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Integrated Community Case Management: Findings from Senegal, the Democratic Republic of the Congo, and Malawi

A Synthesis Report

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Table of Contents

Abbreviations and Acronyms

ASC	Agent de Santé Communautaire (CHW)
BASICS	Basic Support for Institutionalizing Child Survival
BCC	Behavior Change Communication
CCM	Community Case Management
CHWs	In this document, CHWs refer only to those Community Health Workers who provide CCM services, unless otherwise specified.
DOT	Directly Observed Therapy
DRC	Democratic Republic of the Congo
HMIS	Health Management Information System
HSA	Health Surveillance Assistant
IEC	Information, Education, and Communication
IMCI	Integrated Management of Childhood Illness
LQAS	Lot Quality Assurance Sampling
M&E	Monitoring and Evaluation
MCHIP	Maternal and Child Health Integrated Program
MOH	Ministry of Health
NGO	Nongovernmental Organization
NHMIS	National Health Management Information System
PNLMD	National Program for the Control of Diarrheal Disease
SteerComm	Steering Committee
SWAp	Sector Wide Approach
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development

Executive Summary

Community Case Management (CCM) of childhood illness is one strategy to reduce mortality in the under-five population by delivering critical services in hard-to-reach populations through paid or volunteer community health workers (CHWs). In Africa, many countries are still in the early stages of their CCM strategies, focusing either on advocacy activities or on introducing the approach for a single disease at a time. However, a few countries, including the Democratic Republic of the Congo (DRC), Senegal, Malawi, Rwanda, Madagascar, and Niger have begun to implement the integrated approach on a national scale.

Three such countries—Senegal, the DRC, and Malawi—have recently conducted assessments of their programs to generate key lessons. As more countries document the successes and challenges of their CCM programs, it becomes increasingly important to identify cross-cutting lessons learned.

The assessments in the DRC and Senegal were conducted in 2010, while the Malawi assessment was conducted in 2011. In Senegal, an integrated CCM program had been ongoing for seven years at the time of the assessment. By 2010, the Senegalese program covered approximately 1,600 health huts in 58 (out of 69) districts. CCM began in the DRC five years before the assessment was conducted in 2010. At that point, CCM was occurring in approximately 750 community sites in 10 (out of 11) provinces. The CCM program in Malawi had three years of implementation experience when the assessment was conducted in 2011. This program involved 3,000 paid health surveillance assistants (HSAs) in village health clinics that covered 3,500 pre-determined hard-to-reach areas. In all three countries, the CCM programs included the treatment of three major childhood illnesses by CHWs: diarrheal disease, malaria, and pneumonia.

Each country's CCM assessment was reviewed and findings were summarized across eight CCM Benchmarks that are accepted global components by which CCM programs can be evaluated[1]: 1) Coordination and Policy Setting, 2) Financing, 3) Human Resources, 4) Supply Chain Management, 5) Service Delivery and Referral, 6) Communication and Social Mobilization, 7) Supervision and Quality Assurance, and 8) Monitoring and Evaluation.

Based on the synthesis of findings, lessons learned that can contribute to ongoing refinement of CCM programming approaches and global learning about the policy and operational needs of these programs in each of these areas were identified:

1. **Coordination and Policy Setting**
   Ownership and active leadership from the national Ministry of Health is at the core of a successful CCM program. It is important to ensure that this ownership continues down to operational levels (provincial and district) to help with successful programming.
2. **Financing**
   The two financial components of an effective and sustainable CCM program are a budget system that allows planning and tracking of specific CCM activities and expenditures, and a long-term implementation and financial plan for CCM.
3. **Human Resources**
   Motivating CHWs is an integral aspect of success, and a package of incentives (not necessarily financial) should be agreed upon in early design stages. This incentive package should be created with the long-term financing capacity of the host government in mind.

4. **Supply Chain Management**
   While separate supply chains for CCM may be faster and often more convenient in addressing the stock-outs that are very common in many countries, the more sustainable approach is to strengthen the national supply chain system so it can include CCM commodities.

5. **Service Delivery and Referral**
   Substantial thought should be invested in the early stages of program design to create a locally acceptable service delivery model that will work within the health system and facilitate community satisfaction. CCM programs should ensure that mechanisms are in place to collect relevant data to track frequency of compliance in cases of referral, as well as reasons for non-compliance, to assist in addressing service delivery challenges.

6. **Communication and Social Mobilization, including Lessons Learned**
   Because information, education, and communication/behavior change communication campaigns are complex, involving local leaders and religious figures can help increase coverage and understanding of key messages.

7. **Supervision, Performance, and Quality Assurance**
   It is essential to success that CCM programs work from the early design stages to devise a local supervision strategy with clear division of roles and (well-defined) tested guidance on timing and content. Efforts should be focused on supporting health system staff to act as supervisors. Supervision by external organizations should only provide additional support as part of capacity-building initiatives or training.

8. **Monitoring and Evaluation and the Health Information System**
   As the contribution of CCM to increase access to case management services can often not be seen in the national Health Management Information System (HMIS), it is essential that CCM programs include activities to expand and strengthen the HMIS so that data on key CCM indicators allow for adequate monitoring of CCM services.

Background

Senegal
Malaria prevention and treatment with chloroquine, oral rehydration therapy with homemade salt-sugar solutions for diarrhea, and growth monitoring services have been provided through community-owned health huts since 2001. However, the introduction of pneumonia case management through a research-focused program in 2004 marked the beginning of structured support by the Ministry of Health (MOH) and partners to coordinate community-level case management services in Senegal. The period from 2006 to 2010 marked the expansion of Community Case Management (CCM), with the introduction of low-osmolarity oral rehydration salts (ORS) and zinc for diarrhea treatment, and rapid diagnostic tests (RDTs) and artemisinin combination therapy (ACTs) for malaria treatment at the health huts. In parallel, the National Malaria Program launched home-based treatment of malaria in 2008, using an additional cadre of community health workers (CHWs) in addition to the health huts. Each health hut is managed by a village health committee, including finances and preventive activities. Community health huts operate with full cost recovery for drugs. Communities purchase drugs from their district government warehouse and sell them at cost to their clients. When clients cannot pay because of lack of personal funds, communities will occasionally subsidize access to drugs. By mid-2010, the CCM program was covering more than 1,600 community sites in 58 of 69 districts.

The Democratic Republic of the Congo (DRC)
Under the leadership of the MOH, the DRC has been implementing integrated CCM since December 2005. The DRC has a long tradition of community mobilization volunteers called *relais promotionnels* or promotional relays. Many of the original promotional relays were chosen by their communities to provide CCM services as site relays (referred to as CHWs in this synthesis report). Each community also sets up the site management committee whose members support the CHWs. The CHWs providing CCM services are supervised by health center head nurses who are also in charge of managing the health centers. The introduction of CCM followed consensus meetings in 2004 and decisions to: 1) train community volunteers, who were in charge of only social mobilization at the time—in case management of diarrheal disease, malaria, and pneumonia; and 2) start with an initial implementation phase, but plan for scale up from the beginning. In 2009, churches were mobilized to disseminate key messages on child health. As of September 2010, CCM-trained site relays (CHWs) were providing services at 716 community sites, covering approximately 1.7 million of the DRC's 64.4 million people in 10 of the country's 11 provinces.

Malawi
The Integrated Management of Childhood Illness (IMCI) Unit of the MOH began CCM rollout in 2009 as an extension of the clinical child health services provided at the facility level. The MOH IMCI policy provides guidance and standardization for CCM implementation. Health Surveillance Assistants (HSAs) are the CHWs who provide case management services to sick children at community level through village health clinics in hard-to-reach areas. The CCM intervention includes training of the CHWs in the IMCI algorithm for identification, assessment, classification, and first-line treatment of children age 2 to 59 months for acute respiratory infection, diarrhea, malaria, and eye infections. The CCM training curriculum is six days in length, with an additional 1.5 days dedicated to the logistics management of CCM drugs and commodities. The MOH and partners have stocked drug boxes with artemether-lumefantrine, cotrimoxazole, ORS, zinc, paracetamol, and chloramphenicol eye ointment. As of 2011, approximately 3,000 paid HSAs were working in village health clinics, covering 3,500 out of 4,000 defined hard-to-reach areas (more than eight kilometers from nearest health center).

METHODOLOGY

Reports on three recent assessments of CCM programs in Senegal (2010),[2] the DRC (2010),[3] and Malawi (2011)[4] were reviewed in detail. All three reviews sought to generate information on lessons learned and promising practices to inform decisions to improve on CCM implementation in the concerned countries and in other countries. The Senegal and DRC reviews also sought to document past and current bottlenecks and difficulties in CCM implementation and approaches used to overcome them.

All three reviews were conducted in close collaboration with the MOH of each country and with support from several CCM implementation partners. The 2011 Malawi review developed an assessment guide modeled on those used in other similar assessments, including those in the DRC and Senegal, both of which were conducted in 2010. All three assessments involved extensive document reviews complemented by collection of both quantitative and qualitative data in the field, including semi-structured interviews and focus group discussions with stakeholders. The Malawi and Senegal reviews included direct observation of actual or simulated delivery of CCM services by CHWs. The reviews included field visits to six districts in Senegal, nine health zones (comparable to provinces in Senegal and Malawi) in the DRC, and eight districts in Malawi. Sites for field visits were conveniently selected for all three reviews, based on criteria that included duration of CCM implementation, so as to include areas where the program had been introduced early, as well as those where CCM had been introduced more recently.

This synthesis report presents only selected findings from the three CCM program reviews, intentionally highlighted because of their relevance in the context of a broader learning experience across countries. Complete findings of each review and detailed information about respective country programs can been found in the official review reports, available by request or at www.CCMCentral.com.

It is important to note that while these three reviews presented important information about facilitating and constraining factors in each of the CCM programs, none provided information about the effect CCM has had on child mortality. As an intervention aimed at reducing mortality, there is a clear need to develop a systematic approach to analyze evidence regarding plausibility for mortality reduction. This endeavor, however, is beyond the scope of this review.

Synthesis of Findings in Three Countries

The synthesis of findings in the Senegal, DRC, and Malawi reports is structured around eight CCM Benchmarks that are accepted global components by which CCM programs can be evaluated.[5] Each of the following sections is based on one of the CCM Benchmarks and presents key findings across the three country reviews. In addition, each section includes a table summarizing the CCM program approach and key findings of each report, separated by whether the finding was found to be a facilitating or constraining factor.

COORDINATION AND POLICY SETTING

Government Leadership, Ownership, and Policy

All three reviews cited strong MOH leadership and ownership of CCM as important factors contributing to success. Specific technical focal points are mandated in each country to lead the CCM steering committees or technical working groups; however, their coordination power seems to be challenged when they do not have the required authority vis-à-vis other MOH departments involved in CCM. The Senegal and DRC reports specifically highlight the increasing importance of MOH decentralized bodies during the expansion phase.

Senegal and the DRC have official authorization for CHWs to provide CCM services, but without a detailed policy document. This resulted in difficulties reaching a consensus on the package of services and an integration strategy, once the complex program was intended to expand. In Malawi, a clear policy on CCM is embedded into IMCI, with strong MOH ownership. The Malawi IMCI policy statement specifically addresses the case management approach with a clear service package through HSAs (CHWs).

Roles of in-Country Partners

All three reviews highlight the important roles of partners, including donors and non-governmental organizations (NGOs), in funding and supporting CCM implementation. In Senegal, involvement of development partners—such as the United Nations Children's Fund (UNICEF) and the U.S. Agency for International Development (USAID)—made available initial financial resources and/or technical assistance for pilot studies and subsequent expansion. Basic Support for Institutionalizing Child Survival (BASICS), a global USAID program, played a critical role in advocacy and initial introduction of CCM for acute respiratory infections. During the expansion phase, NGOs implementing CCM programs on the ground were grouped into one single consortium, which facilitated harmonization of approaches. In the DRC, despite a complex partnership, it became possible to harmonize, standardize, and fund the CCM strategy, documents, and implementation through the partnership between the MOH, the donors, and the implementing NGOs. The DRC had 13 identified CCM partners, providing various types of support in different geographic areas. The assignment of NGOs to specific target areas and the definition of specific program scope are negotiated with the MOH on a case-by-case basis. In Malawi, partners were requested by the MOH IMCI Unit to work in selected districts with pre-determined "hard-to-reach areas" as targets for CCM program. Partners in different districts (BASICS, PSI, and Save the Children at the time of the assessment) participate in CCM and provide somewhat distinct support. Although the details of activities planned depend on specific partners' funding agreements, all remain in line with the national IMCI policy.

Challenges to Effective Coordination

All three reviews note significant challenges related to effective coordination of CCM activities among collaborating NGO partners and various government bodies. Bringing together stakeholders, facilitating relevant and timely discussions related to current bottlenecks facing

the program, and attempting to gain consensus were all identified as challenges encountered during coordination of the CCM programs.

Strategies Used to Advocate for the Introduction of CCM

The reports from Senegal and the DRC include descriptions of how CCM was introduced in these countries. The Senegal experience demonstrates an extensive use of global and local scientific evidence to change opinions. It suggests that the commitment of credible national leaders, researchers at the university, and individuals who have the courage to challenge the status quo were critical in the adoption of an innovative idea such as CCM for childhood illness. After scientific evidence had proved the effectiveness of CCM and demonstrated that trained community workers can correctly prescribe antibiotics for pneumonia, the subsequent introduction of antimalarials and zinc for management of diarrheal disease did not encounter the same resistance.

On the other hand, the foundation for the successful introduction and adoption of CCM in the DRC was to provide convincing evidence for the approach via concrete actions in country. The DRC relied on evidence generated in other countries and focused instead on implementation issues. Government officials and partners convinced reluctant officials by setting up test sites to show how well this approach could work and produced success stories as a key element of the advocacy efforts.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: COORDINATION AND POLICY SETTING		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
Official authorization for CHWs to provide CCM services (without written policy) Most of MOH partners/NGOs grouped into one consortium using a harmonized approach Child Health and Nutrition Division (DANSE) was the focal point for CCM program Broad-based technical Steering Committee for CCM research	Official authorization for CHWs to provide CCM services (without written policy) 13 MOH partners with different objectives and funding sources National Program for the Control of Diarrheal Disease (PNLMD) was the focal point for the CCM program PNLMD led a CCM Steering Committee (SteerComm) from the beginning	CCM embedded in IMCI policy statement, which specifically addresses case management through HSAs 3 MOH partners IMCI unit of MOH was the focal point for the CCM program Active Technical Working Group in place
FACILITATING FACTORS **All three reviews cited strong MOH leadership as an important factor of success.**		
Involvement of respected professors increased buy-in and helped lessen resistance from health professionals Technical Steering Committee was important to disseminate research findings and establish initial buy into CCM Creation of CCM framework increased transparency Single NGO consortium facilitated harmonized approaches of different NGOs	Minister of Health's personal involvement increased visibility of CCM and momentum for implementation Obvious MOH commitment encouraged partner support PNLMD active leadership to the SteerComm during planning and start-up Strong provincial-level MOH leadership and commitment to CCM Well codified tools and implementation guidelines	Technical Working Group promoted inter-agency communication/collaboration Evidence of Senegal CCM discussions and inter-agency/partner agreements to collaborate
CONSTRAINING FACTORS **All three reviews cited coordination of partners as a challenge, particularly at scale.**		
No national community health strategy to help integrate community health services, resulting in lack of consensus on the future of the home-based malaria case management Lack of central coordination mechanism for CCM during the expansion phase, as SteerComm was research-focused, not implementation-focused MOH ownership lacking at provincial/district levels Strong NGO presence and low MOH ownership sometimes resulted in tension between NGOs and health facility staff	Lack of strategic plan and scale-up plan or budget for CCM PNLMD did not have seniority within the MOH Reduced interest on coordination meetings during the expansion phase Specific technical roles and responsibilities of district-level MOH personnel not well defined Limited dissemination of tools and guidelines	HSAs are managed by the Environmental Health Division but are directly impacted by other MOH divisions, which at times causes coordination and communication difficulties Technical Working Group meetings not frequently organized and few in-depth discussions of CCM program bottlenecks during meetings Lack of meeting structure to discuss priorities and timelines for implementation

FINANCING

Host Government Financial Support

All three reports note that host government financial support is limited, but includes the payment of salaries of the government staff involved in CCM. In all three countries, much of the funding for CCM comes from donors, either through direct intervention managed by implementing NGOs (Senegal), through targeted support to MOH operational level (health zones in DRC) or through a common basket fund (Sector Wide Approach, or SWAp) in Malawi. The availability of funds from donors and their interest in CCM is a clear positive that enabled these three countries to initiate and expand CCM programs. However, because the programs were largely donor-funded, serious concerns about sustainability were raised in all three reviews. In addition to funding issues, there were also concerns about the financial systems. For example, both the Senegal and the Malawi reviews report inadequate financial monitoring in place (Senegal lacked a CCM line item and Malawi did not have a mechanism for tracking the multiple CCM funding sources together). In the end, these governments did not know the cost of implementing CCM and could neither make informed decisions nor allocate funding based on need.

Long-Term Plans for Funding CCM

None of the three countries have long-term plans for funding CCM. Opportunities for including line items were specifically identified in the DRC report (2011–2015 National Health Development Plan—pending approval at the time of the review) and in the Malawi report (2010–2015 new five-year SWAp plan). The reviews discussed how a lack of longer-term planning reflects uncertainty about the host government's long-term interest in CCM, and also their financial capacity to continue programming without the short-term assistance of donors. While the countries reviewed did have enough short-term funding to initiate implementation, the lack of long-term plans makes the sustainability and potential future impact of CCM programs questionable.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: FINANCING		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
Government's contribution mainly includes: drug procurement and distribution, support through integrated supervision, salaries of MOH employees, and infrastructure At scale, NGOs directly implement the program Communities participate in maintenance of and financial support to health huts and pay out of pocket for drugs through a cost-recovery system	Government's financial participation in CCM is limited to salaries of MOH employees (not CHWs) and infrastructure NGOs provide direct financial and technical assistance to health zones to implement the program Community participation is very limited	Sector Wide Approach (SWAp) introduced by the Government and its implementing partners in 2004–2005
FACILITATING FACTORS **In all three countries, donors were willing to continue providing financial support to facilitate the implementation of CCM programs, at least in the short term.**		
Significant financial community participation including a strong cost-recovery system	National Health Development Plan recognized CCM and provided an opportunity to develop a mid-term financial plan	HSAs' financial motivation was included as part of the investment through an "emergency Human Resources plan" (top-up)
CONSTRAINING FACTORS **None of the countries have medium- or long-term plans for funding CCM. They remain dependent on donor contributions.**		
No specific line item for CCM in national MOH budget Recurrent budget flow issues, resulting in irregular supervision Budget streams to support the health system separated from budget for community activities, resulting in partial responsibility for health huts	Weak resource mobilization at the provincial level, overlooking the potential of the ongoing decentralization Lack of regulation for community participation (drugs are sold at various prices and user fees vary greatly)	No systematic budget tracking system (therefore difficult to track the multiple sources of CCM financing)

HUMAN RESOURCES

Motivation System for CHWs

All three reports highlight the importance of non-financial incentives for CHW motivation. The Malawi report notes that a major incentive frequently cited by staff involved in CCM and by partners is the additional prestige and respect from the community that come as a result of the HSAs' CCM work. While not using the same language, the findings from the DRC and Senegal also suggest that work in case management provides additional prestige and respect for CHWs. Nevertheless, financial incentives or CHW compensation was noted to be an important issue in all three reviews, even though the HSAs in Malawi systematically receive incentives from the government, while CCM services in Senegal and the DRC are provided by volunteers.

Workload

The relationship between workload and incentives for CHWs who provide CCM services can be seen in both the DRC and Malawi reports. In DRC, site relays are volunteers who do not express concern about being overworked and so far have not seen or treated large numbers of children. However, in Malawi, paid HSAs have 18 areas of responsibility including not only CCM, but also family planning, HIV care, Directly Observed Therapy (DOT) for TB, nutrition, and malaria prevention. These CHWs have expressed feeling overwhelmed with large responsibilities, and in this context, the role of incentives needs to be examined within the country-specific considerations of CHW workload.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: HUMAN RESOURCES		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
CHWs (*Agents de Santé Communautaire* [ASCs] and *matrones*) are volunteers who offer CCM and other basic services at health huts National Malaria Control Program introduced another cadre of CHWs providing home based treatment of malaria beyond health huts Community relays are in charge of Information, education, and communication (IEC)/behavior change communication (BCC) activities CHWs may receive small financial incentives for discrete training activities, but do not receive a salary	CHWs (called site relays) are volunteers trained on CCM of childhood illnesses The government allows site relays to charge user fees Promotional relays are another cadre of CHW, in charge of IEC/BCC activities	HSAs are government employees receiving systematic financial incentives; they provide a wide package of services, including CCM In addition to providing services, senior HSAs are selected to also provide some supervision to fellow-workers (ratio 1/10)
FACILITATING FACTORS **All three reviews suggested that non-financial incentives (respect and prestige from the community) were important to success.**		
Integration of CHWs into communities and community involvement (for example, in cleaning health huts) has increased motivation of CHWs to continue to work without financial incentives	Long tradition of community volunteers and dedicated cadre of CHWs Good CHW retention, despite being unpaid	Village committees play major role in supporting HSAs The mentorship system was found to be highly valued
CONSTRAINING FACTORS **All three reviews reported issues with approaches to motivating and giving technical support to CHWs.**		
Limited involvement of head nurses was found to be restricting their sense of ownership Expressed claim for ▪ more systematic ▪ financial incentives ▪ from some CHWs	Frequent change of staff at the health zone and health center level meant inconsistent support to CHWs Decreased motivation and job satisfaction among promotional relays due to a prominent focus on site relays and CCM service quality	Training of senior HSAs appeared to be insufficient to allow them to adequately provide support to fellow HSAs HSAs have 18 areas of responsibility and are overwhelmed

SUPPLY CHAIN MANAGEMENT

Availability of CCM Commodities

All three assessments note that stock-outs of key CCM supplies were common; respondents described likely causes for the stock-out problems. The DRC report cites data from 2008 indicating substantial stock-outs of drugs for malaria in community sites of three provinces and identified the problem as part of the overall weakness of drug regulation and general failure of the national logistics system. In Malawi, a survey conducted in December 2010 found that only 35% of CHWs interviewed had the three key products needed to treat diarrhea, malaria, and pneumonia in stock on the day of the survey visit. In Senegal, despite a strong national system, five of the 27 huts visited had problems related to the availability of at least two key items for more than three out of six months during the January to June 2010 period, and only two huts out of 27 reported no stock-outs of key items during this period. The report suggests that the stock-out at health hut level is due to stock management issues rather than to the availability of drugs.

Impact of Drug Stock-Outs on a CCM Program

The example reported in the DRC review provides an illustration of the reverse effect of CCM in case of drug shortage. When facing stock-outs, some of the interviewed site relays attempted in these situations to get their supply from itinerant sellers, a very well developed network in the DRC. This was reported to be a desperate attempt to maintain the legitimacy of the relays among the community; however, serious concern was raised about the quality and origins of these drugs. Furthermore, the report also stated that some CHWs even pile up stocks to prepare for shortage and sometimes also receive gifts of drugs that may not meet quality standards or be appropriate for CCM services.

Stock Management Capacity

Both the DRC and Senegal reviews cite that CHWs performed at varying levels in terms of managing stock and placing stock orders. Therefore, clear roles and responsibilities of key staff at both community and health post levels will help prevent and quickly respond to stock-outs. For example, in Senegal, district-level staff did not prioritize stock-outs at health huts, and health post staff were unclear on their roles in the supply chain system.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: SUPPLY CHAIN		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
Supply chain for CCM is integrated into the national supply chain system	Complicated supply system with 19 supply agencies and 99 distribution pipelines CCM commodities are a parallel system MOH supply chain is heavily dependent on external funding (free drugs donated by NGOs)	CCM drug supply is a parallel system and not harmonized CCM commodities are stored and distributed by Central Medical Stores and USAID/DELIVER
FACILITATING FACTORS **All three reviews reported efforts to include CCM commodities into logistics planning and management.**		
Integration into national supply chain system increases host government ownership of CCM	Systems and procedures for procurement, forecasting, and storage were well-described and well-codified	CCM products were included in the overall country drug forecasting exercise for 2011
CONSTRAINING FACTORS **All three reviews found that consistent stock-outs posed acute challenges to the CCM programs.**		
Some CHWs not proficient in stock estimation and order placement Drug shortage at health huts described as result of unclear roles of health post staff in assisting with drug supply and to lack of prioritization by district-level staff	Weak regulation Not all key staff proficient at forecasting (CHW needs not always included in orders placed) Drug shortage is also common at health post level and above MOH heavily relies on donors for CCM drug supply	Lack of uniform supply chain system across MOH facilities Confusion created by the mixed use of both standardized and on-demand supply systems CHWs report long travel times to access CCM supplies and problems of transportation

SERVICE DELIVERY AND REFERRAL

Value of CCM Services by the Community

All three reviews found that the CCM services delivered at the village level are well-accepted and highly valued by the community. This positive view from participating communities was essential in acceptance and usage of—as well as ongoing support for—CCM services. The importance of incorporating a thorough understanding of local culture into CCM program design and implementation strategies was a key lesson learned in each of the reviews. For example, all three of the programs involved local leaders in the planning and promoting of CCM services.

Concerns about Referral

The DRC and Senegal reports noted that a substantial proportion of referred children may never reach the facility to which they were referred, while the Malawi report implies that in a high proportion of cases, CHWs do not have enough information to know whether or not referred children reach the facilities to which they were referred. Reasons mentioned in the reports for not complying with referrals included physical distance to and perceived cost of services at the referral facility and cost of travel, as well as cultural beliefs about the best forms of treatment.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: SERVICE DELIVERY AND REFERRAL		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
CCM services provided by CHWs at a specific health hut in each community Package of services include CCM for childhood illnesses and other basic services not clearly defined	CCM services provided by CHWs generally in their own home Package of services limited ONLY to CCM	CCM services provided at fixed village clinics 2–3 times per week Complex package of services: 18 service areas including CCM, but also malaria prevention, HIV care, family planning, DOT for TB, and others
FACILITATING FACTORS **All three reviews said an important factor to success was community acceptance and satisfaction with the CCM program.**		
Community satisfaction is based largely on hours of operation and functioning referral system	Mothers reported high satisfaction with technical services of CHWs, but also their friendly attitudes Wide support from religious leaders and site management committee members	Service statistics confirm the importance of CCM as a program and of HSAs as an MOH human resource (nearly 900,000 cases/syndromes seen in 15 months)
CONSTRAINING FACTORS **Two reviews cited low compliance with referrals, while the other review found that no monitoring system was in place to track referral compliance.**		
Village health committees primarily focused on financing and less on the availability of CHW services Referred children not arriving at facilities (instead frequently being taken to local religious healers)	CHWs allowed to charge user fees, which are sometimes very high Children being referred by CHWs not arriving at facilities (potentially because of physical distance from communities or concern about cost)	Fixed days and sites for CCM services may conflict with CCM messages about seeking care within 24 hours No mechanism in place for CHWs to know if children they refer actually arrive at facilities

COMMUNICATION AND SOCIAL MOBILIZATION

All three reviews describe systematic approaches to making community members aware of the availability of CCM services through CHWs, with varying levels of success. Challenges with communication and social mobilization were consistent throughout the three programs.

Importance of Local Leaders

Each of the three programs gained local buy-in by incorporating religious leaders (DRC), village heads (Malawi), and village elders (Senegal) into their CCM programs. Using these locally acceptable conduits for spreading information about danger signs and care-seeking behaviors was successful in both DRC and Malawi. Success of using village elders in Senegal was offset by competing focus on a large mass media campaign.

Challenges

Although all of the programs identified challenges with community mobilization, the challenges were unique to each approach. For example, in DRC, the focus on providing technical support to CCM service providers was so intensive that CHWs providing preventive services ended up receiving less attention and being less motivated about their roles in their communities. In Malawi, delays in producing a national CCM social mobilization strategy resulted in a lack of IEC materials at the community level. In Senegal, a multi-tiered approach involving mass media, as well as group and individual communication, resulted in a lack of clear messaging on danger signs and proper care-seeking behaviors.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: COMMUNICATION AND SOCIAL MOBILIZATION		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
Comprehensive IEC/BCC component including mass media campaigns and group and individual communication	Promotional relay considered not sufficient to cover the country through traditional BCC strategy, which led to further use of religious leaders and local groups	Various communication channels reported but not used systematically
FACILITATING FACTORS **All three reviews highlighted the positive role of local leaders in their IEC/BCC campaigns.**		
Strong mass-media campaigns well received and perceived as very efficient Involvement of village elders increased sense of local ownership	Involvement of religious leaders increased local ownership; program achieved wide recognition of danger signs relatively quickly Successful use of Lot Quality Assurance Sampling (LQAS) survey method to measure knowledge/behavior changes associated with BCC activities	Existence of an overarching communication strategy and some tools, including materials for malaria control program, UNICEF job-aids and PSI materials Long tradition of IEC/BCC activities by HSAs prior to CCM Community leaders facilitate village meetings to promote/describe CCM services
CONSTRAINING FACTORS **All three reviews cited difficulties in implementing and maintaining successful IEC/BCC activities.**		
Media campaigns are expensive and not sustainable Specific messages on danger signs and proper care-seeking behaviors were diluted in general mass communications messages	Focus on promoting CCM services by CHWs resulted in less focus and decreased motivation of CHWs doing health promotion	Despite the established communication strategy, IEC materials were not widely available at community level Lack of consensus in Technical Working Group on components of a social mobilization strategy for integrated CCM

SUPERVISION, PERFORMANCE, AND QUALITY ASSURANCE

Mixed Performance of CHWs in CCM

All three reviews include data indicating CHW performance in CCM to be very mixed, depending on the specific CCM knowledge and skill assessed. Some fluctuation is to be expected when individuals are learning new skills; however, the reviews cited fluctuations not necessarily following a traditional learning curve. All three countries concluded that more effective and repeated refresher training, as well as better supervision, would be needed to improve CHWs' knowledge and skill sets.

Sustainable Supervision of CHWs

All three reviews report systemic problems related to effective and sustainable supervision of CHWs' performance. Both the DRC and Senegal have used meetings with groups of CHWs, during which supervisory activities are conducted, to complement supervisory visits to individual CHWs. This was a successful approach to address constraints of individual supervision visits such as the time, money, and physical distances involved.

The reviews also identify some negative outcomes that occurred in the absence of a clear definition of who should be supervising CHWs and a supervision system complete with frequency guidance and quality assurance mechanisms. For example, Malawi established that senior HSAs would provide supervision, but because many of them believed they did not have enough clinical skills, the content of supervision naturally focused on program aspects of stock management and task completion. In DRC and Senegal, the role of head nurses as supervisors was established in theory, but the success in operationalizing this supervision was partial. In Senegal, NGOs stepped in to provide supervision to increase quality control of the CCM program. However, the lack of involvement from the MOH and head nurses in supervision raised concerns about the government's long-term plan for CCM.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: SUPERVISION AND QUALITY ASSURANCE		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
System is described for CHWs to be supervised by head nurses but in practice, supervision activities are mostly performed by NGO staff	CHWs (site relays) are supervised by head nurses at facility level, with assistance from staff from health zones	Senior HSAs supervise regular HSAs on data management and organization of services Health facility staff provide technical supervision specific to quality of care and skills on case management through mentoring
FACILITATING FACTORS **All three reviews reported efforts to establish adapted solutions to maintain CHWs skills.**		
Group supervisory meetings are an effective option to overcome money and time constraints of individual supervision NGO personnel have been able to provide regular supervision of CCM CHWs	System set up so that routine supervision visits are conducted by MOH personnel with roles of head nurses well developed Group supervisory meetings were used effectively to complement individual supervisory visits	The mentoring approach facilitated links between health professionals and CHWs Information on the quality of CCM program is available to stakeholders and used to make adjustments to improve service quality
CONSTRAINING FACTORS **All three reviews identified a lack of sustainable supervision of CHWs as a substantial concern.** **All three reviews reported mixed CHW performance, citing the need to focus more on supervision and training.**		
Most head nurses do not provide supervision because of inadequate resources and lack of accountability Reliance on NGO supervision of CHWs questions host government ownership and sustainability	Hard to coordinate supervision at central and operational levels Supervision challenging in private facilities where ownership of CCM is generally low	Senior HSAs tend to focus more on task completion and organization of medicines rather than on quality of clinical care Many senior HSAs are resistant to supervising, as they lack self-confidence

MONITORING AND EVALUATION AND THE HEALTH INFORMATION SYSTEM

Integration of CCM into the National HMIS

All three reviews note that contributions of the CCM program to increasing access to case management services cannot be determined from national-level HMIS data and that a parallel data management system for CCM was implemented. All three reviews also note that analysis and use of CCM data for programmatic decision-making is very limited at the operational/district level. Thus, the reviews recommend efforts to improve use of data for decision-making at district level to improve program management, as well as efforts to integrate CCM data collection into the HMIS in such a way that the contribution of CCM can be understood for program monitoring and accountability.

Innovative Monitoring and Evaluation (M&E) Tools

The reviews highlight several tools that were found to be helpful in M&E. Use of the Lot Quality Assurance Sampling (LQAS) tool was useful in the DRC in measuring knowledge and behaviors of BCC messaging. Senegal found that dashboards were an effective way to gather and host information on key CCM indicators throughout program implementation. The Malawi review concluded that initial work indicated that SMS technology was a potentially useful tool to assist in data collection.

SELECTED FINDINGS FROM THE THREE CCM REVIEWS: MONITORING AND EVALUATION		
SENEGAL	**DRC**	**MALAWI**
APPROACH		
Reports produced by CHWs integrated into data from the catchment area at the health center level Parallel M&E system outside of the national health management information system (NHMIS) and mostly computed and managed by NGOs for monitoring and reporting to donors	Reports produced by CHWs integrated into data from the catchment area at the health center level Parallel M&E system outside of NHMIS, with strong capacity building at the MOH national level	Parallel M&E system outside of NHMIS Tracking system exists for a limited number of CCM indicators, using both paper and SMS texting
FACILITATING FACTORS **All three reviews reported efforts to integrate CCM information into the national HMIS.**		
Opportunities exist to discuss CCM data in meetings that occur regularly in each district	A CCM database has been developed LQAS was a good tool to access knowledge and behaviors associated with the BCC activities Efforts to integrate some CCM indicators in the NHMIS	Using SMS strategies for data collection on key indicators has been promising
CONSTRAINING FACTORS **All three reviews found that contributions of the CCM program could not be identified through the existing M&E system.** **All three reviews identified establishment of a parallel M&E system as a challenge to sustainability.**		
Limited involvement of MOH personnel in M&E at district and provincial levels Tools and standardized guidance for program monitoring not yet available at district level	The CCM indicators that are present in the NHMIS are not enough to measure the contribution of CCM activities The provincial and district levels are not involved in data management as case management forms are sent to the central level for database entry	Consistent concerns exist about accuracy and timeliness of data General concern that data are not being used in any decision-making

Discussion: Lessons Learned and the Way Forward

This review highlights the growing depth of knowledge around implementing CCM programs. These programs require serious planning and policy setting, careful implementation, and active monitoring. However, despite the many challenges identified, the CCM programs in Senegal, the DRC, and in Malawi have been successful in expanding access to case management for children under five years. They have also contributed to global learning about what programmatic approaches are more likely to be effective.

As with many international development programs, it is likely that CCM will continue to face substantial challenges. One fundamental issue grows out of the settings where CCM is most needed: areas with high under-five mortality and poor access to case management services. These settings are those that typically also have frail health systems, frequently with weaknesses at policy, financial, human resource, supply chain, service delivery, communication, quality assurance, and M&E levels. In other words, addressing the weaknesses identified by this review is important to the success of CCM programming. The ultimate paradox, then, is that areas most in need of CCM programs are also the settings in which implementing CCM presents the most challenges. Program success in these settings can be understood in terms of the extent to which programs have found effective solutions for overcoming this fundamental challenge. All three reviews highlight the important roles of partners, including donors and NGOs, in funding and supporting CCM implementation—an approach to addressing this paradox that these programs appear to have in common. The extent to which this approach can be sustained and used to further scale up CCM in these countries remains to be seen.

Solutions to the challenges identified in this review will evolve over time, not only through program experience, but also through continuing collaboration between governments, donors, and partners to share experiences, successes, and challenges. The lessons learned here can provide important insights for organizations involved in CCM programming. The following analysis of findings is structured around a strategic framework that highlights four core elements of CCM.[6] The components include: 1) establishing a favorable policy environment and effective institutional support, 2) delivering services through CHWs, 3) building awareness and mobilizing communities, and 4) reinforcing links between community services and the health system.

ESTABLISHING A FAVORABLE POLICY ENVIRONMENT AND EFFECTIVE INSTITUTIONAL SUPPORT

MOH Leadership Is at the Core of a Successful CCM Program

The importance of the central leadership, specifically from the MOH, was made clear by all three reviews. For example, the involvement of the Minister of Health in the DRC set the framework for the introduction of CCM, substantially increased the visibility of CCM, and helped decrease the amount of institutional delays that new programs often face. However, efforts must be made to carry this top level of support for CCM through to provincial and district levels. While national level support is essential to initiating CCM, these operational levels are equally essential in ensuring continuous and effective implementation. In fact, with regard to the challenges identified by the three reviews, a significant number of constraints were identified at the operational level. To address these challenges, solutions will need to emerge at district level, requiring not only participation, but also leadership, from the technical MOH staff.

Multi-Partner Coordination Is a Challenge Worth Addressing

The challenge that coordination presents is not a new finding. Indeed, coordination—especially when numerous government departments and NGOs are involved—is difficult for any program, and CCM is no exception. The three CCM reviews identified coordination challenges within and between different MOH departments, and with NGOs. However, working groups and steering committees can be used to help facilitate discussion, participation, and coordination at national and operational levels. The form of these central leadership groups should reflect the local context, as well as the number and type of organizations involved. For example, in Senegal, where many NGOs were involved in CCM, a unified NGO consortium facilitated coordination and helped to ensure harmonized CCM activities.

Without Budget Systems and Planning, CCM Programs Are Less Effective and Not Sustainable

An effective and sustainable CCM program has two fundamental financial components: 1) a budget system that allows planning and tracking of specific CCM activities and expenditures, and 2) a long-term implementation and financial plan for CCM.

A robust budget system for CCM requires specific line items for program activities, as well as guidance for provincial and district levels to assist in planning and tracking CCM expenditures. Without specific line items, it is difficult to ensure that money is benchmarked for CCM activities, and monitoring of CCM-specific expenditures cannot occur.

Many host governments may be unable, or unwilling, to fund CCM programs in full from the initial stages. Short-term donor funding is often required in order to introduce new program designs, or to support program expansion to scale. In these situations, a long-term strategy and budget can help clarify roles and responsibilities across different program phases and establish a plan for progressive host government responsibility. Without a long-term plan and budget, it is difficult to determine a host government's interest or ownership levels, rendering the sustainability of any CCM program activities highly questionable.

From the initial stages of advocating and planning for a CCM program, significant efforts should be targeted at strengthening the national budget tracking system and having detailed discussions with the host government about sustainability and the importance of creating a long-term operational plan, including a CCM budget.

DELIVERING SERVICES THROUGH CHWS

Successful CCM Programs Are Adapted around Local Culture and Context

Gaining community support and acceptance is necessary for a CCM program to be successful and sustainable. Substantial thought should be invested in the early stages of program planning to create a locally acceptable program model that will facilitate community satisfaction. Some ways to incorporate local cultures into program design are to actively include the community, incorporate local leaders and religious figures into program design, and ensure communication campaigns are locally appropriate. For example, all three reviews found success in using local leaders and religious figures in promoting their CCM programs at the community level.

Selecting and Appropriately Training CHWs Are Essential for a CCM Program to Function

In ensuring human resources for CCM, programs have several options. Attention could be focused on reinforcing the skills of existing CHWs (for example, *matrones* and ASCs in Senegal). Another option is to create a new sub-set of CHWs by selecting a portion of individuals from an existing pool of CHWs and then provide them more specialized training (for example, site relays

in the DRC). Lastly, current CHWs can be trained to add CCM services on top of their other responsibilities (for example, adding CCM to the workload of HSAs in Malawi).

As with all positions, clear roles and responsibilities of CHWs and their supervisors are important to keep the program operating, as well as to respond effectively to any challenges that arise. When roles are not clear, or there is not a functioning communication system in place between CHWs and supervisors, program activities may become delayed or less effective. For example, stock-outs may not be reported or needed training may not occur.

Highly Motivated CHWs Are Necessary for Success, and Incentives Come in Different Forms

The motivation of CHWs is an integral aspect of success and a package of incentives should be agreed upon in the early planning stages. Many CHWs seem to be adequately motivated by the respect they receive from their community to continue in their roles. The incentive package should be determined based on thorough understanding of local culture and knowledge of incentives received by other community workers. As it is potentially problematic to take away financial incentives once CHWs come to expect them, the decision to pay CHW salaries should be accompanied by a detailed, long-term strategy on how these payments will continue to ensure sustainability.

Without Drugs and Commodities, There Is No CCM Program

Put simply, CCM programs do not work without the proper commodities. When a CCM program is consistently challenged by stock-outs, the overall contribution to child health decreases; community trust in the services may be weakened as well. However, many countries do not have a fully functioning supply chain system that can handle the incorporation of CCM supplies into existing health supply sources. While it may be faster and more reliable to establish and operate a parallel system for CCM, it is much less sustainable, especially when the host government does not have financial responsibility for the commodities. Ideally, efforts should be made to incorporate CCM supplies into the national supply chain system. If a parallel system is established, it should be conceptualized as a short-term solution and accompanied by a long-term plan, including detailed capacity-building benchmarks and a transition plan to increase host government financial responsibility.

Even in countries where CCM commodities are integrated into the national supply chain system, capacity building in stock management should remain a key component of the CCM program to ensure consistent stock levels and quick response to any stock-outs.

BUILDING AWARENESS AND MOBILIZING COMMUNITIES

Clear, Locally Relevant, and Targeted Communication Strategies Will Help Get the Word Out

Leadership from the MOH can help stakeholders establish consensus on key messaging and social mobilization approaches. Unclear communication approaches have an acute impact on the CCM program, as in Malawi, where the absence of a national social mobilization strategy led to a lack of IEC materials at the community level. In cases where the MOH is not spearheading efforts to establish a cohesive communication strategy, a CCM steering committee and/or BCC working group can be initiated by partners to bring MOH and other partner stakeholders together to discuss the importance and creation of a national strategy.

Local Leaders Are Effective Messengers

Experience shows that the incorporation of local leaders into CCM programs can help increase knowledge of danger signs and usage of CCM services. Still, IEC/BCC campaigns are complex

and difficulties are common. One key challenge is maintaining attention on key danger signs and CCM services, while not detracting attention from other important community health messages. This challenge highlights the importance of conducting a thorough landscape analysis in early planning phases to ensure the CCM program is part of a larger community health BCC strategy.

REINFORCING LINKS BETWEEN THE HEALTH SYSTEM AND COMMUNITY SERVICES

Training Supervisors Is at Least as Important as Training CHWs

Training community health workers and ensuring ongoing quality control is not a unique challenge of CCM programs. While some staff turnover and a normal learning curve will always impact the knowledge levels of service providers, a comprehensive supervision strategy will help to consistently improve service quality. A supervision strategy is more likely to be successful if it includes clear roles and responsibilities, as well as detailed guidance on the timing and content of supervision visits. Innovative supervision methods can be used to increase the likelihood of success, for example, using group supervisory meetings as a complement to one-on-one visits.

Supervision is an issue that should be addressed in a long-term CCM implementation plan. It is important for sustainability that staff within the official health system be the ones to provide supervision. To make this more successful, a realistic review of the time constraints placed on planned supervisors and the supervisors' capacity should be conducted to determine the most appropriate staff for providing CHW supervision. In addition, capacity building should focus not only on CHWs, but should give equal attention to supervisor training, using frameworks to ensure that supervisors have the necessary skills to mentor CHWs.

Data Collection Is the First Step in Understanding Key Issues Such as Causes of Non-Compliance with Referrals

Compliance with CHW referrals is a consistent challenge to many health programs, including CCM. CCM programs should ensure that mechanisms are in place to collect relevant data to track not only the frequency of compliance in cases of referral, but also the reasons for non-compliance. This information will allow the program to identify the barriers to CCM at the community level and explore potential solutions. To further address this issue, countries—with the support of the World Health Organization and other global partners—should also consider formalizing guidance for CHWs on what to do when referral is not feasible.

Monitoring the Contribution of CCM Is Possible

These three reviews did not include information on care-seeking practices, or on the availability of alternative sources of care, such as those in the private and traditional sectors. This information is essential to understanding the role and effectiveness of CCM programs. Although survey-based estimates of care-seeking for childhood illness may not be available or the quality of such findings suspect, routine reporting of treatments provided may be used to estimate rates of treatment in catchment populations (e.g., courses of antibiotics provided for childhood pneumonia per child per year). Information on use of services may also be employed for assessing measures related to equity in the use of services across different population groups. Without estimates of use/coverage (along with intervention efficacy, quality, sustainability, and scale), reviewers cannot generally understand the extent to which programs (CCM, Expanded Program on Immunization, etc.) may contribute to sustainable reductions in mortality at scale.

Sustainable CCM Programs Work through a Strengthened National HMIS

This review has confirmed the importance of establishing an adequate monitoring and evaluation system. Identification of appropriate indicators that will help determine the contribution of CCM, along with strengthening systems for data collection, should occur from the very conception of any CCM program. However, also of the utmost importance is ensuring that mechanisms exist during implementation to facilitate discussion of key data and utilize findings in decision-making, especially at the operational level. While it may be faster to establish a parallel system for CCM, that approach raises issues about sustainability. The most sustainable way to ensure long-term monitoring of a CCM program, and to facilitate government ownership, is to integrate key CCM indicators into the national HMIS. Using the global CCM Task Force compendium of CCM indicators can improve standardization of monitoring of CCM programs.

Conclusion

The assessments of the CCM programs conducted in Senegal, the DRC, and Malawi in 2010 and 2011 clearly identify that government ownership and establishment of a strong coordination mechanism were the most important factors that successfully facilitated expansion of the CCM program to national scale. However, the implementation struggles these countries experienced also demonstrate that CCM programs are complex endeavors. Despite these functioning CCM programs, challenges remain, and tend to intensify, when countries are attempting to expand the program to scale. These challenges include establishing effective supervision, ensuring consistent availability of commodities, and establishing a sound monitoring system. Moreover, longer-term questions such as budget uncertainty and how to ensure a sustainable motivation system for CHWs must be carefully addressed to maintain momentum. Systematically asking and answering the right questions is vital to guaranteeing that CCM is implemented in a way that maximizes its main purpose as a powerful intervention to reduce childhood mortality in communities with poor access to facility-based services.

[1] More information on the CCM Benchmarks can be found by visiting www.CCMCentral.com.
[2] USAID, MCHIP. Integrated Community Case Management of Childhood Illnesses: Documentation of Best Practices and Bottlenecks to Program Implementation in Senegal. Revised and Submitted 1 September 2011 to: United States Agency for International Development. (58-page report in English)
[3] Integrated Community Case Management of Childhood Illnesses: Documentation of Best Practices and Bottlenecks to Program Implementation in the Democratic Republic of the Congo (DRC), Summary Report, DRAFT [KT] (Sent March 7). (19-page summary report in English was reviewed in 2011.) USAID, MCHIP. Integrated Community Case Management of Childhood Illness: Documentation of Best Practices and Bottlenecks to Program Implementation in the Democratic Republic of Congo (DRC) Revised and Submitted May 2012 to: United States Agency for International Development. (89-page draft English translation was reviewed in 2012.)
[4] USAID. *USAID/Malawi Community Case Management Evaluation*. May 2011. Publication produced for review by USAID, prepared by JT Fullerton, RM Schneider, A Auruku, through the Global Health Technical Assistance Project. (100-page report)
[5] More information on the CCM Benchmarks can be found by visiting www.CCMCentral.com.
[6] Winch PJ, Leban K, Casazza L, Walker L, and Pearcy K. An implementation framework for household and community integrated management of childhood illness. *Health Policy and Planning* 17 (4): 345–353. 2002.