



DRC

Integrated Community Case Management of Pneumonia, Malaria & Diarrhea

Integrated community case management (iCCM) is a strategy to improve coverage of case management for the top killers of children under five globally - pneumonia, malaria and diarrhea. Coverage is improved through addressing three key pillars within an enabling social and policy environment: 1) increased **access** to services and treatments; 2) improved **quality** of services; and 3) increased **informed demand** among children's caregivers for appropriate treatment-seeking behavior. Improving coverage through increased access, quality and demand for services can be achieved through working with various provider networks, depending on what is most appropriate for children's caregivers and providers in a given context.

> iCCM LOGICAL FRAMEWORK

Reduce **severe disease & death** among children under 5

Increased **appropriate case management** of malaria, pneumonia & diarrhea among children under 5

Enabled social & policy environment

Increased **access** to services & treatment

Improved **quality** of service provision

Increased informed **demand** for services among children's caregivers

Child mortality in the Democratic Republic of Congo (DRC) is very high, with a rate of 158 per 1,000 live births – more than one child in seven dying before reaching age five (MICS 2010). DRC is among six countries which account for more than 50% of global child mortality (WHO 2002). Neonatal deaths, malaria, pneumonia, diarrhea, measles, and complications from HIV/AIDS are the leading causes of child death. Half of all deaths are due to underlying malnutrition. A situational analysis in DRC showed that 80% of child deaths occur at home, without consulting any type of health facility.

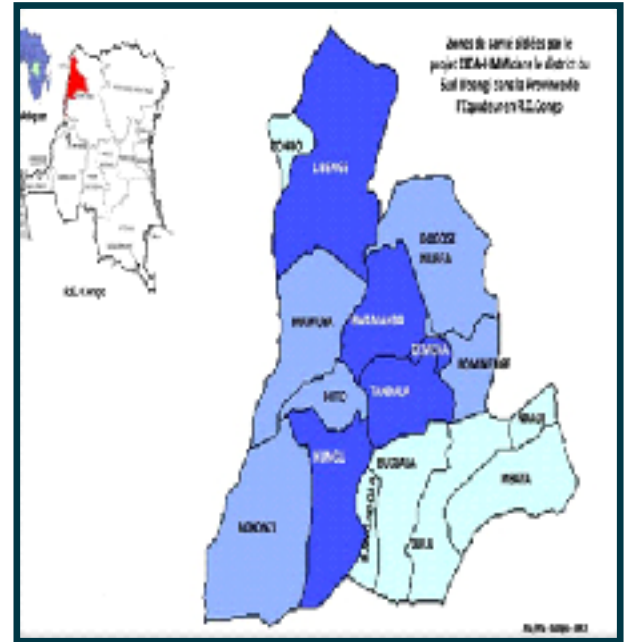
In the South-Ubangi region of DRC's Equateur province, more than one in four children under five had fever in the two weeks preceding a WHO-TDR baseline survey (26%). However, on average only 3.3% with fever received the national first-line ACT (ASAQ) and 36% received no treatment at all. Approximately 24.5% of children under five had one or more episodes of diarrhea and 7% had suspected pneumonia in the two weeks preceding the survey, however only 20.5% of those with diarrhea received Oral Rehydration Therapy (ORT) and only 7% of those with suspected pneumonia received an antibiotic (WHO-TDR 2010).

THE CIDA CCMIMPACT PROGRAM in DRC

The CCMImpact program increases access, quality and demand for appropriate case management of malaria, diarrhea and pneumonia at the community level. Funding for the CCMImpact program was awarded to Population Services International/Association de Santé Familiale (PSI/ASF) by the Canadian International Development Agency (CIDA) in March 2009. The program was launched by PSI's affiliate Association de Santé Familiale (ASF) on World Pneumonia Day in November 2010 with antibiotics, and ORS & zinc and with the introduction of ACT for uncomplicated malaria in May 2011.

Phase 1 of the program established 396 community health sites covering a population of 636,000. The Ministry of Health and ASF recruited and trained 796 community health workers (Relais Communautaires), with two CHWs at larger sites and one at smaller sites. Additionally, 396 Relais Promotionnels were recruited, one per site, to support community education and outreach efforts.

Many of the CHWs selected also work for their communities as educators during vaccination campaigns. Caregivers in villages were sensitized to bring children with fever, diarrhea and pneumonia to the CHWs. The CHWs use the IMCI algorithm to assess the likely cause of illness and its severity. Children with severe illness are referred to health facilities. Where CHWs identify uncomplicated malaria, pneumonia or diarrheal disease, they provide treatment free of charge.



An important element of the CCMImpact program is to document lessons learned to support continuous program improvement and eventual scale-up. Among these, the program identified product packaging development and tax exemption as two issues which could delay program launch and proposed the following considerations to overcome procurement challenges and ensure successful program start-up:

1. Engage the NDRA and the Pharmaceutical boards early and often, and ensure that program and procurement staff understand and comply with all requirements when developing packaging. Verify packaging elements against minimum message guidelines and ensure written approval of product design and artwork with the NDRA and other national stakeholders.
2. Fully understand each step of the procurement process and monitor progress on a regular basis to minimize errors and ensure that milestones are reached in a timely manner.
3. If national events beyond the control of the program threaten to block the launch or resupply of essential medicines, seek advice and support from national and international stakeholders.

INCREASING ACCESS

The CCMImpact program in DRC consists of 796 CHWs and 396 health promotion agents, covering nine health zones of the South Ubangi district in DRC's Equateur province. The project office is located in the health zone of Gemena. CHWs are selected by their communities, typically residents of the village and meeting minimum requirements of literacy (eg some primary school and ability to read and write basic French) which allows them to fill out patient registers and related paperwork. CHWs often also participate in other health activities in the community, for example vaccination and child health campaigns.

CHWs and promotional relays are unpaid volunteers in DRC, receiving only a monthly travel allowance of \$5. Promotional relays receive \$4 per month to allow them to attend monthly meetings. CHWs are motivated by opportunities to receive training and participate in monthly meetings, and take pride in community recognition as "village doctors". Regular supportive supervision from program staff and MOH authorities also

provides encouragement and reinforces the importance of CHW contributions to the health system. One CHW reported that “When a vehicle comes to the village, the important people always stop at my house,” as a source of prestige and reinforcement of his role in the community.

Program lessons learned to support CHW motivation and retention include:








1. Access to CHW services is dependent on the continued retention of CHWs following training. One year after the launch of the project in DRC, 20% of CHWs trained had dropped out of the project. Village health committees in collaboration with the health area focal point (IT) identified community members to replace the non-active CHWs, and provided extensive briefing and support to the new CHWs during the transition.
2. Choosing a CHW who is a permanent resident of his or her community and who has an activity that allows him or her to provide for his or her family is fundamental for CHW retention.
3. In DRC, CHWs are motivated by opportunities to receive training and participate in monthly meetings, and take pride in community recognition as “village doctors”. Additionally, CHWs receive a small monthly travel allowance of \$5. Promotional relays receive \$4 per month to allow them to attend monthly meetings.
4. Regular support supervision from program staff and MOH authorities also provides encouragement and reinforces the importance of CHW contributions to the health system.



Wooden chests provide safe storage for CCMImpact medicines.

Maintaining a continuous supply of program medicines with CHWs is essential to increasing access to treatment at the community level, and dependent on an effective supply chain. ASF works closely with the district distribution depot (Centrale de Distribution de District), CAMENE (Centrale d’Approvisionnement en Médicaments Essentiels pour le Nord-Equateur) to package and transport program medicines. With procurement support from PSI/Washington, program medicines are ordered and transported to the ASF warehouse in Kinshasa, where they undergo quality control testing by the *Office Congolais de Contrôle* (OCC) before being air shipped to Gemena. Upon arrival in Gemena, project medicines are transported by truck to CAMENE in Bwamanda. ORS sachets and zinc blisters are then packaged by CAMENE into diarrhea treatment kits for two age bands and Cotrimoxazole tablets are packaged into single treatment plastic bags according to three age bands, according to national policy. CAMENE ensures product distribution to four health zones and ASF to five health zones, following a distribution plan developed in collaboration with ASF and local MOH authorities.

Table 1: DRC CCMImpact Program Medicines

Malaria	Artesunate Amodiaquine	ASAQ 25/67,5mg	Infant 2 to 11 months 1 tablet for 3 days	
		ASAQ 50/135mg	Child 12 to 59 months 1 tablet for 3 days	
Diarrhea	SROZinc® green	2 sachets of ORS + 1 blister of 5 tablets of Zinc	Infant 2 to 5 months ½ cup of ORS after each stool + 1 tablet of zinc each day for 10 days	
	SROZinc® orange	2 sachets of ORS + 1 blister of 10 tablets of Zinc	Child 6 to 59 months 1 cup of ORS after each stool + 1 tablet of zinc each day for 10 days	
Pneumonia	Generic Cotrimoxazole	Cotrimoxazole 480 mg	Infant 2 to 5 months ¼ tablet twice daily for 5 days	
		Cotrimoxazole 480 mg	Child 6 to 35 months ½ tablet twice daily for 5 days	
		Cotrimoxazole 480 mg	Child 36 to 59 months 1 tablet twice daily for 5 days	

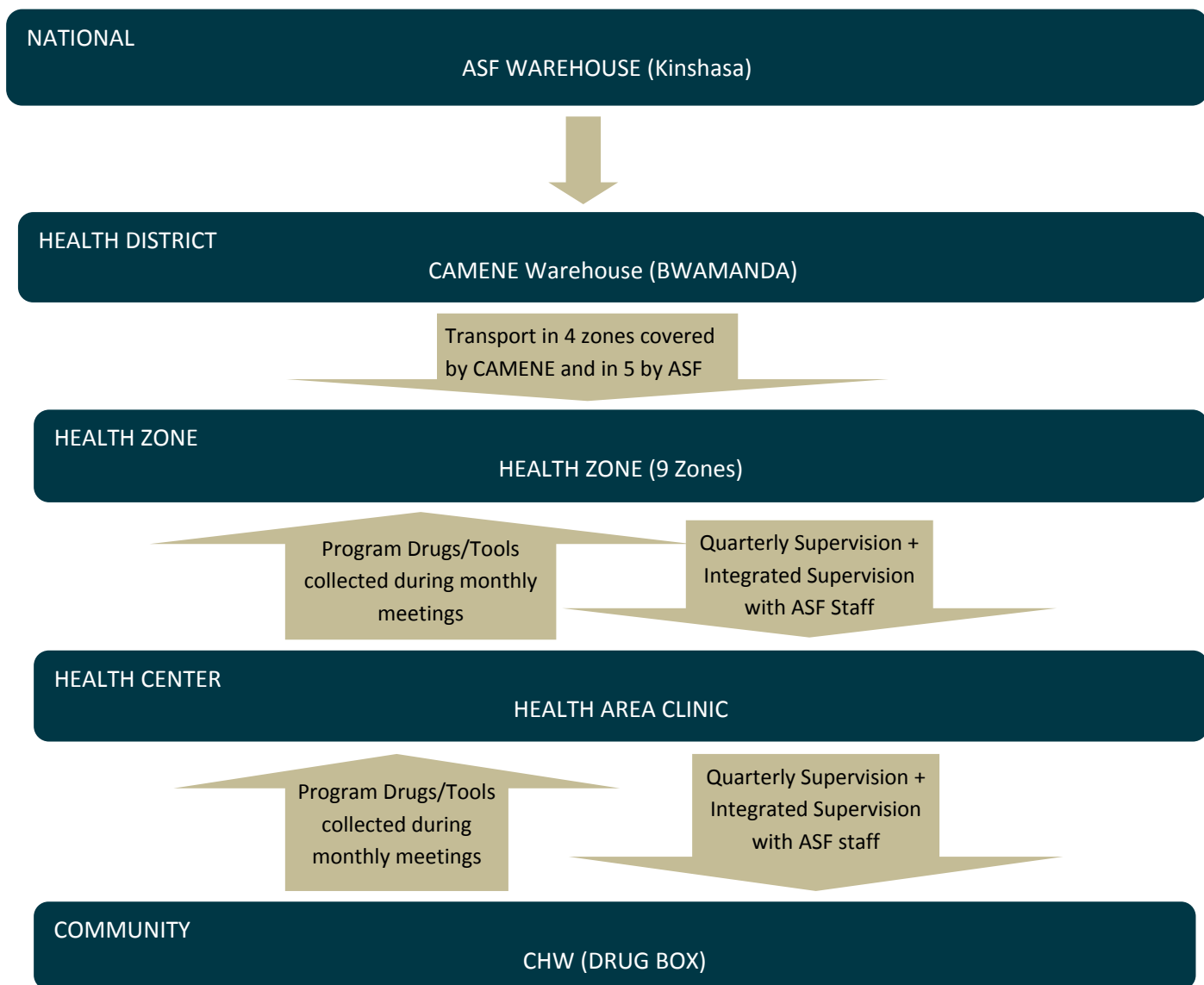
CHWs resupply stocks of the below medicines at each monthly monitoring meeting at the health facility and based on their reports of cases managed and stocks used the previous month. The health area head nurse (*l’Infirmier Titulaire*) supervises medicines stocks and patient registers—

during monthly or bi-weekly supervision visits. Health centers resupply from the health zones every month during monthly monitoring meetings, and receive stock allotments based on consumption levels which allow them to disburse monthly stock to CHWs and maintain a buffer stock.

Important supply chain lessons learned to support continuous availability of program medicines include:

1. A stock pull system more accurately reflects demand and coupled with use of a buffer stock minimizes the risk of stock-outs in the field. ASF provides support to the monthly monitoring meetings at health area and health zone levels to encourage timely reporting of stock data and stock requests.
2. Reporting and monitoring structures for drug stocks should be simple, output oriented, tested and in place prior to program implementation. All CHWs and staff reporting on these numbers should be trained to use the system. ASF supported the development of a stock bin card system for inventory control, including program medicines.
3. Wooden medicine chests with a lock allow for safer storage and support organization and management of program medicines. CHW training and supervision can further emphasize the importance of monitoring basic drug quality (such as expiration dates).
4. Use the existing MOH supply chain structure where available to develop sustainability, and provide program support to identify and resolve bottlenecks within the existing MOH supervision and periodic meeting structure. This system ensures that stocks are maintained on the ground and avoids creating parallel mechanisms.

Figure 1: DRC CCMImpact Supply Chain and Supervision Approach



INCREASING QUALITY OF SERVICE PROVISION



CHWs implementing the CCMImpact program participate in a five-day training, based on the community Integrated Management of Childhood Illness (c-IMCI) standards of care. Training was conducted by cascade, beginning with a training of national and provincial trainers who trained facilitators at provincial, district, and health zone level. Health zone teams trained nurse supervisors who implemented the five-day training of CHWs and a 1-day training of the promotional relays and the community health site management teams. A significant portion of the training focused on practical components, conducted with test cases in the community in addition to classroom instruction with interactive demonstrations, role play, video meetings, and problem-solving exercises in French and local languages (Lingala, Ngwaka, Mbanza, Ngombe, and Lobala). In addition to this initial training, community health sites received three follow-up refresher trainings (one per month for the three months following the initial training) to provide updates and reinforce key issues noted during support supervision. The program also provided job aids including a case management algorithm and pictorial flip-book and further briefings on the use of monitoring tools and management procedures.

Within two months of the training, a post-training assessment was conducted with each CHW. Assessment results show that 79% of observed cases were correctly assessed, classified, treated, or referred by the CHW. Regular supervision also shows improvement in key performance indicators for quality of service provision, for example the number of CHWs who know the c-IMCI danger signs increased from 60% in Q2 to 80% in Q4 of 2011, and the percentage of CHWs receiving at least two supervision visits increased from 77% in Q2 to 93% in Q4.

Health area head nurses (ITs) supervise each CHW and promotional relay at least once or twice per month. Program bicycles were donated by the UK Department for International Development (DFID), and have significantly increased supervision capacity by providing more consistently available transport to/from community health sites. Where possible, joint ASF and IT supervision visits are carried out, and program motorbikes used for accessing remote sites. Health zone authorities supervise 2-3 health areas each month and visit 2-3 community health sites with each visit. ASF malaria staff from Kinshasa also conduct quarterly supervision visits to support advocacy and provide strategic, technical, and programmatic support. Monthly and quarterly supervision forms have been developed to support review of CHW activities and relevant site management tools, including medicine stock cards, sick patient forms, medicine delivery invoices, and CHW monthly summary reports.

Monthly monitoring meetings are held to allow CHWs from each health area to exchange information and experiences, to submit and validate reports and management tools, as well as to resupply medicines based on reports submitted.

Lessons learned in the area of ensuring quality include:

1. The quality of services delivered by CHWs is dependent on comprehensive training prior to program implementation. Effective trainings should address all elements of the program, not just diagnosis, treatment, and referral. It should also spend adequate time on logistics related to reporting, restocking, and quality management strategies.
2. Close supervision following training, and the inclusion of post-training assessments to determine weak areas which need reinforcement, are an effective means for reinforcing correct use of the diagnostic algorithm, observing the accuracy of case management, and correcting mistakes as needed.
3. Practical training exercises, conducted with test cases in the community in addition to classroom instruction with interactive demonstrations, role play, video meetings, and problem-solving exercises in the national and local languages reinforces comprehension and allows facilitators to assess weak areas which need reinforcement.
4. Logistics support for supervision, including the DFID donated bicycles and use of program motorbikes for joint supervision visits with MOH and program staff, promotes consistent supportive supervision.
5. Assessment tools must be easy to use and able to withstand difficult conditions in remote areas. Use of alternative respiratory rate timing devices, for example, is being explored to support improved pneumonia diagnosis.
6. Supervision forms support review of CHW activities and relevant site management tools, including medicine stock cards, sick patient forms, medicine delivery invoices, and CHW monthly summary reports.
7. Sufficient program management staff are needed, particularly where program implementation takes place over a large geographic area and where access and communication are difficult. ASF hired additional staff to ensure that one project supervisor was available per axis. ASF also worked with district and provincial authorities to ensure MOH support to joint supervision visits and the full implication of IT and their supervisors. These initiatives allowed improved supervision and support to each site, particularly those in remote areas.

INCREASING INFORMED DEMAND AMONG CAREGIVERS

Informed demand in the context of iCCM means that caregivers can recognize symptoms of malaria, pneumonia, diarrhea, and danger signs; promptly seek treatment from an appropriate provider; and are aware of the availability of the services rendered by CHWs. Demand creation activities for the CCMImpact program in DRC have focused around social mobilization with local associations, interpersonal communication (IPC) with caregivers and communities, and health agents to promote key messages including : 1) recognition of danger signs and the importance of prompt action to seek treatment with a trained provider within 24 hours, 2) the availability of medicines and trained CHWs via the community health sites 3) appropriate use of medicines and the importance of following instructions provided for correct/complete administration.

Communication has mainly been carried out through IPC sessions held by the promotional relays using the pictorial flip-book. In October 2011, there was also a program re-launch with reinforced communication to raise awareness of the CCMImpact program and availability of services and medicines. IPC sessions focused on the role of the CHW, danger signs and symptoms of disease, and the need to seek treatment promptly. Promotional relays conduct household visits, attend caregiver meetings at the village level, and take advantage of other public gatherings at the village level to sensitize and educate the population. To reinforce the important role that promotional relays play, the CCMImpact program has implemented briefings and refresher trainings, monthly meetings, and supportive supervision.

Lessons learned in demand creation in DRC's CCMImpact program include:

1. It is important to engage with implementing communities from the inception of the project and build strong relationships with local authorities, community based organizations, and other prominent individuals for a program to be adopted by a community.
2. The absence of ACTs at program launch (due to delays during the tax exemption process) led to a reduction in use of the community sites and thus a reduced motivation of CHWs. Caregivers of children with fever did not want to be referred to clinics for malaria treatment, as services in public facilities are not free. It is important to ensure that all products are available at program launch. If that is not possible, program launch plans should take into consideration careful messaging to ensure that populations understand what to expect and CHWs should be fully trained in addressing issues that can arise.

MONITORING FOR CONTINUOUS IMPROVEMENT

The CCMImpact program uses a continuous monitoring system designed to generate programmatic data on a monthly basis to inform program improvement. Routine monitoring data are collected on a monthly basis through a paper-based system from individual CHWs, summarized by health area focal points, analyzed by ASF, and presented to MOH team as health zone, district, provincial and central levels, to support on-going planning and improve program implementation. (See Figure 2) Data are also used for monitoring delivery of the project in relation to the key elements of the logframe – access, quality, and demand – through rates of supervision, stock-outs, case management, and referral.

Lessons learned through design and implementation of this system include:

1. M&E is a priority during both project design and implementation. It is important to assess program capacity and to budget sufficient human and financial resources for data collection, data entry and management, analysis, and reporting, including allocation of an individual to be exclusively responsible for managing project data.
2. It is essential to train CHWs and their supervisors extensively on the correct use of reporting forms to reduce errors. Ensure that reporting forms are simple and output oriented, and test forms prior to their adoption, for their successful application.
3. Ensuring data accuracy and timeliness requires inputs on multiple levels. In DRC, the CCMImpact program :
 - o Provides a small financial incentive to defray transport costs for CHWs to attend monthly meetings at the health area level, which is paid once completed reports are received
 - o Trained health area focal points to provide mentorship and coaching to CHWs to improve reporting practices
 - o Provides logistics support to ensure consistent supervision (as described above)
 - o Increased the number of field coordinators who support active data collection as needed

To learn more about PSI's work in child health around the globe, visit: www.psi.org

Figure 2: DRC CCMImpact Data Collection Approach

