

DEVELOPING AND IMPLEMENTING TRAINING MATERIALS

[for integrated community case
management in South Sudan]



The Learning Papers Series

Since starting operations in 2003, Malaria Consortium has gained a great deal of experience and knowledge through technical and operational programmes and activities relating to the control of malaria and other infectious childhood and neglected tropical diseases.

Organisationally, we are dedicated to ensuring our work remains grounded in the lessons we learn through implementation. We explore beyond current practice, to try out innovative ways – through research, implementation and policy development – to achieve effective and sustainable disease management and control. Collaboration and cooperation with others through our work has been paramount and much of what we have learned has been achieved through our partnerships.

This series of learning papers aims to capture and collate some of the knowledge, learning and, where possible, the evidence around the focus and effectiveness of our work. By sharing this learning, we hope to provide new knowledge on public health development that will help influence and advance both policy and practice.

Developing and implementing training materials [for integrated community case management in South Sudan]

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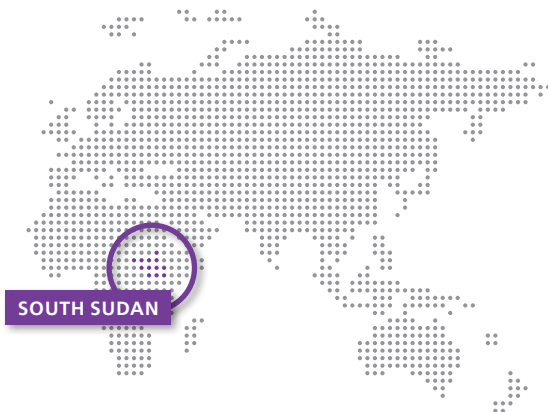




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Introduction



ICCM in the community

This paper shows how best practices for delivering training of Community Drug Distributors (CDDs) in the implementation of integrated community case management (ICCM), that have been shown to be successful in some countries and contexts, needed to be adapted to fit a more complex environment in South Sudan.

It also shows how adaptation of materials is a resource intensive, proactive and on-going process, which requires testing existing best practices and evaluating which systems, methodologies and tools can be used in various settings, as opposed to those that require additional revising or innovation.

Malaria Consortium went through a process of applying innovative strategies to develop materials and implement ICCM training in two states of South Sudan between June 2010 and June 2012 at a time when

the Ministry of Health was still developing strategy, policies and its approach to ICCM programming. During this process the effectiveness of training was evaluated and revised to ensure CDDs learned good standards of care that would have a positive impact on the health of the communities they served.

This paper looks at the process and the challenges encountered, and considers the lessons learned from implementing ICCM training in this complex setting.



CDDs being trained in ICCM in South Sudan

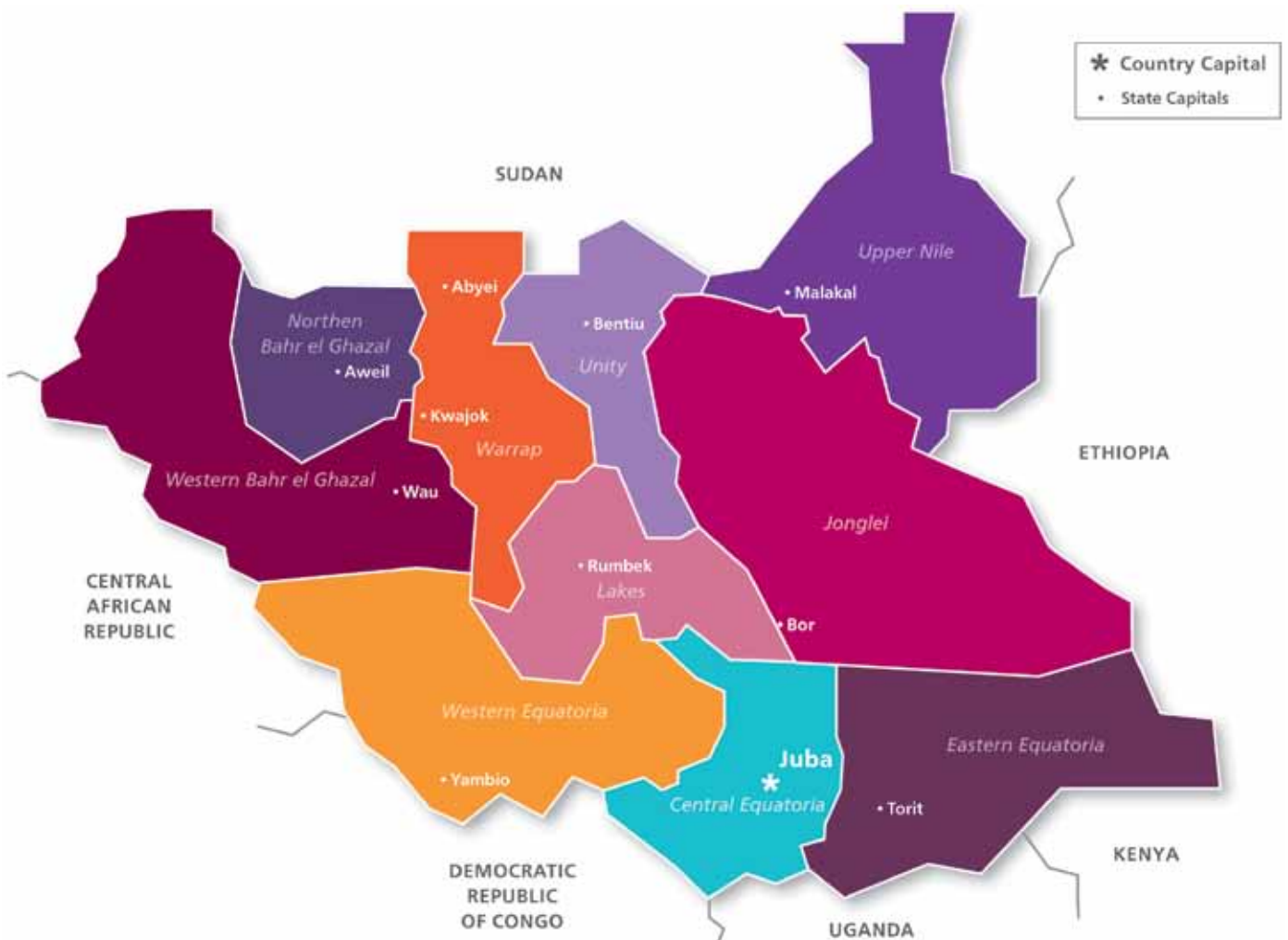
Background

Republic of South Sudan

The Republic of South Sudan became an independent nation on 9 July 2011 following a referendum on self-determination in January 2011 where 99 percent of South Sudan's population voted for independence. The referendum brought to an end the 2005 Comprehensive Peace Agreement and ended over 20 years of civil war which had resulted in the deaths of over two million people.

The first year of sovereignty has brought a number of challenges. The government's

austerity measures have cut its already limited financial support to basic services, including healthcare. The economy and new currency are also approaching collapse. The failure to agree on citizenship issues has resulted in 400,000 Southern Sudanese being forced to move from Sudan to South Sudan since October 2010. These returnees – combined with military conflict with the Republic of Sudan, ethnic conflict within South Sudan, food insecurity and flooding – are contributing to mass displacement both across the border and within South Sudan.





The UN estimates that 4.7 million South Sudanese are at risk of food insecurity due to dry weather, flooding and high food prices, and forecasts for the coming harvest (2012) are low. Malaria cases are currently at a level the World Health Organisation (WHO) has described as 'epidemic'.

In rural areas access to healthcare is very challenging. Malaria Consortium has been pioneering a community model in South Sudan which is, we believe, one way that access to care can be improved, leading to a reduction in child mortality.

The population of South Sudan is estimated at eight million. There are over 250 ethnic groups that vary in cultural beliefs and traditional practices. In Northern Bahr el Ghazel (NBeG) the majority of people are Dinka (Dinka-Malual) with a minority Luo, while in Unity state the predominant tribe is Nuer, with a minority Dinka (Dinka-Ngor). The culture of the populace is largely nomadic pastoralist and agro-pastoralist, with some spatial sedentary farming groups.

As it is common for men to have more than one wife, families tend to be large and there are often many children under-five in a household. This means that there can be high numbers

of children in a CDD catchment area, estimated at around 40 households per CDD.

However, the settlements are sparsely located making the geographical expanse of the catchment area very wide. Sanitation is a concern everywhere, and many households struggle to access clean water. Open defecation is common practice in both rural and urban areas.

Decades of conflict in South Sudan have led to a collapse of infrastructure in the country. Globally, South Sudan has some of the worst social indicators, particularly in the health and education sectors. It has the second highest illiteracy rate in the world with most people illiterate or semi-literate. Government figures indicate that just 27 percent of the population is literate – 40 percent men, 16 percent women (National Baseline Household Survey 2009, Statistical Yearbook for Southern Sudan 2010). This poses a challenge as the majority of the volunteer CDDs are low-literate women. In NBeG, most people speak either Dinka or Luo, but cannot read or write in these languages. Some may have Arabic and English as subsequent languages, but not as their first language. General levels of education are very low.

Background

The health care system

The health system of South Sudan, despite the efforts of the government, donor, international non-governmental and national organisations, still faces numerous challenges related to lack of qualified and limited human resources, drugs and medical supplies shortage and availability of functional health facilities providing the basic package of health services for the population.

According to the South Sudan Health Facility Mapping (2011), it is estimated that 44 percent of the population are settled within a five kilometre radius of a functional health facility. Out-patient visits are estimated at 0.2 visits per person per year. A combination of factors has led to this low use: lack of qualified staff, inadequate equipment and supplies in the county and state hospitals, long distances to the health facilities, poor roads and transport, limited or no ambulance services, a dysfunctional referral system, and cultural and financial barriers. Most health workers need significant in-service training as a result of the short and poor quality of their pre-service training. The majority of health facilities are public or private not-for-profit and are scattered throughout South Sudan in both rural and urban areas. However, even where health facilities do exist, the quality of services has been low due to frequent stock outs of medicines, inadequate staffing and supervision, as well as lack of appropriate equipment and supplies.

Primary Health Care Units (PHCU) are the most basic form of health facility in South Sudan. PHCUs can be one room in a village, with typically with one to three health workers, a cleaner and a guard. Primary Health Care Centres (PHCC) are slightly larger, and are found in larger villages or towns. Health facilities are more often staffed by clinical officers, nurses and midwives, rather than doctors. There are very few hospitals found in the country, which could offer a wider variety of services.

There is a seasonal variation in malaria transmission, with the largest numbers of cases observed during the rainy season from May to November often peaking in September. In the dry season pneumonia, diarrhoea and malnutrition remain a problem. Access to clean water becomes a significant challenge in some areas. Malnutrition peaks in the 'hunger gap' from April-September when food security is at its lowest.

Child mortality

South Sudan has a high burden of communicable diseases with correspondingly high mortality. It has one of the highest childhood mortality rates in the world, largely attributed to malaria, acute respiratory infections and diarrhoeal diseases, often associated with under-nutrition. The Sudan Household and Health Survey (SHHS) conducted in 2010 showed that the infant and under-five mortality per 1,000 live births is 75 and 105 respectively, and 28 percent of children under-five were severely underweight, 31 percent had stunted growth and 23 percent had severe wasting.

Background ICCM in South Sudan

In South Sudan, ICCM is carried out by trained community volunteers called community drug distributors (CDDs) or community based distributors. These operate like community based (volunteer) health workers in other parts of Africa but are known differently as, in South Sudan, a community health worker operates within the Ministry of Health (MoH) structure, receiving around nine months training to provide health services at the PHCC/ PHCU levels.

South Sudan has experienced a great deal of success in increasing access to health services through ICCM. The International Rescue Committee's (IRC) pioneering work has become the foundation for ICCM implementation in South Sudan, which Save the Children, Population Services International (PSI), Malaria Consortium, BRAC and Catholic Diocese of Torit (CdoT) have all adopted. IRC South Sudan's Child Survival Programme has demonstrated that, when CDDs are properly trained and supervised, a community based treatment programme is feasible even in a post-conflict setting. CDDs are able to

deliver life-saving treatment to children that would otherwise have no access to medical treatment. Based on evidence of feasibility and impact on malaria morbidity and mortality, WHO and the Roll Back Malaria partnership endorsed the home management of malaria strategy as a key element of the global malaria case management strategy. ICCM started with the introduction of the home management of malaria programme as part of a comprehensive community based child survival strategy fashioned around the principles of community integrated management of childhood illnesses.

The MoH has promoted an integrated approach to child survival interventions to minimise the phenomenon of 'replacement mortality', whereby children whose lives are saved from one disease e.g. malaria, end up dying from other conditions such as diarrhoea or pneumonia. The integrated community based child survival programme comprises three main technical strategies: treatment of malaria, pneumonia and diarrhoea by community providers, improved capacity

to treat childhood illnesses at health facility level, and improved quality of care in the private sector.

The MoH and its partners are working towards scaling up an integrated child survival programme that delivers treatment for malaria, pneumonia, diarrhoea and severe acute malnutrition with key messages on other common childhood illnesses. A turning point for the renewed support by the MoH for ICCM programming was stimulated in June 2012 when MoH representatives from South Sudan attended an 'ICCM gap analysis and filling the funding Gap' workshop facilitated by UNICEF and AMREF, where an ICCM taskforce was formed for the development of an ICCM proposal for the country. Through Malaria Consortium's programme for ICCM, implementing agencies and the MoH are working together for the harmonisation of ICCM implementation strategies, interventions, tools and training manuals.

ICCM implementing partners

Currently there are six ICCM implementing partners (IRC, Malaria Consortium, CDoT, PSI, Save the Children and BRAC) in South Sudan. ICCM is currently being implemented in nine out of the 10 states and in 32 counties, with NGOs generally funded by different donors to implement certain components of the ICCM package.

Integrated community case management

The term integrated community case management (or ICCM) generally refers to an integrated approach for assessing and classifying signs and symptoms of pneumonia, diarrhoea, and malaria in children under five years old, and providing home-based treatment or referral for these diseases. The approach also normally includes health promotion activities. This care is provided by volunteers in the community who are trained by health workers on the ICCM approach.



Background

Malaria Consortium's implementation of ICCM

Malaria Consortium's ICCM programme in South Sudan is supported by the MoH and has been funded by a range of donors including The Global Fund to Fight AIDS, Tuberculosis and Malaria, CIDA, Common Humanitarian Fund, and USAID ADRA-SSHINE. The community level focus is on diarrhoea, malaria, pneumonia and severe acute malnutrition (SAM). Given the inextricable links between disease and malnutrition, and the chronic levels of acute malnutrition in South Sudan, Malaria Consortium integrated SAM into the full ICCM package. This approach is becoming more recognised and practiced globally, however, at time of writing, Malaria Consortium is the only NGO using this approach in South Sudan.

Malaria Consortium has implemented ICCM programmes in two states: NBeG and Unity. Unfortunately, the Unity programme, which was operational for three years, had to be closed in June 2012 after prolonged access restrictions created by insecurity.

Malaria Consortium has successfully contributed to the development and implementation of ICCM and other community health training in Uganda, Mozambique and Zambia using and / or adapting training materials developed by WHO / UNICEF and Save the Children. ICCM is currently the community health care model used by the Ministry of Health in these countries.

These successes underpinned the decision by Malaria Consortium to apply these best practices in the implementation of ICCM in South Sudan. Established training manuals were adapted and subsequently used to train trainers, CDDs and their supervisors. However, applying best practices by adapting the ICCM materials for a diverse context created additional challenges, which became apparent following a review of the programme after a period of implementation. The recognition of these challenges and their potential impact on quality of community care, and the process in which they were addressed and evaluated follow.



CDDs are shown how to use the job aid for diagnosis and treatment

Initial training implementation and review

June 2010-11

A total of

1,610 CDDs

and

112 CDD supervisors

were trained during initial implementation

The initial training materials developed were based on the WHO/UNICEF gold standard and the successful implementation of ICCM training in Uganda. The materials included:

- *ICCM Training Manual*
- *Training of Trainers Guide*
- *Sick Child Job Aid*
- *CDD Flipbook*
- *CDD Recording Form*
- *Referral Triangles* used to track referral of sick children to the PHCC/ PHCUs
- *Treatment Cards* containing child treatment instructions for caregivers

CDDs are also given and taught how to use a respiratory timer to count number of breaths in a child with possible pneumonia, a mid-upper arm circumference (MUAC) tape to measure the arm of a child with possible acute malnutrition, and medications to treat malaria, pneumonia and diarrhoea.

The technical design in the initial *ICCM Training Manual* followed the same 'disease by disease approach' used for ICCM training

in Uganda. This meant that the assessment, classification, referral, treatment, and recording skills were done by focusing on a different disease or condition each day. However, the materials were adapted to include additional demonstrations, role play activities, interactive games and instructions for using the *Sick Child Job Aid* and *CDD Flipbook* in recognition of the low literacy context of South Sudan.

A training cascade system was used to deliver the training. This involved Malaria Consortium technical and adult learning experts training South Sudanese county health facility officers to become 'master trainers'. The master trainers in turn trained a larger group of 'core trainers' through a series training of trainers (TOT) using the TOT Guide. The core trainers were health facility workers who, in some cases, reported to the health facility officers. After the TOT, the master and core trainers were responsible for delivering a six-day ICCM training to CDDs in their communities using the *ICCM Training Manual*.

Training the trainers

The first of a series of TOTs in NBeG and Unity States began in June 2010. The TOTs covered the ICCM approach of assessment, classification, referral and treatment of malaria, pneumonia and severe acute malnutrition (but not diarrhoea), as well as adult learning and participatory training methodologies. Four master trainers and 20 core trainers who completed the TOT from Aweil and Bentiu, went on to train county health department trainers (CHDs) who then went on to train the CDDs.

Initial ICCM training implementation and review

Lessons learned during the initial training

Malaria Consortium supervised the initial cascade training and evaluated the technical and training capacity of the trainers. The CDDs were also evaluated at the end of each training to assess their understanding of the training content and materials. Although individual components of the ICCM material, such as the *Sick Child Job Aid*, the *CCD Flipbook* and *Referral Triangles* had been pre-tested in several places in South Sudan, the full ICCM training course had not been field tested with the same group of CDDs in the country. Some lessons identified during this initial training implementation are highlighted below.

During the training, core trainers, CDD supervisors and observers, saw that the CDDs did not completely understand key content from their training. For instance, many CDDs found it difficult to count the number of breaths a child took in one minute, which is key to assessing if they have pneumonia. This difficulty came about for a number of reasons including: counting the 'ticking' sounds of the respiratory timer rather than the child's breaths; remembering the thresholds for 'fast breathing' for the different age groups; and, in some cases, not being able to count to numbers higher than 10 or 20. This issue is not unique to South Sudan, however the levels of illiteracy and low numeracy amplified the challenge and how to respond to it. There was a concern that CDDs would treat children incorrectly by assessing a cough as the only symptom of pneumonia, leading to overtreatment with antibiotics. This was supported by the routine treatment data received from programme implementation, which showed a high number of cases of cough alone (without fast breathing) were being treated.

After the full ICCM training course had been implemented with the CDDs in Unity state, observations from CDD Supervisors indicated that some of the CDDs did not understand the ICCM tools such as the *Sick Child Job Aid* and *CDD Flipbook*.

The experiences from the training implementation in Unity State made it necessary to assess if there were significant gaps in the knowledge and skills of the CDDs in NBeG and to determine if there were potential risks of under- or over-treating sick children. This would allow the team to map out risk thresholds for the programme and focus on topics which could not be compromised.

At this point trainers were also realising that the training was hard to deliver effectively. There were a number of reasons for this, including the fact that too much time had elapsed between the original TOT and the roll-out of the CDD trainings. Many of those trained initially had since left their jobs, which meant that the few trainers left were over-stretched and found it difficult to manage the level of roll-out. In addition, the technical content of the training was more demanding for the South Sudan context than originally anticipated.

Because of these and other field experiences, it was decided to carry out a mid-term review to evaluate the technical elements of the training curriculum and all the materials. The full roll-out of the complete ICCM programme was postponed and Malaria Consortium's broad technical experience was drawn upon to help address some of these concerns.



Mid-term review

October 2011

The mid-term review took place over three weeks during September and October 2011. Technical reviewers included the ICCM Project Manager for Malaria Consortium Uganda and team members from Malaria Consortium in Unity and NBeG. The mid-term review involved evaluating:

- The training cascade process and trainer capacity
- The master's and trainers' abilities to deliver the ICCM content to the CDDs
- The technical content of the trainer and CDD training materials
- CDD capacity and how CDDs were assessed at the end of training
- Post training CDD capacity strengthening

The mid-term review of training implementation took place in two areas of NBeG; one through direct delivery of the training to the CDDs in Dinka and the other with training content delivered through translation.

Mid-term review findings:

1 Training cascade process and trainer capacity:

It was found that the training cascade system hindered the delivery and transfer of consistent information by the time it reached the CDDs. In several cases, incomplete content or diluted messages were delivered to the CDDs. Additionally, from the time the first pilot TOTs were delivered to the refresher trainings in August before implementation of ICCM commenced, several of the best trainers had left to work for NGOs. Few trainers were still working within the MoH, while those who remained did not have the appropriate skills and experience needed to implement the cascade training. County health department and health facility staff were over stretched trying to deliver services through the formal system.



CDDs newly trained in ICCM,
Tor village, Kumagong, Unity State
Photo: Jenn Warren / Malaria Consortium

2 Trainers' ability to train CDDs in ICCM:

The initial *ICCM Training Manual* assumed that the master trainers and core trainers had a level of ICCM capacity and skills to be able to accurately interpret and translate the technical content in the training material in a way that CDDs would understand. This has always been the case in other countries and is based on WHO guidelines for implementation. Normally, a few subject-matter experts train a small group of core trainers who then train a large group of health care workers and community volunteers.

In South Sudan there is neither the required capacity nor number of healthcare providers to deliver quality training to CDDs. Although some trainers did an excellent job, several of the master and core trainers demonstrated a limited ability to discern which content CDDs needed to learn and to disseminate the content to CDDs in a manner that could easily be understood. In addition, despite the pre-testing work that went into the development of the initial *ICCM Training Manual*, the trainers had visible difficulty following the instructions. They also had difficulty translating the clinical information for an audience with no clinical knowledge and in some cases who spoke a different language than the trainer. Without this tailored communication, the effectiveness of the training process would be severely compromised.

3 The technical content of the trainer and CDD training materials:

The initial *ICCM Training Manual* was reviewed for gaps in technical and ICCM content. The following questions arose:

- could CDDs detect fever without a thermometer?
- could age-based treatment on a severely underweight child be harmful?
- could misdiagnosis lead to over-treatment with antimalarials and antibiotics, potentially leading to drug resistance?

It was found that although the initial *ICCM Training Manual* contained correct information, there were some technical elements and clarifications that could be added.

The levels of literacy and numeracy among CDDs were far lower than in other countries where ICCM is used. This meant that using conventional adult training techniques or training tools, which required CDDs to read, write or count, proved difficult. Besides CDDs not being able to count the number of breaths, Malaria Consortium also recognised that CDDs had difficulty understanding the drug dosing instructions in the *Sick Child Job Aids*.

CDDs were confused by having both a *Sick Child Job Aid* and a *CDD Flipbook*. The *Sick Child Job Aid* was designed to give the CDDs a quick reference to assess and refer sick children. The *CDD Flipbook* was designed to be used by the CDD with the child's caregiver to give specific care and treatment advice. There was overlap of the information in both tools which had been intended to reinforce content and key messages. CDDs were unsure when to use which tool and were not clear what the difference was between the two.

4 CDD capacity assessment and post training CDD capacity strengthening:

During the mid-term review a randomly selected group of CDDs were observed carrying out ICCM activities and their knowledge was assessed through interviews to determine how much they had grasped or remembered of the information presented during the training. Through skill observations and interviews it was found that the CDDs did not respond well to the method of teaching diseases individually and struggled to convert a disease by disease system into a holistic approach. This was particularly the case when children presented with more than one condition, which appeared to be relatively common in the context. Training ICCM through a disease by disease structure, which had proven to be a feasible approach to training community volunteers in Uganda, proved challenging to CDDs in South Sudan.

Additionally, the delay between when the TOT was delivered and when the CDDs received training subsequently was sometimes too long for the trainers to retain what they had learned sufficiently.

The initial training implementation included recommendations for an end-of training evaluation of the CDD skills, although there was no formal CDD competency checklist or process. Therefore CDD competencies were not appropriately assessed at the end of training. Supervision training and the supervisory competency checklist were not developed as part of the initial ICCM package, and when included at a later stage, were not fully implemented for security reasons.

Mid-term review recommendations

The following recommendations were made as a result of the mid-term review findings:

- Change the structure of training manual and materials from teaching by disease, to teaching an integrated and holistic format of assessment, classification, treatment, referral, and recording of all illnesses
- Include additional innovative training and communication strategies in the revised training *ICCM Training Manual* and *Sick Child Job Aid* to reflect the new holistic format and address the low literacy among CDDs
- Train the trainers on the revised manual and CDD training tools and provide additional capacity building in technical, adult learning and supervisory skills
- Field test newly developed or revised training materials and assessment tools and assess trainer's abilities to use them
- Develop assessment tools to measure CDDs competencies to deliver each stage of the ICCM approach to ensure confidence in their skills to treat appropriately
- Develop assessment tools to measure trainer and supervisor competencies to deliver training consistently and to provide CDDs with performance improvement feedback and mentoring.





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Post review ICCM training implementation

December 2011 – March 2012

As part of the post review process, Malaria Consortium's case management and health training specialist, was asked to revise all the ICCM training materials for NBeG in collaboration with the technical team in South Sudan. Malaria Consortium's response to the mid-term review recommendations was as follows:

- Hire a new cadre of trainers to work for Malaria Consortium as field officers rather than the county health department
- Conduct a training needs assessment with the new trainers and existing CDDs to test revised draft training materials
- Revise the technical content of the *ICCM Training Manual* to address the mid-term review recommendations and also ensure they are consistent with the new MoH guidelines
- Train the newly hired field trainers on adult learning skills, the revised training materials and supervisory skills
- Field-test all the revised materials and delivery of the revised six-day ICCM training in three communities in NBeG
- Revise materials subsequently based on the field testing

1 Response to the training cascade process and trainer capacity:

To overcome the problem of messages becoming diluted down through the cascaded training, Malaria Consortium hired and trained experienced health facility workers to become Malaria Consortium field trainers. As a result, the core trainer component of the training cascade was eliminated. Malaria Consortium conducted a quality selection process in order to employ, train and supervise 20 field trainers to deliver the ICCM training and supervise the CDDs in NBeG. These field trainers were nurses, health workers or clinical officers and, in some cases, had previously received training as ICCM master or core trainers during the initial training period by Malaria Consortium, but who for other reasons had left the public health sector. Malaria Consortium also hired several project officers with more advanced medical or management skills, and both a project manager and a programme manager were employed to supervise the field trainers' performance and ensure continued quality improvement.

Result

There was a significant increase in the number of trainers that had previously been recruited to deliver this training, from five to 20.

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“

One of our field officers participated [in the field testing of the manual]. The manual looks good and we are trying to see the possibility of integrating it into the current manual for the Ministry of Health

”

Dr Elsheikh Abdalla,
Community Case Management
Coordinator,
International Rescue Committee,
South Sudan

.....

2 Response to trainers’ ability to train CDDs in ICCM:

During the training needs assessment conducted in February 2012, the newly hired field trainers were assessed for basic ICCM and adult learning knowledge and skills. As a result of this assessment, Malaria Consortium conducted another set of TOTs to train field trainers and project officers in adult facilitation skills, how to deliver the revised ICCM training materials, in-service training on integrated management of childhood illness (IMCI), and management and supervisory skills. During these TOTs, trainers learned to follow simple algorithms to teach the integrated disease approach and how to teach progressive chunking of content, repetition of key concepts and interval reinforcement to ensure CDDs’ retention. A trainer competency checklist was developed to assess the trainer’s technical and training skills, and a supervisor competency checklist was developed to assess the trainers’ skills delivering feedback to CDDs during and after training.

During the assessment the field trainers were asked to describe the challenges presented by translating technical content from a training manual written in English into various local languages. In response to their feedback, the technical content and facilitator instructions in the *ICCM Training*

Manual underwent a readability assessment (Flesch-Kinkaid) and revised to a 5th grade level. This included replacing complex terms and words with basic vocabulary, short concise sentences, and reader-friendly formatting. Prescriptive step-by-step technical and participatory training instructions were used to ensure consistency and accuracy of the information the trainers needed translate and communicate to the CDDs. It also included more practical instructions on how to use the revised *Sick Child Job Aid*, respiratory timer and beads, the MUAC tape, *Referral Triangles*, and the *CDD Recording Form*. The key competencies and learning outcomes for each section were clearly shown and divided into easy to use sections.

Result

During the field-testing debrief, field trainers stated the revised *ICCM Training Manual* was easy to follow and translate and made it easy for the trainers to read, recall and pass on the information involved, without necessarily needing a clinical background. This was significant, given the levels of education and literacy in the country.

3 Response to technical content of the trainer and CDD training materials:

The *ICCM Training Manual* was completely rewritten to include the recommended integrated process:

- **Assessment of the sick child ages two months to five years:** danger signs, fever, fast breathing and cough, diarrhoea, SAM, other symptoms
- **Classification, referral and pre-referral treatment:** danger signs, severe malaria, severe pneumonia, severe diarrhoea and dehydration, SAM, and other illnesses
- **Home based treatment and caregiver advice:** Malaria, Pneumonia and Diarrhoea
- **Record keeping and management of medicines and supplies**
- **Follow-up and health messages**

An Annex of Training Resources was added which included: technical resources such as classification, referral and treatment algorithms, trainer resources such as how to plan, deliver and evaluate the training and how to teach CDDs to give caregiver advice messages for health promotion and disease prevention.

In response to the low literacy and numeracy levels among CDDs, a series of 48 colour laminated instructional pictures were developed and used by the trainers as memorable and interactive visual aids. The instructional pictures were used to explain and test CDDs comprehension of the integrated process used in ICCM as well to ensure that CDDs could correctly match the patient's symptoms to the diagnosis

and treatment for their age and illness. Instructional pictures also corresponded with the pictures in the *Sick Child Job Aid* and the *CDD Recording Form*.

The issue of CDDs' limited ability to count above 10, and therefore unable to count the number of breaths, was addressed by dedicating a much longer period of time to training and practicing how to use respiratory beads along with a 60 second respiratory timer. Before introducing the beads into the programme, Malaria Consortium piloted their use with several groups of CDDs in NBeG which, together with information gained from pilots by IRC and Save the Children, showed that they were beneficial in aiding the CDDs to correctly assess respiratory rate. CDDs were trained to use one set of beads to help assess an infant 2-11 months and another set to assess a child of one to five years old.

The CDD were trained to select the correct set of beads based on the child's age, set the 60-second timer and move through coloured beads—one bead per breath - towards the red beads. If the CDDs hand reaches the red beads by the time the timer goes off, they know the child has fast breathing and needs treatment. This allowed CDDs to assess a child without needing to count or to remember the number of breaths needed for fast breathing in either age group.

In response to the confusion experienced by CDDs working with both the *CDD Flipbook* and the initial *Sick Child Job Aid*, the *CDD Flipbook* was eliminated and the *Sick Child Job Aid* was revised to include the unique information from the flipbook.

The revised *Sick Child Job Aid* also included all new content incorporated into the training. New pictures were added for children's ages and gender, for assessment, referral treatment, and for severe acute malnutrition and dehydration. Simple descriptive words for the pictures were added in Dinka and Luo for trainers and community members who can read. New prevention and caregiver advice pictures and messages consistent with the GoSS guidelines were added.

Result

The instructional pictures were evaluated during the six-day training field testing with 45 CDDs and eight health facility and nutrition officers. Informal qualitative assessment found that the instructional pictures helped the CDDs to understand the material due to frequent repetition of the key content. The language used was appropriate and the instructional pictures were representative of the South Sudan context. The new job aid is more reflective of the process that the CDDs are expected to follow and flows accordingly. Having only one tool reduces the decision making required of the CDD about which tool to use and when. Malaria Consortium is planning a qualitative evaluation with CDDs on their experience in using the respiratory beads and revised *Sick Child Job Aid*.

During the field testing of the revised training materials in March 2012 it was discovered that CDDs had difficulty recording the outcome of a patient visit and could not accurately insert tick marks in the correct row and column of the *CDD Recording Form*. CDDs did not understand that each row needed to be completed in sequence and were confused by where to correctly intersect a row with the corresponding column. The initial manual dedicated one hour on the last day of training to completing the recording form. This was based on the ICCM and CDD training manuals, which presume that CDDs can place tick marks in boxes.

This was addressed in three ways:

- ICCM implementing partner, PSI, revised the *CDD Recording Form* and included the same pictures used in the *Sick Child Job Aid*
- Malaria Consortium recommended that a plastic sliding sheath be added to the form, which the CDDs can use to move to slide up and down to help them find their place along the correct row. The *Facilitator Guide* was revised to include more in-depth training on how to place ticks marks in correct boxes for the corresponding rows and columns. Practicing recording patient visits in the *CDD Recording Form* was added at the end of each training day.



Respiratory beads

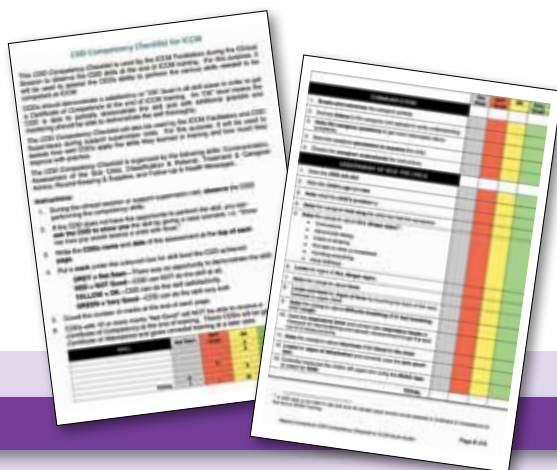
The respiratory beads were developed by one of the South Sudan ICCM implementing partners, Save the Children, and consist of a string of coloured (green or blue) beads which lead to a number of red beads at one end. The number of green or blue beads before the red beads correspond with the cut off for the WHO definition of fast breathing for both age groups.

4 Response to CDD capacity and assessment and post training CDD capacity strengthening:

One of the recommendations for the third phase revision process included the development of a CDD Competency Checklist and a system for certifying CDDs competencies at the end of training. As a result a simple to use, colour coded CDD Competency Checklist was developed to be used by the trainers during training and also during support supervision visits. The checklist was organised to assess CDD skills in the same integrated format as the revised *ICCM Training Manual*.

The CDD Competency Checklist is used by the ICCM trainers during the clinical session on the fifth day of training to observe CDDs' skills and determine if they are competent to deliver ICCM in their community. CDDs need to demonstrate a satisfactory or 'OK' level in all skill areas in order to get a Certificate of Competence at the end of the training and receive their ICCM drugs. Those that do not meet a satisfactory level are given a Certificate of Attendance but do not receive the drugs. They are invited to attend the full training again at a later time.

The CDD Competency Checklist is also used by Malaria Consortium field trainers and CDD supervisors during support supervision visits to assess how well CDDs apply the skills they learned in training and how much they improve with practice. During the TOT, trainers were trained on support supervision skills including how to use the competency checklist to coach and mentor CDDs to improve their ICCM skills.



Result

The CDD Competency Checklist has been a useful tool at all levels of implementation. The checklist has allowed Malaria Consortium's project and field officers to assess CDDs objectively and decide whether they should be provided with drugs at the end of the training. By introducing the tool early on in the training, the CDDs and communities ready to accept decisions over whether or not a particular CDDs is competent. The tool has also been useful for accountability to both donors and to the MoH, who have previously expressed concerns about the ability of volunteers to deliver such treatment. During the piloting process of the revised manual staff from other organisations were invited to attend the initial TOT. They were able to compare differences and similarities in the methods of work and give feedback.

Post-revision ICCM training implementation

April 2012 onwards

.....
The new package of training was rolled out to

110 CDD supervisors

and

655 CDDs

by June 2012
.....

Once all revisions and reviews had been completed and 10 additional Malaria Consortium field officers recruited and trained to be CDD trainers, the NBeG team rolled out the new full package of ICCM training to 111 CDD supervisors and 655 CDDs by the end of June 2012.

Following the revision of all the training materials, Malaria Consortium brought together a number of stakeholders relating to ICCM including implementing NGOs, MoH staff and donors to present the revision process that had been followed and to share the new and revised materials. The training

materials were generally received very well by the partners, some of whom are planning to use them with some slight modifications. In the absence of an updated and approved set of training materials for ICCM in South Sudan, Malaria Consortium is proposing these materials form a foundation for review and refining by other ICCM implementing partners to move towards the production of harmonised materials. The process of harmonisation is expected to take place within the next three to six months through the technical leadership of IRC, supported by funding from CIDA.



Lessons learnt

- 1 It is crucial to conduct continuous evaluation of training and materials through extensive piloting, field testing, revision and re-testing to ensure that training quality is continually improved upon and that the materials work as effectively as possible in different contexts.
- 2 It is important to assess a sick child holistically. By the time children are seen by CDDs, they may present with several conditions. This was often confusing for the CDDs who had undergone training using the disease-by-disease method. However, by aligning the training with a routine health consultation, this presented less of a barrier to CDDs.
- 3 Adult learning strategies start from what people already know, however, in the South Sudan context, insight into the competencies of the core trainers and the CDDs was gained through implementation experience. Particularly key for the review was a focus on effective learning styles for low-literacy settings.
- 4 Pictorial training worked very well. Using this model adds an element of equality to the group as it is less significant whether members are literate or not or which language they speak. Pictorials also help trainers who do not completely speak the language of the CDDs to communicate key concepts.
- 5 Additional time within the training needs to be dedicated to teaching the new strategies and tools developed to address low literacy and numeracy, and to assessment of CDD skills at using these tools. This can be achieved through the use of a standardised and objective checklist to determine the CDDs' qualification for the role and its associated responsibilities.
- 6 The trainers found that the less translation required within a training, the better the flow of delivery and learning. As a best practice from the first phase, trainers worked in teams to ensure that all language groups spoken by the CDDs were covered. Where there was a mixed language group, the trainers often used a combination of Arabic or support from the CDD supervisor who had already been trained in the content. The revised training manual was written in simple English with short sentences. The technical content was simplified and included in the trainer instructions. As a result, trainers were able to easily translate it into Dinka or Luo at the same time as delivering the training.
- 7 A glossary of terms/ dictionary was included in the original training materials, and its importance was reiterated as a best practice. After the mid-term review, the glossary was updated to include more words and meanings were confirmed through back-translation. Words in Dinka and Luo were also added to the *Sick Child Job Aid* where there were English words.
- 8 It is important to involve the MoH and other ICCM partners in the development of materials and any revisions to gain their buy-in to the process and the products that result.
- 9 In planning the project's activities, including training implementation, the initial work plans developed did not account for all of the resources (technical support, numbers of training teams, logistics, procurement timelines etc.) that were required to roll out the training. This needed to be at a sufficient scale to reconcile the heavy technical MoH guidelines with very low levels of literacy. In this situation, embedding continuous learning and improvement is critical and should be accommodated for in work planning.
- 10 When considering, or monitoring, any large project or programme, it is important to step back and have a 'helicopter view' of what happened, providing sufficient ways for people to learn from each other, both within organisations and between countries.



About Malaria Consortium

Malaria Consortium is one of the world's leading non-profit organisations specialising in the comprehensive control of malaria and other communicable diseases – particularly those affecting children under five.

Malaria Consortium works in Africa and Southeast Asia with communities, government and non-government agencies, academic institutions, and local and international organisations, to ensure good evidence supports delivery of effective services.

Areas of expertise include disease prevention, diagnosis and treatment; disease control and elimination; health systems strengthening, research, monitoring and evaluation, behaviour change communication, and national and international advocacy.

An area of particular focus for the organisation is community level healthcare delivery, particularly through integrated case management. This is a community based child survival strategy which aims to deliver life-saving interventions for common childhood diseases where access to health facilities and services are limited or non-existent. It involves building capacity and support for community level health workers to be able to recognise, diagnose, treat and refer children under five suffering from the three most common childhood killers: pneumonia, diarrhoea and malaria. In South Sudan, this also involves programmes to manage malnutrition.

Malaria Consortium also supports efforts to combat neglected tropical diseases and is seeking to integrate NTD management with initiatives for malaria and other infectious diseases.

With 95 percent of Malaria Consortium staff working in malaria endemic areas, the organisation's local insight and practical tools gives it the agility to respond to critical challenges quickly and effectively. Supporters include international donors, national governments and foundations. In terms of its work, Malaria Consortium focuses on areas with a high incidence of malaria and communicable diseases for high impact among those people most vulnerable to these diseases.

www.malariaconsortium.org





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