal, woreda and health center staff and HEWs that will focus on any gaps in knowledge identified in the midline assessment, which aims to measure competency of basic SC skills imparted through the ready lessons. Staff from the two projects will visit HCs and HEWs in the intervention areas at least once a quarter and use a standardized SC checklist to identify bottlenecks and provide support to improve processes as per IPLS procedures or adjust them if needed. Woreda, HC and HEWs staff will come together once a quarter to share successful approaches and brainstorm around solutions for chronic challenges and/or escalate issues that need higher level support. DELIVER and SC4CCM staff will also meet regularly to discuss priority challenges and ensure a standardized approach to implementing changes and solutions as they arise. To build capacity, an ongoing practice will be continued of having woreda level staff trained in the SC supervision checklist go out and conduct supervision, provide data back to the two projects and then be reimbursed for their travel expenses. For PFSA hubs, the projects will take advantage of DELIVER's existing relationships with hub leadership and staff to provide targeted support to ensure fulfillment of HC orders and timely placement of orders to PFSA central to replenish CCM stock levels.

Activity Stream 5 – Using mHealth to Improve Data Visibility

In a subset of all intervention areas (~50% of HCs if the network allows), the two projects will implement a mHealth system for HEWs to report basic logistics data to their resupply points. The supply chain requirements for the system will be drawn from another existing, successful system – cStock in Malawi – via a partnership with Dimagi who is developing a generic, global solution called CommTrack that builds heavily on cStock use cases. To customize the system for the Ethiopia context, requirements will be gathered individually from key stakeholders as well as through a requirements gathering workshop involving HEWs, HC, woreda, zonal, RHB and PFSA hub staff as well as DELIVER, SC4CCM, Dimagi and other relevant partners. The mHealth system will be designed to be interoperable with other supply chain systems as well as the mHealth roadmap systems the FMOH is currently implementing. The mHealth system will launch with trainings on how HEWs can send SMS messages to the system and will be implemented on top of the pull system strengthening efforts. All intervention support activities from activity stream 4 will also be implemented for this stream but customized to support the mHealth reporting system.

Activity Stream 6 – Quantification

SC4CCM will provide technical assistance to support quantification of CCM products as often as PFSA conducts quantifications and agrees to the support, and will advocate continuously with PFSA, UNICEF and other partners in the ICCM Task Force for regular reviews of forecast and supply plans, when they exist. The long term goal is for PFSA to integrate CCM quantification into their overall annual quantification exercise for essential medicines and other programs and products, to ensure there are sufficient funds and adequate quantities of products for CCM and the community level, as well as other levels in the health system that use the same products. SC4CCM will endeavor to build capacity and institutionalize good quantification practices within PFSA. In the short term, however, SC4CCM will also focus regularly on the national supply situation for CCM products, whether kits or single products, to maximize the flow of CCM products down to HPs, which is currently a major challenge and impediment to uptake of iCCM services at the community. When quantification reviews or updates are not possible, SC4CCM will undertake alternate approaches to better understand and advocate for national product availability, including conducting mapping exercises and situational assessments where appropriate and

then liaising with key partners such as UNICEF and other iCCM implementing partners. SC4CCM will also evaluate the iCCM products in use in terms of dosing, formulation and packaging to ensure their appropriateness for treating children and for transporting and storing these products at the community level and advocate for the introduction of more optimal products, if necessary.

SC4CCM will also work to link quantification outputs and information about the supply situation of CCM products to global level initiatives aimed to increase access to pediatric essential medicines.

Activity Stream 7 – Scale Up

This activity stream includes the activities undertaken in the development of the intervention strategy to ensure that the strategy has the potential to be scaled up. Activities will include conducting a training of trainers workshop on the best practices developed in the phase I pilot of training methodologies. This TOT will target hubs where HCs have not yet received the IPLS training for HEWs. The project will also provide technical support to RHBs and PFSA hubs to support roll out of the IPLS training for HEWs.

Activity Stream 8 – Sustainability

This activity stream includes the activities undertaken in the development of the intervention strategy to ensure that the strategy has the potential to be sustainable by conducting workshops to plan for sustainability then provide ongoing support through the iCCM and logistics task force to implement the necessary steps for moving towards institutionalization and sustainability of successful practices within the supply chain.

Monitoring and Evaluation Plan

The M&E plan describes how the project intends to monitor and evaluate the interventions developed for Ethiopia, and test the validity of the country-specific Theory of Change framework. It describes key monitoring and evaluation activities planned post-baseline, and explains the links with the country-specific TOC. Project core and sub-indicators for performance measurement, testing and learning are listed as annexes. The midline evaluation will serve to measure competencies of HEWs in the basic SC skills imparted through the ready lessons as well as provide baseline data for phase II activities. Results from the competency portion of the midline will be used to guide PFSA and supply chain partners on the most effective training strategies for imparting SC skills and will foster a discussion as to whether any changes in the approaches are called for. The midline will also guide some development of phase II intervention activities. An endline assessment will be carried out before the end of the project to assess the effectiveness of the pull system strengthening and mHealth interventions in improving product availability.

Phase I

Key M&E Activities

During phase I, monitoring & evaluation activities will be designed to answer the following questions:

1. Have HEWs gained supply chain competency and basic skills?
2. Which teaching approach was most effective in giving HEWs the supply chain competency and basic skills they need?
3. Have problem-solving sessions been carried out, and where carried out, have they effectively helped HEWs and resupply staff make supply chain improvements?

Zone and Woreda selection for intervention groups:

Of the 12 zones visited across the country at baseline, 8 were chosen to be project intervention areas in order to measure intervention impact over time (see Appendix D). The remaining 4 zones visited at baseline will be considered non-intervention areas, and the project will re-visit them for the midline evaluation only. The project will work in two zones per region to maximize the reach of the project so that other ICCM initiating zones and woredas in the same region will also benefit from what we learn. To be able to determine the impact of phase I interventions it is necessary for the project to work in the zones / woredas where baseline data was collected. It is also necessary to work in zones that represent the variety of environments across the four major regions so that the lessons learned in these few woredas can be applied to the rest of the health posts in the country.

Zones were the lowest level for which we could obtain data for the intervention grouping process. The process of selecting zones for intervention and non-intervention groups included matching zonal characteristics across the regions. Characteristics of zones were used to create groups with similar characteristics to each other for greater validity when making comparisons. Characteristics considered for this exercise were the following:

1. Number of HEWs
2. Mean number of years trained as an HEW and amount of time operational

3. Linkage to HC or WoHo for resupply of health products
4. Distance from HEW to resupply point (HC or WoHO)
5. % HEWs who reach resupply point by foot
6. HEW job satisfaction
7. Rates of Malaria, cough and diarrhea in under 5 population
8. Partners supporting CCM (Save the Children UK, Save the children USA, L10K and IFHP)

The evaluation design requires one zone from each region to be in the non-intervention group. The selection of districts for the non-intervention group was made by chance when the matching between other zones/regions worked best in that way to create groups with equal characteristics.

Within the 8 selected zones, the project will implement the ready lessons and problem-solving intervention in all 86 woredas, using a more intensive approach in 8 of those woredas. To evaluate these approaches and advocate for scale up nationwide, the project will test HEW supply chain competency as well as the effectiveness of a collaborative problem-solving approach in the subset 18 evaluation woredas, in comparison with the training approach taken in non-intervention districts by the USAID|DELIVER project.

Intervention Monitoring

LQAS

In an effort to introduce an inexpensive, easy-to-use and sustainable system to monitor key indicators across all 465 HCs and 8 zones, SC4CCM will use LQAS methodology to select a sample of HCs to assess the knowledge of pharmacy staff and PHCU directors on the IPLS and their practice of PS in the four regions.

The LQAS monitoring exercise will include a total of 18 SC4CCM intervention woredas from the 28 evaluation woredas: 8 intensive training woredas and 10 non intensive training woredas.

The primary objectives of the LQAS are to:

1. Create discussion among program/partner supervisors and technical coordinators about HC level performance on select indicators for IPLS and PS sessions of the supply chain system
2. Establish whether supply chain program inputs and IPLS knowledge among HC pharmacy managers are associated with success in meeting overall indicator targets of intervention roll out
3. To help the project team identify regions that will require intervention support and inform the development of an intervention support plan using LQAS results

The sample sizes for Amhara and Oromiya per supervision area are 19 health centers (HCs) using standard LQAS procedures. Nineteen is the smallest sample size that allows at least 90% sensitivity and specificity for all benchmarks or targets for indicators between 10%-95%. The 19 HCs in Amhara and Oromiya, each out of 60 and 28 HCs respectively, will be selected using probability proportional to size sampling, based on the number of health posts (HP) in each health center. As there are only 12 HCs in Tigray and 20 HCs in SNNPR in the SAs, all HCs will be chosen (census rather than LQAS) for both regions for monitoring.

The five key indicators that will be measured during the LQAS are listed below:

- % of HC Pharmacy managers who received training in all 5 IPLS lessons
- % of HC pharmacy managers trained in PS
- % of HCs with adequate knowledge on 5 IPLS lessons
- % of HCs that provided training to HEWs on IPLS lesson 1 as scheduled
- % of HCs that have training materials

Other indicators will also be collected to provide a clearer picture of intervention roll out and to inform intervention support activities.

SMS coverage

The project requires simple coverage data about the ready lessons training and problem-solving intervention to verify roll out across 86 woredas. This information will be used in a minor way to guide support in the intensive areas, but the major purpose is to understand the extent of intervention coverage over the broader area. To acquire this data, SC4CCM will contract with a local partner experienced with mobile phone applications to develop a simple SMS system for collecting data from approximately 550 HCs.

The SMS coverage surveys will be sent out to HC pharmacy managers a total of two times, once at the end of July and once at the end of August 2012, to 56 HCs in the intensive arm and 494 HCs in the non-intensive arm. Data collected as part of the SMS coverage activity will be included in the phase I midline report.

Evaluation

The objective of the phase I midterm evaluation is primarily to assess the effect of the group training approach developed by SC4CCM for imparting knowledge and building the capacity of HEWs on the Integrated Pharmaceutical Logistics System (IPLS) aimed at improving supply chain performance at the health post level. Impact will be assessed using a ‘difference in differences’ design and comparison analysis will be carried out to understand which of the three approaches achieved the most success. The main outcome indicator to be assessed during the midline assessment is whether:

- HEWs have adequate competency in logistics skills related to CCM supply chain.

In addition, the midline evaluation will collect data on the following core indicators to monitor and evaluate progress since the baseline in 2010:

- HEWs have usable and quality medicines (e.g., cotrimoxazole, ACTs, ORS, zinc, and RUTF) available when needed for appropriate treatment of common childhood diseases.
- Necessary, usable, quality CCM products are available at HEW resupply point/s
- HEWs have adequate storage: correct conditions, security and adequate space

Like the baseline, the midline will use the Logistics Indicators Assessment Tool (LIAT) as the main quantitative tool. The LIAT is a proven tool for assessing stock status and other quantifiable aspects of a supply chain. It has been modified to focus on community level supply chain issues and for the Ethiopian context.

Data to measure core indicators will be collected by the LIAT through structured interviews with HEWs, health facility and/or warehouse staff at the health center level and woreda levels. The data collection will also include physically counting the amount of key CCM products kept at the HP, HC and woreda levels of the system (including stock kept by the HEWs), storage conditions, and certain aspects of record keeping and reporting.

Structured observations and testing methods will be used to measure supply chain competencies among HEWs. In addition, focus group discussions will be conducted with HEWs to assess HEW opinions and get feedback on (i) the process of training, (ii) the problem solving process, to better understand how it has helped them with their work (in the control arm, understand how they have dealt with or solved problems otherwise), and (iii) how training has impacted motivation, feelings of empowerment, how HEWs understand their roles, etc.

See the following table for more details on the estimated samples sizes at the different levels:

Table 1: Sample Size and Basic Approach

<p>Woreda Health Office (n=28) (selected using probability proportional to size sampling approach—with size based on the number of functioning health posts) Same as BL</p>
<p>Health Centers (n=82) (three chosen randomly per woreda—in some woredas there are only one or two HCs and in such cases all were selected)</p>
<p>Health Posts / HEWs: The target sample size is 252 HPs/HEWs. The actual sample to be visited is 265 HPs, which represents a 5% oversample in case HPs are not found, not functional or HEWs are not available. In such cases there is no replacement.</p> <p>HP sampling will be done by supervisors of the data collection teams, at either woreda or HC level. The sampling target is 9 HPs per woreda selected randomly (because of oversampling, in some woredas the target is 10 HPs per woreda). In most cases this means three HPs per HC selected randomly. If there are fewer than 3 HCs in a selected woreda, the 9 HPs would come from the catchment areas. If HPs are supervised and supplied directly from the woreda, then 9 HPs would be randomly selected directly from the woreda level. Once the HPs are selected, if there is more than one HEW at the HP, one of them will be chosen randomly. If there is only one HEW at the post. The interview takes place with that person.</p> <p>Sampling down to HP level was done in advance of the survey, so selected zones, woredas, HCs and HPs were all known in advance.</p>

Phase II

Key M&E Activities

During phase II, monitoring & evaluation activities will be designed to answer the following questions:

1. How does strengthening the pull system through transitioning ad hoc/kit products into the IPLS for HP affect product availability?
2. How does strengthening the pull system through transitioning ad hoc/kit products and implementing a mHealth system for supply chain into the IPLS for HP affect product availability?
3. What are the barriers, opportunities, solutions for:
 - Transitioning products away from ad hoc/kit system to the IPLS pull system
 - Ensuring accountability in the management of products that are charged at HC and free at HP from ad hoc/kit system to the IPLS
 - Implementing a mHealth system for SC at HP level to improve data visibility and help monitor the pull system?
4. Can HEW reporting rates and overall data visibility be improved using a mHealth system?
5. Is the cost-recovery system a bottleneck to product availability at the HP level?

Zone and Woreda selection for intervention groups:

In selecting areas for intervention in phase II, the project focused on strong, change-ready PFSA hubs in the existing evaluation areas, and which either DELIVER or SC4CCM had an existing, strong relationship with from phase I. Of those, two hubs with sufficient number of ART sites (where PFSA conducts direct delivery to HCs as per the IPLS design) were selected to establish a coverage area broad enough to conduct a quantitative analysis of outcomes across the two interventions.

The phase II intervention will take place across 25 woredas in Amhara and SNNPR. A census of health centers/woreda health offices that are ART sites across these 2 regions will be included in the phase II baseline evaluation. Therefore the baseline data collection will take place across a total of 31 health centers/woreda health offices and all related 188 (approximate number) health posts/HEWs.

Intervention Monitoring: Process evaluation

SC4CCM will carry out a process evaluation throughout the implementation period of phase II to conduct an in-depth assessment of the processes that are necessary to make the pull system and mHealth/pull system functional in the Ethiopian context. A process evaluation measures how well the program/project is operating. The advantage of conducting a process evaluation is that it can help in the redesign of the program and make midcourse corrections during implementation. In addition a process evaluation can help explain why results were or were not achieved (quantitative indicators that will be measured at baseline and endline) and provide lessons for others as they replicate/scale up the program. A mapping exercise is being conducted to document the various processes that need to be implemented for the objectives of phase II to be met and the process evaluation will focus around evaluating these processes at each level.

The framework for conducting the process evaluation in phase II will focus on the following components:

1. **Fidelity**-The extent to which the intervention was implemented according to plan. This will form the main part of the process evaluation and will involve documenting the various tasks related to product flow at the different levels as well as in developing a mHealth solution in the Ethiopian context. In addition, documentation will focus on assessing the quality of implementation and any modifications made to existing processes to improve quality and performance.
2. **Context** -Aspects of the environment that may influence implementation or study outcomes. This will involve documentation of the larger physical/infrastructure, social, political and organizational environment that either directly or indirectly affects an intervention program. Since process evaluation is concerned with answering how and why an intervention was successful or not, an understanding of the context is often necessary.
3. **Supporting Tasks**-A clear documentation of the various support tasks that are required to ensure the implementation of the pull system and mHealth + pull system. Documentation of these supporting tasks such as supervision, training, budget availability, client satisfaction, monitoring, etc. will help the project team understand how these tasks affect the processes related to implementing a pull system.
4. **Key Enabling Factors and Barriers**-In addition to assessing the context within which this pull system will be piloted, the process evaluation should also document the key factors that help enable the system and pose barriers to the system during the period of implementation.
5. **Monitoring**-This will include periodic monitoring of key quantitative and qualitative data related to the implementation of the pull system and mHealth + pull system interventions. Monitoring will provide important data in between the baseline and endline assessments to assess the implementation of the interventions as part of the process evaluation

Data methods to capture these processes will include observation checklists, questionnaires, FGDs, short quantitative surveys for routine monitoring, key informant interviews and detailed review of program documentation. The qualitative data collected will be used to triangulate quantitative findings. The frequency and types of data collection for each component of the process evaluation will be developed upon completion of the mapping exercise for phase II. Training data collectors on the various tools for conducting a process evaluation will take place in February 2013.

Evaluation

Much like the phase 1 midline, the (*phase II*) baseline evaluation will collect quantitative data across the 25 phase II woredas, including interviewing, physically counting the amount of key CCM products kept at the HP, HC and woreda levels of the system (including stock kept by the HEWs), observing storage conditions, and certain aspects of record keeping and reporting. Data on availability of mobile phones, network capacity, availability of computers, and other indicators (to be finalized prior to baseline) that are related to the functionality of a new mHealth system for key products will also be collected in a subset of the HPs and HCs during baseline in phase II. Similar to phase I, assessment tools for the phase II baseline will draw from the LIAT (Logistics Indicators Assessment Tool) and LSAT (Logistics System Assessment Tool), both developed by JSI under the first USAID | DELIVER PROJECT and validated for assessing supply chain system performance.

The project will rapidly analyze baseline data so as to feed into the design and implementation of interventions for phase II.

In addition, an endline assessment planned for 2014 will use a similar set of tools to collect quantitative and qualitative data, to assess changes in key indicators from the baseline. The endline assessment will vary slightly in that it will have two purposes:

1. Evaluating the impact of the subsequent phase II intervention on product availability and other core indicators from the TOC and related causal pathways related to the phase II intervention; and
2. Capturing achievements in scaling up the recommended method of SC training for HEWs based on the project's advocacy efforts with PFSA, FMOH and relevant ICCM and SC partners.

A second LSAT workshop will be held at endline to re-visit supply chain functionality for CCM products at higher levels of the system, and to assess the project's national level efforts.

Phases I & II

Data for both the phase I midline and phase II baseline will be collected concurrently, to gain efficiencies in training and fielding data collector teams. Data will be collected using mobile phones on which preset forms are loaded before the start of the survey. The forms are developed using a web-based program called Episurveyor. Data collected on the phones can be uploaded directly to the Episurveyor database server, eliminating the need for paper questionnaires and streamlining the data entry process. Forms are adapted from the paper-based LIAT.

SC4CCM will work with a local evaluation partner in Ethiopia to improve efficiency and help build local ownership and capacity. The role of the local partner will be to oversee the LIAT fieldwork for both phases.

Theory of Change and Causal Pathways

For evaluation purposes, the TOC provides a basis for tracking pre-conditions and causal pathways hypothesized to achieve reliable CCM product availability at community level. Therefore, in addition to testing significant change in the main project outcome measure (CCM product availability) over time, the project will also evaluate the validity of the TOC and the success of interventions by tracking progress on causal pathways. A causal pathway is a series of sequenced pre-conditions that the project intends to focus on in order to achieve one or more of the main pre-conditions at the top of the TOC.

The way to read the TOC is by starting at the bottom and moving up, understanding the pre-conditions as stepping stones on a causal pathway (different pathways are indicated by color-coding). By doing this, one can understand the sequence of outcomes (in the form of pre-conditions) that the project believes need to occur in order to reach the main preconditions at the top, and ultimately the country level objective of product availability. A causal pathway is created when the project defines an intervention that includes stepping stones all the way from the bottom of the TOC to one of the main preconditions at the top.

In the Ethiopia TOC, the pathway for phase I is the foundation for activities and further growth that will happen on the phase II pathway, which eventually climbs to meet the overall objective. The colors of the TOC boxes are a visual representation of causal pathways linked with specific SC4CCM interventions. In Ethiopia, three causal pathways exist and are related to ready-lessons and problem-

solving (red), strengthening the pull system (green), and mHealth (orange) interventions. The border around pre-conditions denotes the relative influence SC4CCM believes it will have on each pre-condition through direct intervention, or advocacy and partnership. Solid border boxes are those that define the intervention; while they are just as clearly on the pathway of that intervention as the dashed border boxes, they are the ones that the project feels it has significant influence over as part of the intervention. The dashed border boxes on the causal pathway have a good chance of being affected by the intervention of that color, though the project will not be able to control the degree to which change occurs since this may depend on variables such as decisions made by actors in the CCM supply chain.

In addition to the causal pathways, yellow boxes represent national level project activities, and non-colored (white) boxes are areas which the project recognizes as pre-conditions but where in most cases will not lead. SC4CCM expects that white box preconditions will be met by either MOH or other partners and the project will intervene on a case by case basis, if relevant and appropriate. The white boxes are usually recognized to be outside the project mandate and are therefore not a purposeful part of the intervention strategy. They will be part of evaluation efforts to determine whether they are in place and contributing to the overall environment as described by the TOC.

By relating indicators to pre-conditions, the project will track the strengths and weaknesses of intervention performance both in terms of overall product availability as well as having the stepping stones in place that lead to change. Throughout evaluation activities, the project will relate indicator results to the sequence of pre-conditions on the TOC to understand and describe where the hypotheses have worked well or where there are still gaps, and why. If the process breaks down at any point and something is not working, for example, the TOC will be the tool that allows the project to understand where, how, and why something did not work. The project hopes to identify weaknesses early enough to adjust the TOC and/or interventions so that significant results are achieved during the life of the project. Midline results will be tied back to the TOC to articulate what has been learned about the project hypotheses and the stepping stones to reaching them. In this way, the project will be able to share results of the learning process and inform future efforts to improve community-level product availability.

Indicators and Targets

The TOC gives rise to indicators that allow the project to track its progress along causal pathways. Each pre-condition on the TOC has at least one associated indicator that the project intends to monitor. The project identified five main pre-conditions at the top of the TOC (in light blue) as the primary pre-conditions to achieve the project-level objective of CCM product-availability at community level. These main pre-conditions gave rise to the ‘core’ indicators. Lower pre-conditions on the TOC are linked to ‘sub-indicators’.

Targets are set for indicators to articulate the project’s goals and gauge the success of interventions. They will be tracked through both monitoring and periodic evaluation activities. It is important to note that targets for new intervention-specific indicators are essentially best guesses, since no baseline measurements exist. In some cases, indicators operate like checkboxes instead of quantitative goals, and in these cases the target is often ‘yes’ to signify the associated pre-condition is in place. Indicators associated with pre-conditions for which SC4CCM supports but does not lead have no set targets, as the project’s interventions will only affect them indirectly. The time-frame for achieving all targets (unless otherwise noted) is the midline assessment. Targets are provided as part of the indicator tables in Appendix E.

Analysis

Data for phases I & II collected by SC4CCM during monitoring, baseline, midline and endline will consist of quantitative information including interview responses, physically counting key CCM products kept at community and resupply levels of the system, observations of storage conditions, and review of supervision data, as well as qualitative information including open-ended questions that are part of routine interviews. Focus groups will be used to collect qualitative data for the phase I evaluation and may be used for phase II as part of the process evaluation. Both types of data will be analyzed using appropriate methods, and triangulated to validate results.

Analytical methods for assessing the different components of the phase II process evaluation will include identification of themes and summaries of frequencies of responses, narrative of descriptive procedures and identification of themes in qualitative data. Additional quantitative data from monitoring will be analyzed using basic statistical methods and triangulated with the qualitative data collected as part of the process evaluation

The endline assessment will measure changes in core indicators on product availability, reporting rates, storage conditions, etc. Given that phase II will be done among a census of HCs across 2 woredas, we will be able to quantify the effect of the processes on any changes that is measured in these key indicators in these 2 woredas. A pre-post approach will be used to measure any changes in outcomes across our census of HCs across the 2 woredas between baseline and endline. In addition, qualitative methods including key informant interviews will be used to assess any changes in process related to the pull system after the completion of implementation.

Data use and Dissemination

Data collected through routine monitoring will be reviewed by SC4CCM project staff (including country Resident Logistics Advisor and Logistics Officer, Regional Technical Advisors, and HQ staff). Data will be shared with FMOH counterparts and CCM partners, with the intention of informing as well as seeking broader interpretation and questioning of results.

After midline data collection is complete, phase I & II results will be compiled and presented in-country for validation following a similar process to the baseline. Once data are validated and recommendations from stakeholders are made in this forum, evaluation results for the intervention-testing period will be documented in two reports (one for phase I and one for phase II) and disseminated to MOH and other stakeholders for further action.

Endline evaluation activities will be summarized in a final comparison report that includes process evaluation results. Reports will be shared with MOH in a timely manner, and made available online via the SC4CCM website.

Appendix A

Description of SC4CCM Theory of Change Model

The SC4CCM Theory of Change model provides the framework for the project assessment, identification of solutions and innovations, monitoring of change and demonstration of success. The interventions and solutions proposed by SC4CCM to strengthen supply chains for community case management are based in the analysis of the relative strength of these system performance elements or causal pathways (color coding) and their preconditions (boxes).

The TOC model diagrams the pathway of change to the intermediate and ultimate goals, or long term outcomes, of the SC4CCM project (represented in the light blue boxes at the top of the diagram). Described below are the key components that make up the pathway of change.

Key components

Preconditions - The preconditions are the building blocks that the project believes necessary to achieving the long term outcomes. The preconditions are represented in the boxes below the two goals and are color coded to represent how each precondition fits into one of three hypothesized causal pathways. The size or position of the precondition box does not indicate the importance or significance of that precondition, each precondition is considered necessary for change to occur.

Arrows - The arrows indicate the sequence that preconditions should be addressed, with a belief that one precondition cannot be fully accomplished until the preconditions before are achieved. This sequence creates the pathway of change.

Interventions - Interventions are central to the theory of change as they describe the types of activities required to bring about each precondition on the pathway to change. Country specific interventions have been identified according to weak or missing preconditions found in the baseline assessment. Rather than adding more detail to the diagram, these are described in detail in the implementation plan.

Indicators - Each precondition is a preliminary outcome with indicators (numbers within each precondition box) that measure the success of interventions adopted to achieve the preconditions.

Assumptions - Assumptions, represented by letters, are the necessary factors for change that are outside the project control. These assumptions demonstrate the limitations to what the project can expect to change alone and emphasize the need for collaboration with governments and partners.

Appendix B

SC4CCM Theory of Change Assumptions

- A** Cadre of HEWs exists and HEWs are deployed in adequate numbers and are well distributed in remote, hard to reach areas
- B** Central level MOH procurement unit exists
- C** Fuel is available in the country when needed
- D** An adequate number of supervisors are available
- E** HEWs are paid regularly and on time
- F** HEWs are trained to identify, classify and treat or refer common childhood diseases
- G** Demand for CCM services exists
- H** HEWs are in that role because they want to be, and are generally motivated to be an HEW (i.e. they have the capacity to be motivated)
- I** Budget exists for routine quantification and pipeline monitoring; ordering, reporting, inventory control, storage and disposal of expired / damaged health products; maintaining vehicles and distribution /collection of goods; and providing SC problem-solving and feedback during supervision to HEWs

Footnotes

- 1** A commodity security strategy is not necessary for a CCM program per se, but is a powerful instrument for ensuring availability of product at the community by gaining commitments from stakeholders (includes government and non-government stakeholders).

* Common childhood illnesses include pneumonia, malaria, malnutrition and diarrhea

** Vehicles indicate any device or structure that transports persons or things; a truck, car, bike, bus.

Acronyms

HEW	Health Extension Worker
HP	Health Post (where HEWs work)
HC	Health Center (HEW resupply point)
CCM	community case management
LIDE	List of Drugs for Ethiopia
LMIS	logistics management information system
MOH	Ministry of Health
SC	supply chain
WoHO	Woreda Health Office

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

	Year 2										Year 3										Year 4										Year 5														
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept
Phase 2: Strengthening the IPLS Pull System (SNNP and Amhara)																																													
Prepare and revise support materials e.g. refresher training materials and supervision checklists																																													
Conduct pre-TOT training for RHB and PFSA training team at each hub																																													
Launch Orientation for Pull System																																													
Refresher Training for HEWs - Pull System - Facilitator Costs																																													
Refresher Training for HEWs - Pull System - Participant Costs																																													
Support to Hawassa and Bahir Dar PFSA hubs																																													
Intervention Support to health centers and health posts																																													
Conduct Review Session for each Woreda																																													
Phase 2: Using mHealth to Improve Data Visibilty (SNNP and Amhara)																																													
User Requirements Workshop																																													
System design (between DIMAGI and JSI)																																													
Development (coding, and integration as needed) of mHealth system																																													
Set up post paid phone number with telecommunication company																																													
Beta version finalized (pre-pilot version)																																													
Pre - implementation (pilot)																																													
Software finalized																																													
Development of SOPs for mHealth system in collaboration with PFSA																																													
Development of technical and user documentation for mHealth system in collaboration with PFSA																																													
Prepare training materials and revise supervision checklists n collaboration with PFSA																																													
Launch Orientation Meeting for the mHealth Intervention																																													
mHealth Training - Facilitator Costs																																													
mHealth Training - Participant Costs																																													
Intervention Support																																													
Conduct Review Session for each Woreda																																													
Quantification																																													
partners																																													
Determine scope of quantification with ICCM Logistics Sub Group																																													
Gather and organize data needed for CCM quantification																																													
Conduct national quantification workshop for ICCM or Health Posts																																													
Finalize quantification report with working group																																													
Monitor national stock status and coordinate with partners to address and mitigate potential overstocks or shortfalls																																													
Review quantification outputs six months after quantification and adjust with updated data, if available																																													
Develop procurement landscape for CCM products																																													
Conduct National Validation Workshop for ICCM Quantification																																													
Scale-Up																																													
Conduct regional scale-up meetings																																													
Conduct TOT Training for PFSA Hubs																																													
Participate review meetings at Woreda, ZHD and RHB in intervention areas to advocate for scale up of IPLS trainings																																													
Provide technical support as needed for scale up																																													
Sustainability																																													
Sustainability Tool Workshop																																													
Participate in ICCM and logistics task force at national and regional level																																													

Appendix D

SC4CCM Intervention and Non-intervention Groups

Phase I Evaluation Areas by Region, Zone, Woreda		Information from Baseline sampling		
Zone/Region	Woreda	#HC	#HP	CCM Partner
SC4 Non-intensive				
East Hararge/OR	Chenakesen	6	25	IFHP
	Goro gotu	6	25	IFHP
	Kombolcha	3	25	IFHP
	Meyu	3	12.5	IFHP
Gedio/SN	Bulle	5	24	L10K
North West Tigray/TI	Atsegede Tsembelal	6	18	L10K
	South Wollo/AM	Dessie Zuria	8	44
	Kallu	8	44	Save UK
	Mekdela	6	44	Save UK
	Tenta	9	44	Save UK
SC4 Intensive				
West Gojam/AM	Dega damot	6	33	L10K
	Mecha	10	33	L10K
	Ylmana densa	8	33	L10K
West Arsi/OR	Dodolla	5	25	Save US
	Kofelele	5	50	Save US
Hadiya/SN	Misha	7	24	IFHP
	Soro	10	36	IFHP
Central Tigray/TI	Adua Rural	6	18	IFHP
Comparison Group (No Intervention)				
North Gondor/AM	East Belesa	5	11	IFHP
	West Belesa	7	44	IFHP
	Quara	5	33	IFHP
Jimma/OR	Gumay	3	25	L10K
	Nonobelja	2	25	L10K
	Shebe Sendo	4	25	L10K
Sidama/SN	Aleta Wondo	10	60	Save US
	Bensa	10	48	Save US
	Dale	14	66	Save US
South Tigray/TI	Alamata	4	12	IFHP

Table 2. Phase II Evaluation Areas, by Region, Zone, Woreda and HC

	Region	Zone	Woreda	HC name
1	Amhara	West Gojjam	Gonji Kolela	Addis Alem(Gonji) Health center
2	Amhara	West Gojjam	*Yilmana Densa	Adet health center
3	Amhara	West Gojjam	Burie town	Burie health center
4	Amhara	West Gojjam	Dembecha	Dembecha health center
5	Amhara	West Gojjam	North Achefer	Durubete health center
6	Amhara	West Gojjam	*Dega Damot	Feresebete health center
7	Amhara	West Gojjam	Sekela	Gishabay(Sekela) health center
8	Amhara	West Gojjam	Jabitehnan	Jiga health center
9	Amhara	West Gojjam	South Achefer	Kunzilla health center
10	Amhara	West Gojjam	*Mecha	Merawi health center
11	Amhara	West Gojjam	*Quarit	Quarit health center
12	Amhara	West Gojjam	Woberma	Shinde health center
13	Amhara	West Gojjam	*Yilmana Densa	Agita Health center
14	Amhara	West Gojjam	Bahir Dar zuria	Kinbaba Health Center
15	Amhara	West Gojjam	N/Achefer	Liben Health center
16	Amhara	West Gojjam	Burie Shikudad	Quache health center

	Region	Zone	Woreda	HC name
1	SNNPR	Hadiya	Shashago	Bonosha Health Center
2	SNNPR	Hadiya	Duna	Bure Bulshana health center
3	SNNPR	Hadiya	Gomibora	Bushana health center
4	SNNPR	Hadiya	Shashago	Doesha health center
5	SNNPR	Hadiya	Anlemu	Fonko Health Center
6	SNNPR	Hadiya	Misha*	Geja health center
7	SNNPR	Hadiya	Soro*	Gimbinchu health center
8	SNNPR	Hadiya	Gibe	Homecho health center
9	SNNPR	Hadiya	Kosha	Kosha health center
10	SNNPR	Hadiya	Lemo	Lissana health center
11	SNNPR	Hadiya	Misha	Morsito health center
12	SNNPR	Hadiya	Mis/Badwacho	Qorega health center
13	SNNPR	Hadiya	Gombora	Sege health center
14	SNNPR	Hadiya	Merab Badwacho	Shone health center
15	SNNPR	Hadiya	Lemo	Shurumo health center

*Woreda overlaps with phase I Evaluation Area

Appendix E

Summary of Core Objective Level Indicators

Summary of core objective level indicators for current period (BL), which will be updated with latest per quarter after implementation begins

Phase 1 Baseline Survey, May 2010

Unless otherwise noted, indicators will be a % of 'registered' HEWs who manage health products after baseline

Main SC4CCM Objective: (Ensure that) HEWs have usable and quality medicines available when needed for appropriate treatment of common childhood illnesses								
Summary Indicators	N *	% of HPs with key CCM products in stock on day of visit, by product at BL	End line (EL) Target %	% of HPs with no stockout of key CCM products in past 6 months, by product at BL	EL Target %	% of HPs with key CCM products adequately stocked on day of visit, by product at BL	EL Target %	Source/ frequency
COC and DMPA	244	70%	80-85%	N/A	75-80%	N/A	75-80%	Midline/Endline
ORS and RUTF	244	24%	60-65%	N/A	75-80%	N/A	75-80%	Midline/Endline
RUTF, ORS and ACT	244	2%	50-55%	N/A	75-80%	N/A	75-80%	Midline/Endline
RUTF, ORS, Cotrimoxazole, and zinc	244	0%	50-55%	N/A	75-80%	N/A	75-80%	Midline/Endline

ToC Box 1: Necessary, usable, quality CCM products are available at HEW resupply points								
Summary Indicators	N **	% of resupply points with key CCM products in stock on day of visit at BL	End line (EL) Target	% of resupply points with no stockout of key CCM products in past 6 months, at BL	EL Target	% of resupply points with key CCM products adequately stocked on day of visit at BL	EL Target	Source/ frequency
COC and DMPA	100	75%	80-85%	N/A	75-80%	N/A	75-80%	Midline/Endline
ORS and RUTF	100	38%	60-65%	N/A	75-80%	N/A	75-80%	Midline/Endline
RUTF, ORS and ACT	100	17%	50-55%	N/A	75-80%	N/A	75-80%	Midline/Endline
RUTF, ORS, Cotrimoxazole, and zinc***	100	0%	50-55%	N/A	75-80%	N/A	75-80%	Midline/Endline

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ToC Box 2: HEWs, or person responsible for HEW resupply, know how, where, what, when, and how much of each product to resupply				
Summary Indicators	N	BL	ML/EL Target	Source/frequency
% of HEWs trained in IPLS	NA	NA	75-80%	Midline/monitoring/Endline
% of HEWs trained in ordering systems and processes	244	9%		
% of HEWs trained in record keeping	244	6%		
% of HCs trained in IPLS	NA	NA	80-85%	Midline/monitoring/Endline
% of HCs trained in ordering systems and processes (HC data)	100	8%		
% of HCs trained in record keeping (HC data)	100	10%		
Average duration of stockout, by product (# days)	NA	NA	0	Midline/monitoring/Endline
ToC Box 3: HEWs have adequate storage: correct conditions, security and adequate space				
Summary Indicators	N	BL	ML/EL Target	Source/frequency
% of HEWs who practice 3 or more (out of 6) storage practices	244	71%	80-85%	Midline/Endline
% of HEWs who demonstrate sufficient storage area and organization for existing supplies	244	84%	90-95%	Midline/Endline
% of HEWs with storage area secured with lock and key	244	84%	90-95%	Midline/Endline
ToC Box 4: Goods are routinely transported between resupply points and HEWs				
Summary Indicators	N	BL	ML/EL Target	Source/frequency
PS sessions identify and document problems with transporting medicines and medical supplies between resupply points and HEWs	N/A	N/A	NA	Phase 1 FGDs with HEWs
PS sessions identify and document solutions for problems with transporting medicines and medical supplies between resupply points and HEWs	N/A	N/A	NA	Phase 1 FGDs with HEWs
Most common type transport available to resupply point	244	69% On foot	NA	Endline
ToC Box 5: HEWs are motivated to perform their roles in the CCM product supply chain				
Summary Indicators	N	BL	ML/EL Target	Source/frequency
% HEWs who receive supervisory visits once a month	244	36%	70-75%	Midline/Endline
% HEWs who receive feedback on performance once a month	244	12%	60-65%	Midline/Endline
HEWs receive effective training on SC topics from supervisors	N/A	N/A	N/A	Phase 1 FGDs with HEWs
HEWs receive effective support from supervisors for managing products and problem-solving	N/A	N/A	N/A	Phase 1 FGDs with HEWs

* from HEW interviews

** all HC data from stock status report and not from HC interviews

*** includes ORS, zinc, RUTF and Cotrimoxazole (suspension)

Appendix F

Ethiopia Sub-Indicators

TOC Box #	Outcome: Ready Lessons and Problem Solving (phase I)	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
46	Procedures for providing SC problem-solving for HEWs during monthly HC meeting exist and are documented	<ul style="list-style-type: none"> Procedures exist for providing SC problem-solving for HEWs during monthly PHCU meeting (Y/N) 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> SC4CCM Implementation plan
38	Pharmacy managers and Health center heads are trained in problem-solving for PHCU monthly meetings	<ul style="list-style-type: none"> % of HCs where pharmacy managers are trained in problem-solving for PHCU monthly meetings % of HCs where PHCU Directors are trained in problem-solving for PHCU monthly meetings 	<ul style="list-style-type: none"> 0 (zero) 0 (zero) 	<ul style="list-style-type: none"> 80% 80% 	<ul style="list-style-type: none"> Interview LQAS Midline
24a	Tracking tool in place	<ul style="list-style-type: none"> % of HCs in the intervention arm with a tracking tool in place 	<ul style="list-style-type: none"> 0 (zero) 	<ul style="list-style-type: none"> 50% 	<ul style="list-style-type: none"> Observation LQAS Midline

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: Ready Lessons and Problem Solving (phase I)	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
33	Pharmacy managers at resupply are trained in procedures and processes for HEW supply chain	<ul style="list-style-type: none"> • % of HCs where pharmacy store managers are trained in 5 RLs • % of HCs where health center directors are trained in 5 RLs • % of HCs with adequate knowledge in 5RLs <p>[qualitative] Can you (Pharmacy Manager) describe any</p>	<ul style="list-style-type: none"> • 0 (zero) • 0 (zero) • 0 (zero) 	<ul style="list-style-type: none"> • 75-80% • 75-80% • 70-75% 	<ul style="list-style-type: none"> • LQAS • Midline
34	HEWs are trained in procedures and processes for HEW product supply chain via ready lessons at PHCU monthly meetings	<ul style="list-style-type: none"> • % of HCs scheduled to provide training on RLs that completed HEW training on RLs • % of HEWs who received training on RLs during PHCU monthly meetings • % of HEWs who demonstrate correct reporting on HPMMR (composite) • % of HEWs who demonstrate correct use of a bin card (composite) • % of HEWs with accurate knowledge of the ordering processes, based on compliance with documented procedures <p>[qualitative] Were you (Pharmacy Manager) able to complete all RL content in the time allocated? If not, which RLs were not completed?</p> <p>[qualitative] Can you describe why you did not complete training of any of the RLs as planned?</p> <p>[qualitative] Can you describe any other challenges encountered during training of the RLs?</p>	<ul style="list-style-type: none"> • 0 (zero) 	<ul style="list-style-type: none"> • 70-75% • 70-75% • 50-55% • 50-55% • 70-75% 	<ul style="list-style-type: none"> • Training log • LQAS • SMS coverage • Midline

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: Ready Lessons and Problem Solving (phase I)	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
18a	(phase I & II) HEWs practice good storage procedures	<ul style="list-style-type: none"> % of HEWs who have adequate knowledge about storage practices Average number adequate storage practices by HEWs (of 8) <p>[qualitative] Describe any challenges you (HEW) face storing your products.</p>	<ul style="list-style-type: none"> 0 (zero) 4.6 	<ul style="list-style-type: none"> 70-75% N/A 	<ul style="list-style-type: none"> Interview Observation Midline Endline
17	(phase I & II) HPMMR forms, bin cards, and flip books are available for HEWs	<ul style="list-style-type: none"> % of HEWs with HPMMR forms available % of HEWs with bin cards available for each product managed % of HP with a flip book available <p>[qualitative] If you (HEW) do not have HPMMR, bin cards or flip books, why not?</p>	<ul style="list-style-type: none"> 0 (zero) 0 (zero) 0 (zero) 	<ul style="list-style-type: none"> 70-75% 70-75% 50-55% 	<ul style="list-style-type: none"> Observation Process evaluation Midline Endline
	<i>(indirect)</i>				
37	Onsite supervisors will identify basic SC related problems for addressing at PHCU-level meetings	<ul style="list-style-type: none"> % of HC staff who report that onsite supervisors identify problems to solve during monthly PHCU level meetings 	<ul style="list-style-type: none"> 0 (zero) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> FGDs
24	(phase I & II) Supervision tools are available	<ul style="list-style-type: none"> % of HCs with supervision checklist or tool available that includes product management elements (eg. Logistics reporting, stock keeping records, product storage, etc) 	<ul style="list-style-type: none"> 0 (zero) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Midline Endline
14a	PHCU monthly meetings happen regularly	<ul style="list-style-type: none"> % PHCUs that held a monthly meetings last month % PHCUs that held a monthly meetings last three months 	<ul style="list-style-type: none"> N/A N/A 	<ul style="list-style-type: none"> N/A N/A 	<ul style="list-style-type: none"> Monitoring Midline

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: Strengthening Pull System for CCM (phase II)	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
14	(phase I & II) Problem-solving meeting with HEWs with SC component is performed regularly	<ul style="list-style-type: none"> % of HC that held problem solving sessions last month % of HC that held problem solving sessions last three months <p>[qualitative] What challenges have you (Pharmacy Manager) had with the problem solving process? [qualitative] What challenges have you faced using the tracking tool?</p>	<ul style="list-style-type: none"> 0 (zero) 0 (zero) 	<ul style="list-style-type: none"> 50% 45% 	<ul style="list-style-type: none"> Tracking Tool Monitoring Midline Endline
14b	Review meetings are held for performance monitoring	<ul style="list-style-type: none"> % of woredas that held a review meeting last quarter 	<ul style="list-style-type: none"> 0 (zero) 	<ul style="list-style-type: none"> 50% 	<ul style="list-style-type: none"> Process evaluation Endline
13	(phase I & II) HEWs routinely collect and report timely, complete, accurate logistics data by HPMRR (and phone)	<ul style="list-style-type: none"> % HEWs who submit on time HPMRR form % HEWs who submit complete HPMRR form <p>[qualitative] Describe any challenges you (HEW) face with using the HPMRR form (composite) [qualitative] Describe any challenges you (HEW) face with using the bin card.</p>	<ul style="list-style-type: none"> 0 (zero) 0 (zero) 	<ul style="list-style-type: none"> 50-55% 50-55% 	<ul style="list-style-type: none"> Observation Midline Endline
9d	Data are monitored & used to improve SC performance	<p>[qualitative] Woredas use HPMRR data to make SC performance improvements [qualitative] HCs use HPMRR data to make SC performance improvements [qualitative] Describe any challenges you (HC pharmacy manager) face using data to improve SC performance for HPs</p>	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Process evaluation
9b	Staff at resupply points dispense resupply quantities of loose drugs according to HPMRR/mHealth	<ul style="list-style-type: none"> HCs receive loose tracer CCM drugs from resupply points HEWs receive loose tracer CCM drugs from resupply points 	<ul style="list-style-type: none"> N/A N/A 	<ul style="list-style-type: none"> N/A N/A 	<ul style="list-style-type: none"> Process evaluation

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: Strengthening Pull System for CCM (phase II)	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
9a	Staff at all resupply points fill their part of the HPMRR correctly for HP resupply	<ul style="list-style-type: none"> • % HCs who submit HC portion HPMRR form on time • % HCs who submit HC portion HPMRR form complete • % HCs who submit HC portion HPMRR form accurate 	<ul style="list-style-type: none"> • 0 (zero) • 0 (zero) • 0 (zero) 	<ul style="list-style-type: none"> • 50-55% • 50-55% • 70-75% 	<ul style="list-style-type: none"> • Observation • Endline
9c	Staff at resupply points order CCM products for HPs from PFSA hubs based on HP data	[qualitative] HCs use HPMRR data to make orders from hubs	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Process evaluation
16	Tools and resources needed to implement procedures are provided	<ul style="list-style-type: none"> • % HCs who have SOPs available • % HCs who have HPMMR forms • % HCs who have bin cards [qualitative] HCs have tools needed to implement pull system procedures	<ul style="list-style-type: none"> • 0 (zero) • 0 (zero) • 32% 	<ul style="list-style-type: none"> • 50% • 50% • 50% 	<ul style="list-style-type: none"> • Process evaluation • Midline • Endline
15a	Loose CCM products are delivered to PFSA hubs by PFSA	[qualitative] Loose CCM products are delivered to PFSA hubs by PFSA	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Process evaluation
15b	Loose CCM products are distributed to HCs by PFSA hubs	[qualitative] Loose CCM products are distributed to HCs by PFSA hubs	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Process evaluation
	<i>(indirect)</i>				
7	Transport is available to distribute or collect CCM products as required to resupply points	<ul style="list-style-type: none"> • [qualitative] Transport is available to distribute or collect CCM products as required to resupply points 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Process evaluation

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: Strengthening Pull System for CCM (phase II)	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
8	Resupply point/s have adequate storage: correct conditions, security and adequate space	<ul style="list-style-type: none"> • % HC store rooms who meet storage conditions • % woreda store rooms who meet storage conditions 	<ul style="list-style-type: none"> • N/A • N/A 	<ul style="list-style-type: none"> • N/A • N/A 	<ul style="list-style-type: none"> • Midline • Endline

TOC Box #	Outcome: mHealth Strengthening Pull System for CCM (phase II)	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
13	SMS system and server functioning	<ul style="list-style-type: none"> • % time server is online in past 30 days (recognizing periodic electricity outages) 	<ul style="list-style-type: none"> • 0 (zero) 	<ul style="list-style-type: none"> • 85-90% 	<ul style="list-style-type: none"> • Server reports • Process evaluation • Endline
13aa	HCs receive messages with resupply quantities for each HEW from server	<ul style="list-style-type: none"> • % of HEWs who successfully send SMS messages to server in last 30 days <p>[qualitative] Reasons reports are incomplete, late or not sent at all</p>	<ul style="list-style-type: none"> • 0 (zero) 	<ul style="list-style-type: none"> • 90% 	<ul style="list-style-type: none"> • Server reports • Process evaluation • Endline

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: National /Global Initiatives by SC4CCM	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
50	Procedures for routine quantification and pipeline monitoring exist and are documented	<ul style="list-style-type: none"> Procedures for routine quantification of CCM products exist – (Y/N) Pipeline monitoring is regularly conducted for CCM products – (Y/N) 	<ul style="list-style-type: none"> Yes (LSAT) Yes (LSAT) 	<ul style="list-style-type: none"> Yes Yes 	<ul style="list-style-type: none"> LSAT Endline
43	Staff responsible for quantification are trained on quantification methods for CCM and pipeline monitoring tools	<ul style="list-style-type: none"> Central staff responsible for quantification are trained in carrying out quantifications for CCM products (training includes classroom, on-the-job training) – (Y/N) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Program records Endline
42	Program, supply, and demand data exist and are collected and visible to the team responsible for quantification	<ul style="list-style-type: none"> Consumption data from HEW level is visible to team responsible for quantification of CCM products-(Y/N) Persons responsible for quantification believe they have adequate data accessible to them for quantification of CCM products -(Y/N) 	<ul style="list-style-type: none"> Yes, but not for PFSA hubs (LSAT) N/A 	<ul style="list-style-type: none"> Yes Yes 	<ul style="list-style-type: none"> LSAT Endline
29	Routine quantification and HEW pipeline monitoring scheduled and HEW requirements clearly highlighted	<ul style="list-style-type: none"> Annual routine quantification carried out for CCM products -(Y/N) Quantification review conducted every six months for CCM products?? Routine pipeline monitoring is done and includes CCM requirements -(Y/N) CCM pipeline monitoring results prepared for and presented at quarterly HEW logistics meetings -(Y/N)?? 	<ul style="list-style-type: none"> Not at health post level (LSAT) N/A Yes (LSAT) N/A 	<ul style="list-style-type: none"> Yes Yes Yes Yes 	<ul style="list-style-type: none"> Program records Endline
32	Mechanism for communication between stakeholders exists	<ul style="list-style-type: none"> Mechanism is in place for communication between stakeholders and donors – (Y/N) 	<ul style="list-style-type: none"> LSAT (yes-partially) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Endline
	(indirect)				
53	Strategy or Plan to achieve commodity security for CCM products exists	<ul style="list-style-type: none"> Strategy or Plan to achieve Commodity Security for CCM products exists (y/n) 	<ul style="list-style-type: none"> RH and malaria strategic plans exist (LSAT) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Endline

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TOC Box #	Outcome: National /Global Initiatives by SC4CCM	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
52	Budget line or sufficient funding is designated for program and those funds are allocated and disbursed when needed	<ul style="list-style-type: none"> Budget line or sufficient funding is designated for program and those funds are allocated and disbursed when needed (y/n) 	<ul style="list-style-type: none"> No (advocacy going on for every region to have a budget line for FP products-LSAT) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Endline
51	Long term CCM forecast prepared and data shared for global forecast	<ul style="list-style-type: none"> Long term CCM forecast prepared and data shared for global forecast (y/n) 	<ul style="list-style-type: none"> No (LSAT) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Endline
48	Quality, child-and supply chain-friendly CCM products are available from global, regional, or local marketplace	<ul style="list-style-type: none"> Quality, child- and supply chain - friendly CCM products are available from global, regional, or local marketplace – (y/n) 	<ul style="list-style-type: none"> No 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Endline
48a	STGs are up to date for CCM	<ul style="list-style-type: none"> STGs are up to date for quality, child- and SC-friendly CCM products (y/n) 	<ul style="list-style-type: none"> There are no standard treatment guidelines or treatment algorithms specifically for the health post level. There are some STGs for some products/conditions, like malaria/coartem, but none for amoxicillin and others. IMCI or malaria guidelines include HP level, but are not specific to it. (LSAT) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Endline
41	CCM product selection is based on standard treatment algorithms and supply chain considerations	<ul style="list-style-type: none"> CCM product selection is based on standard treatment algorithms (y/n) CCM product selection is based on supply chain considerations (y/n) 	<ul style="list-style-type: none"> No No 	<ul style="list-style-type: none"> N/A N/A 	<ul style="list-style-type: none"> Endline

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: National /Global Initiatives by SC4CCM	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
40	Quality child-and SC friendly CCM products are registered in country	<ul style="list-style-type: none"> • CCM products are registered in country (including RDT, ORS, zinc, RUTF) (y/n) • CCM products that are registered are quality-assured, child- and SC-friendly (y/n) 	<ul style="list-style-type: none"> • LSAT: No • LSAT: No 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Endline
31	Funding and procurement cycles are aligned	<ul style="list-style-type: none"> • Funding and procurement cycles for CCM products are aligned (y/n) 	<ul style="list-style-type: none"> • Supply plans are prepared on a schedule that coincides with local budgeting and procurement cycles for governmental budget only. (LSAT) 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Endline
30	Quality, child-and supply chain friendly CCM products are on NEML??	<ul style="list-style-type: none"> • CCM products are on NEML?? (y/n) • Quality, child- and supply chain friendly CCM products are on NEML?? (y/n) 	<ul style="list-style-type: none"> • LSAT: N/A • LSAT: N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Endline
32a	Quantification outputs used to develop procurement schedule & supply chain for CCM	<ul style="list-style-type: none"> • Quantification outputs used to develop procurement schedule & supply plan for HEW (Y/N) 	<ul style="list-style-type: none"> • Supply plans are prepared on a schedule that coincides with local budgeting and procurement cycles for governmental budget only (LSAT) 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • LSAT • Endline
28	Funds are allocated for procurement based on quantification and disbursed regularly	<ul style="list-style-type: none"> • Funds are allocated for procurement based on quantification and disbursed regularly, at district level (by commodity) (categories: 0-50%, 50-80%, 80-100%) • Funds are allocated for procurement based on quantification and disbursed regularly, at national level (by commodity) (categories: 0-50%, 50-80%, 80-100%) 	<ul style="list-style-type: none"> • Inadequate (LSAT) • Inadequate (LSAT) 	<ul style="list-style-type: none"> • N/A • N/A 	<ul style="list-style-type: none"> • LSAT • Endline
27	Product specifications are determined for procurement	<ul style="list-style-type: none"> • Product specifications are determined for procurement (y/n) 	<ul style="list-style-type: none"> • LSAT: Yes-included in RFP or RFQ 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Endline

Intervention Strategy for Improving the Community Health Supply Chain in Ethiopia

TOC Box #	Outcome: National /Global Initiatives by SC4CCM	Proposed Indicators	Baseline Results	Targets	Data Source and Frequency
15	Procurement of quality HEW products occurs on time, according to supply plan	<ul style="list-style-type: none"> Product is received in country at or before national product levels reach a minimum (Y/N) 	<ul style="list-style-type: none"> At central, regional and PFSA levels the correct amounts of all products are procured and obtained at the appropriate time, however at Woreda, HCs and HPs this is not the case. (LSAT) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> LSAT Pipeline monitoring Endline

For more information, please visit sc4ccm.jsi.com