MCSP Uganda Child Health End of Project Report

January 2017 to March 2019

Submitted on:
August 8, 2019
Resubmitted on: October 29, 2019

Submitted to:
United States Agency for International Development
Cooperative Agreement #AID-OAA-A-14-00028

Submitted by:
USAID's Maternal and Child Survival Program

The Maternal and Child Survival Program (MCSP) is a global, $560 million, 5-year cooperative agreement funded by the United States Agency for International Development (USAID) to introduce and support scale-up of high-impact health interventions among USAID's 25 maternal and child health priority countries, as well as other countries. The Program is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

This report is made possible by the generous support of the American people through USAID under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of MCSP and do not necessarily reflect the views of USAID or the United States Government.

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Acronyms and Abbreviations

ACT	Artemisinin-based combination therapy
ADHO	Assistant District Health Officer
CAMPA	Catchment Area Planning and Mapping for Action
CH	Child Health
CSS	National Child and Newborn Survival Strategy
DHMT	District health management team
DHS	Demographic and Health Survey
DQSA	Data Quality Self-Assessment
DQS&I	Data Quality Self-Assessment and Improvement
DL	distance learning
DT	dispersible tablets
EC	East Central region
ECHP	essential child health package
FY	Fiscal Year
GOU	Government of Uganda
HC	health center
HF	health facility
HIS	Health Information System
HMIS	Health Management Information System
iCCM	Integrated Community Case Management
IMCI	Integrated Management of Childhood Illness
IMNCI	Integrated Management of Neonatal and Childhood Illness
JSI	John Snow, Inc.
LC	Local Council
MCH	Maternal and Child Health
MCHIP	Maternal and Child Health Integrated Program
MCSP	USAID's Maternal and Child Survival Program
MNCH	maternal, newborn, and child health
MNH	maternal and newborn health
MOH	Ministry of Health – Uganda
OPD	outpatient department
ORS	oral rehydration salts
ORT	oral rehydration therapy
PCV	pneumococcal conjugate vaccine
PHC	primary health care
QI	Quality Improvement
QoC	quality of care
QWIT	Quality Work Improvement Teams
R4D	Results for Development
RDT	rapid diagnostic test
REC	Reaching Every Child
REC-QI	Reaching Every Child using Quality Improvement methods
RED/C	Reaching Every District/Child
RHITES	Regional Health Integration to Enhance Service
RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health
RI	Routine Immunization
SIC	short-interrupted course
SW	South West region
TA	technical assistance
TOT	training of trainers
U5	under five years of age
UNEPI	Uganda National Expanded Programme on Immunization
USAID	United States Agency for International Development
VHT	village health teams
WHO	World Health Organization

Acknowledgments

The MCSP Uganda team would like to acknowledge USAID Washington, USAID Uganda, USAID's Regional Health Integration to Enhance Services (RHITES) projects in East Central (EC) and South Western (SW) Uganda, and the close collaboration and contributions of the Republic of Uganda Ministry of Health (MOH), its Child Health Division and the Uganda National Expanded Programme for Immunisation (UNEPI). We would also like to thank the four district health offices in Luuka, Kaliro, Sheema and Ntungamo for their leadership and collaboration. In addition, we would like to recognize USAID-supported projects who were central to the realization of MCSP's objectives including the Uganda Health Supply Chain (UHSC) project and other technical partners, namely WHO and UNICEF.

Finally, the MCSP/Uganda team would like to acknowledge and thank our talented and hard-working staff in Uganda for their dedicated years of service. A full list of MCSP/Uganda team members, both those based in Uganda and in the home offices of the MCSP partners can be found in Appendix G.

Executive Summary

Background

Over the last 15 years, Uganda has achieved marked reductions in under-five (U5) mortality rates. However, this reduction was not enough to reach the Millennium Development Goal (MDG) target that called for a two-thirds reduction in U5 mortality before the end of 2015. The number of children who die, estimated at slightly over 130,000 per year, remains an issue of major public health concern. The majority of these U5 deaths are due to preventable causes, including malaria, diarrhea, newborn conditions and pneumonia.

Inadequate and inequitable coverage of low-cost, high-impact child health interventions are considered important underlying contributors to the shortfall against the 2015 MDG target. In 2016, the Government of Uganda (GOU) developed the Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) Sharpened Plan with five key strategic shifts to galvanize action towards accelerating reductions in newborn, child and maternal mortality. The Sharpened Plan calls for the scaling up of a prioritized child health intervention package that includes the Integrated Management of Newborn and Childhood Illness (IMNCI) approach. Despite this call to action, the implementation of child health interventions in Uganda has continued to lag behind. Several health systems-related factors, such as outdated and poorly implemented IMNCI guidelines, stock-outs of child health essential medicines and supplies, and poor quality data to inform service delivery planning have contributed to this lag. Furthermore, the breadth of the child health intervention package in the Sharpened Plan presented implementation challenges for partners. There was an identified need to define a smaller implementable "essential" package of low-cost, high-impact, evidence-based child health interventions and demonstrate its roll out on a small scale across all levels of care.

As a result, USAID commissioned technical assistance from MCSP in late 2016 to identify an essential child health package (ECHP) and build the capacity of USAID's Regional Health Integration to Enhance Services (RHITES) projects in the East Central (EC) and South Western (SW) regions to implement the ECHP using a health systems strengthening approach. The aim of MCSP Child Health Program was to identify, demonstrate, cost and document an ECHP package of low-cost, high-impact child health interventions in four prioritized districts (or "demonstration districts") with the ultimate goal of contributing to a reduction in child mortality in the SW and EC regions, in line with the objectives of the Sharpened Plan. The learning from MCSP's technical assistance was intended to inform the other three RHITES programs, and the country as a whole, on how to operationalize and scale-up the ECHP to achieve tangible results.

Key Accomplishments

MCSP supported the national government and the RHITES partners to revitalize, update and scale-up the IMNCI training package and delivery approaches, as a vehicle for integrated delivery of the ECHP. Across the four program demonstration districts, 374 health workers were trained and supported to use IMNCI, and 2,427 village health team (VHT) members were oriented to promote key family care practices for child health and also to identify and refer sick children to health facilities. As a result, 80,000 additional children accessed appropriate treatment for pneumonia, malaria and diarrhea, with up to 400,000 children able to access holistic, evidence-based care for all illnesses.

In addition, MCSP introduced and used an adapted version of the Reaching Every District/Child (RED/C) approach to strengthen planning and management practices for the ECHP in the four demonstration districts. By the end of MCSP, 60% of all 134 health facilities supported by the program were implementing the RED/C practices. Building on MCSP's experience adapting RED/C to other child health interventions, the MOH pursued adoption of MCSP's approach and worked in collaboration with MCSP to develop a guide for mapping catchment area populations to strengthen the broader scope of RMNCAH services. MCSP also supported the GOU to review and streamline national health management information system tools to improve the documentation and availability of quality data to monitor delivery of the ECHP. Furthermore, MCSP worked with the national government to adapt and adopt pediatric quality of care (QOC) standards to the Ugandan

context, and conducted a cost analysis, estimating the resources needed to roll out and deliver the ECHP at health facilities in the public sector. This followed USAID's significant investment in the development of the global WHO QOC standards for child health and their launch in Uganda in April 2018, both with MCSP's technical support.

Recommendations

Based on experiences and learning from program implementation in the four demonstration districts, MCSP recommends that the MOH and its implementing partners consider the following actions:

1. **Expedite implementation of the prioritized ECHP package within the national RMNCAH Sharpened Plan**, following MCSP's demonstration of the feasibility of implementing such a package at all levels of care. Given the limited availability of resources, MOH and its implementing partners should consider starting with the lighter ECHP identified by MCSP in collaboration with MOH and the USAID RHITES partners.
2. **Provide support to ensure access to and availability of essential medicines and supplies needed for the full implementation of the ECHP**, as frequent stock-outs of essential commodities remained a challenge that continuously affected motivation of health workers to practice what they had learned.
3. **Invest in improving health worker capacity for implementation of the updated IMNCI case management guidelines**, as an approach for integrated delivery of the ECHP. The alternative training approaches that were piloted by MCSP and subsequently taken up by the MOH, provide cost-saving options that can be used to improve health worker knowledge and skills for implementation of IMNCI.
4. **Expand the use of RED/C approach, especially catchment area mapping and planning,** as a system strengthening approach for child health, and potentially other RMNCAH interventions, for which population coverage is a goal.
5. **Prioritize and continue support for quality documentation, ownership, use and regular reporting of child health service delivery data**, as this is necessary for the full realization of results from IMNCI, and for Catchment Area Planning and Mapping for Action (CAMPA) and other approaches that have been used to roll out the ECHP.

Introduction

Uganda's 2016 National Demographic Health Survey (DHS) showed a marked reduction in childhood mortality between 2000 and 2015 (from 132 to 64 children per 1,000 live births). However, this reduction was not enough to reach the Millennium Development Goal (MDG) target that called for a two-thirds reduction in under-five (U5) mortality before the end of 2015. With an estimated 90,000 U5 child deaths every year, Uganda is ranked 11th globally among the top countries with the highest number of under five deaths[1]. Inadequate and inequitable coverage of low-cost, high-impact child health interventions are considered important underlying contributors to the shortfall against the 2015 MDG target. According to the 2016 DHS, only 30% of U5 children who experienced diarrhea in the two weeks preceding the survey received the recommended treatment of oral rehydration salts (ORS) and zinc tablets, and only 55% of children were fully immunized. MCSP's child health baseline assessment in early 2017 also found that the proportion of children with suspected pneumonia who received an appropriate antibiotic was as low as 30% in the program's demonstration districts.

In 2016, the Government of Uganda (GOU) developed the Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) Sharpened Plan with five key strategic shifts to galvanize action towards accelerating reductions in newborn, child and maternal mortality. The Sharpened Plan calls for the scaling up of a prioritized child health intervention package that includes the IMNCI approach. Despite this call to action, the implementation of child health interventions in Uganda has continued to lag behind. Results from the national Service Availability and Readiness Assessment 2013[2] had revealed major gaps in availability of key tracer items needed to deliver quality child health services; including absence of national IMNCI guidelines at almost 50 % of health facilities, poor implementation of national IMNCI guidelines, and stock outs of essential child health medicines and supplies. The RMNCAH Sharpened Plan highlights these health systems-related factors together with the inadequate use of data to inform service delivery planning as key contributors to the lag in implementation of child health interventions. Moreover, according to key informants at the national level, the national IMNCI guidelines were outdated and needed to be updated to take into account revisions to the national clinical guidelines for management of Pneumonia, HIV, malnutrition and Tuberculosis. Existing QI teams were focused on HIV and tuberculosis and needed to be capacitated to fully integrate maternal, newborn and child health (MNCH) issues into their practice. The breadth of the child health intervention package in the Sharpened Plan also presented implementation challenges for partners. There was a need to define a smaller, implementable "essential" package of low-cost, high-impact, evidence-based child health interventions and demonstrate its roll out on a small scale across all levels of care.

In response to these, USAID commissioned technical assistance from MCSP in late 2016 to identify an essential child health package (ECHP), and build the capacity of USAID's Regional Health Integration to Enhance Services (RHITES) East Central (EC) and South Western (SW) projects to implement the ECHP using a health systems strengthening approach. MCSP's partnership with USAID Uganda originally started with the 2012 initiation of technical assistance to strengthen routine immunization (RI) through MCSP's predecessor, the Maternal and Child Health Integrated Program (MCHIP). MCHIP implemented the Reaching Every Child using Quality Improvement methods (REC-QI) approach and its performance improvement cycle in five districts of Uganda. Then in July 2014, this RI work was transitioned to MCSP to support the MOH and UNEPI to operationalize REC-QI at the national level and throughout 11 districts. As mentioned above, MCSP Child Health was launched in 2016 in four demonstration districts (Luuka and Kaliro districts in EC and Sheema and Ntungamo districts in SW) with the following five program objectives (see Appendix E for a breakdown of the components of the ECHP):

1. Enhance national guidelines and frameworks to support implementation of the ECHP.
2. Strengthen technical skills, competencies and practices of the RHITES partners and MCP-supported demonstration districts to implement the ECHP.

[1] UN Inter-agency Group for Child Mortality Estimation. https://childmortality.org/data. Published 2018.
[2] Ministry of Health, Uganda Services Availability and Readiness Assessment 2013, Summary Report: Key findings in Figures

3. Strengthen district level management and planning practices to support the delivery of the ECHP using adapted REC-QI approaches.
4. Conduct a costing analysis for delivery of the ECHP.
5. Improve availability of strategic knowledge and tools to scale-up the ECHP

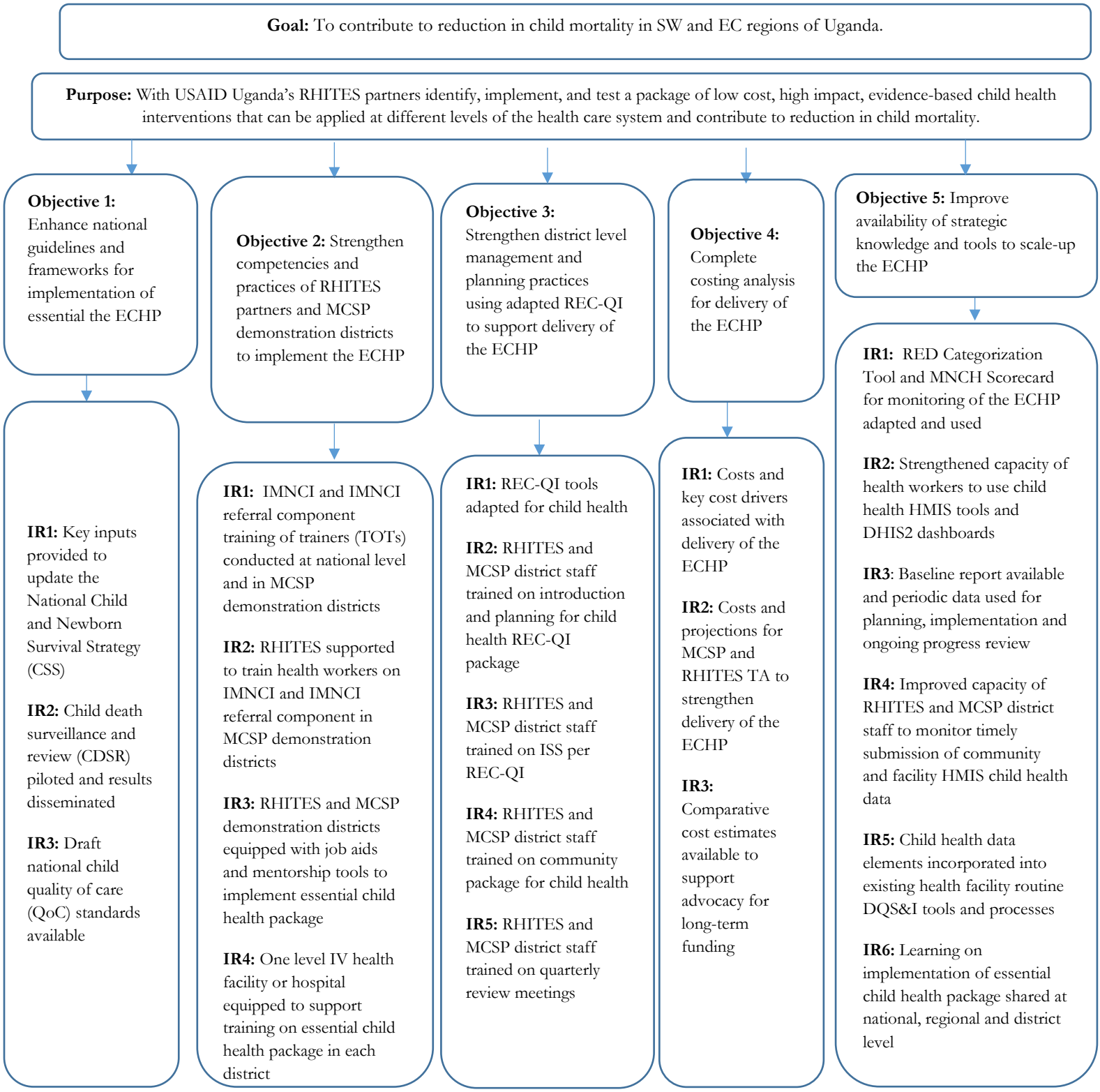
The learning from MCSP's Child Health program was intended to inform the other three RHITES projects, and the country as a whole, on how to scale-up the ECHP to achieve tangible results.

MCSP's child health technical assistance focused on first reprioritizing an ECHP comprised of low-cost, high-impact, evidence-based child health interventions that drew from the broader intervention package in the RMNCAH Sharpened Plan. MCSP conducted a country scoping visit during which a series of consultations were held with stakeholders at national, regional and district level to determine the priority child health issues that needed to be addressed by the ECHP, and the existing structures, systems, tools, partners and promising interventions that could be leveraged to roll out the ECHP. In this process, the interventions suggested by the RMNCAH Sharpened Plan were prioritized based on their links to the most common childhood illnesses, as reported in the DHIS2, their modeled estimated impact in terms of additional under five lives saved by the intervention, and feasibility of being rolled out within the project period. As part of the consultations, MCSP, in collaboration with USAID's RHITES programs in the EC and SW region, identified and prioritized two districts from each region for small-scale implementation of the ECHP. The main criteria for selection of districts was absence or minimal presence of other partners supporting child health. Given the short implementation period for MCSP, one district in the SW region was purposefully selected because it had ongoing MCSP RI activities, which was expected to ease introduction and roll out of the ECHP. A baseline to determine readiness of the districts and health facilities (HFs) to support implementation of the ECHP and to benchmark MCSP's interventions was conducted in the four demonstration districts.

MCSP then embarked on building the capacity of the RHITES partners to support implementation of the ECHP. The RHITES partners took direct responsibility and leadership for integration of the ECHP into service delivery points at regional, district and sub-district level. MCSP employed several approaches to strengthen RHITES's capacity for implementation of the ECHP including:

i) using the IMNCI approach to build the technical capacity for integrated child case management at HF level and for promotion of key family care practices for child health at the community level;
ii) adapting and employing the RED/C approach to strengthen systems and management and planning practices for delivery of child health services at all levels of care;
iii) strengthening the generation and use of quality data to monitor and improve coverage of the ECHP at all levels of care;
iv) supporting the integration of child health into existing platforms for delivery of the RMNCAH package (i.e. integrated supportive supervision and mentorship, program performance reviews, score cards, etc.); and
v) using learning from the field to recommend improvements in national policies and guidelines that impact delivery of the ECHP.

Figure 1. The Results Framework for the MCSP Uganda Child Health program.



Major Accomplishments

Objective 1: Enhance national guidelines and frameworks to support implementation of the ECHP

Identified, implemented and tested an "essential" package of low-cost, high impact child health interventions to contribute to a reduction in child mortality in the SW and EC regions: Uganda's RMNCAH Sharpened Plan calls for scaling up a robust package of evidence-based child health interventions. Given the limited resources available at the national level, MCSP worked with the MOH Child Health Division and the RHITES partners in the EC and SW regions to further prioritize, or "lighten", the child health package. In this process, interventions suggested by the RMNCAH Sharpened Plan were given priority based on their links to the most common childhood illnesses, their modeled estimated impact in terms of additional under five lives saved by the intervention (determined using the LiST tool in the national RMNCAH sharpened plan), and feasibility of being rolled out in an integrated way within the project period. All child health interventions prioritised by the RMNCAH sharpened plan were included in the lightened package except for integrated Community Case Managementi (iCCM) which would cater for case management with appropriate treatment for pneumonia, diarrhea and malaria at the community level. With MCSP's hands-on and above-site technical support to the RHITES partners and the district health management teams (DHMTs), the streamlined ECHP was introduced at all levels across a total of 134 HFs in the four demonstration districts – Luuka, Kaliro, Sheema and Ntungamo. Table 1 highlights the elements of the ECHP that MCSP helped to roll out with RHITES partners, by level of care.

"I like the phased training - it enables you to learn, practice and fully understand a concept before moving on to the next concept." - **Betty Musoki, enrolled nurse at Muzira Health Center II, Sheema district.** *Photo: Ambrose Watanda/MCSP*

Table 1. Elements of the ECHP supported by MCSP, the MOH and RHITES at health facility and community levels.

Health facility (all levels) 	• Treatment with appropriate antibiotics for pneumonia cases • Treatment with ORS and zinc for diarrhea • Treatment with Artemisinin-based combination therapy (ACT) for malaria cases • Assessment and counseling for nutrition • Assessment and counseling for HIV testing • Assessment and timely initiation of treatment for suspected tuberculosis cases • Assessment and counseling on early childhood responsive caregiving and cognitive stimulation • Assessment and counseling for healthy timing and spacing of births • Basic immunization (including the pentavalent vaccine, the pneumococcal conjugate vaccine, and vaccines for measles and rotavirus)

Community 	• Basic immunization (including the pentavalent vaccine, the pneumococcal conjugate vaccine, and vaccines for measles and rotavirus) • Timely, and appropriate infant and child feeding-breastfeeding and complementary feeding • Use of insecticide-treated bed nets • Vitamin A supplementation • Deworming treatment • Access to safe and improved sanitation facilities • Access to hand-washing facilities

Developed alternative, cost-saving IMNCI training approaches to strengthen capacity for implementation of the ECHP: Uganda adopted IMNCI in 1995 and, by the end of 2002, was able to train health workers across 75% of districts in the country. However, over the last 15 years, IMNCI training and implementation has stagnated. A major barrier to sustained implementation of IMNCI at scale was the poor quality of IMNCI training, largely resulting from inadequately prepared trainers and limited time for reality-based clinical practice after training. Other barriers included the costliness of training and interruption of service delivery due to the long period health workers spent off-site for training.

MCSP, in collaboration with the MOH, the WHO Uganda country office and the RHITES partners identified, piloted and documented two alternative IMNCI phased training models to address the challenges previously faced in the implementation of IMNCI. The two models, the WHO distance learning (DL) model and short interrupted course (SIC) model, were designed to sustain IMNCI implementation by reducing the duration of offsite face-to-face training and thereby training costs, minimize the disruption of services, and ensure that optimum numbers of health workers were trained within a short period of time.

The DL model was used in the two districts of Kaliro and Sheema; and the SIC model was used in the two districts of Luuka and Ntungamo. The implementation of the two models generated country learning on the two approaches, which was adopted as part of the national strategy for IMNCI roll out. The MOH plans to use the SIC model to build capacity for IMNCI in the near-term, while intending to fully implement the DL model in the longer-term. Two additional RHITES partners, North Lango and North Acholi, which were not a part of the pilot, are using the SIC model to improve the knowledge and skills of frontline health workers in the management of common childhood illnesses.

Updated national IMNCI guidelines and training materials: Alongside the identification of the IMNCI training models, MCSP worked in collaboration with the WHO Uganda country office and UNICEF to revise and update the national IMNCI guidelines, which had not been updated since 2008. The updates ensured that new knowledge and national policy updates were incorporated and made available to frontline health workers to improve the quality of their care for infants and children under five.

Informed the development of a national guideline to improve planning and management practices for ECHP delivery at district level: WHO's RED/C strategy is a health system strengthening approach that uses catchment-area information to improve the planning and management of resources, access to services for under-served members of the population, linkages between HFs and communities, active monitoring and use of data, as well as supervision and mentoring of health workers. RED/C was adopted in Uganda in 2003 and has been used successfully by MCSP's RI program to strengthen immunization systems at district, sub-district, HF and community levels across the country. The national RMNCAH Sharpened Plan recommended strengthening target population identification and accountability, which led the MOH to draw on MCSP's documented experience in mapping HF catchment areas and better estimating target populations, two of the key elements of RED/C micro-planning.

MCSP leveraged the experiences and lessons learned from the RI program to support the MOH Child Health Division and RHITES partners to adapt and pilot the existing RED/C practices and tools used by UNEPI for other child health interventions at sub-national level. MCSP used the sub-national piloting experience, in collaboration with the MOH Child Health Division and UNEPI, to draft a national guide on the RED/C

practice of using catchment area information to improve RMNCAH results. An unexpected result of this work is that the MOH has indicted its intent to use the RED/C guide to improve the data on priority populations and set performance targets for results-based RMNCAH financing under the World Bank-funded Uganda Reproductive, Maternal and Child Health Improvement Project (URMCHIP) and other programs that aim to reach under-served populations, including adolescents.

Supported the updating of child health elements in the national health management information system (HMIS) and tools: Prior to MCSP, documentation and reporting by health workers on child health conditions seen in outpatient clinics were a challenge. The HMIS tools did not account for the updated child illness classifications, and most of the common child illnesses were being reported under the "other conditions" category. This meant that the various illnesses lumped under this category could not be adequately accounted for during resource planning at the various levels. MCSP took advantage of a previously planned review of the national HMIS to incorporate both the updated child illness classifications and reporting on the stock status of the ECHP commodities into the HMIS tools. MCSP expects these changes to improve the documentation of child illnesses in outpatient clinics and the quality of the data available when planning for delivery of the ECHP package.

Integrated pediatric quality of care (QoC) standards added to the existing national maternal and newborn health (MNH) QoC care standards and tools: The launch of the WHO Pediatric QoC standards took place in Uganda.in 2018. MCSP supported the participation of the Uganda country team in the launch meeting, and later provided technical assistance to the MOH to adapt and integrate the standards into its existing set of standards and QoC assessment tools. The MOH partnered with various implementing agencies, including UNICEF and the RHITES partners, to pilot the standards and tools in at least four HFs from five pilot districts. MCSP also provided support for the selection of national QoC standards for MNCH. The lessons learned from implementing the pilot will be used by the MOH to scale-up the MNCH QoC standards to other districts, starting with those targeted by URMCHIP. Finally, MCSP supported Uganda to participate and share their initial experiences in adapting and piloting of the MNCH QoC standards at the global level as a panelist at MCSP's "Aligning the Stars" QoC events in Washington, D.C. in September 2018.

Objective 2: Strengthen the competencies and practices of USAID's RHITES implementing partners and MCSP-supported demonstration districts to implement the ECHP

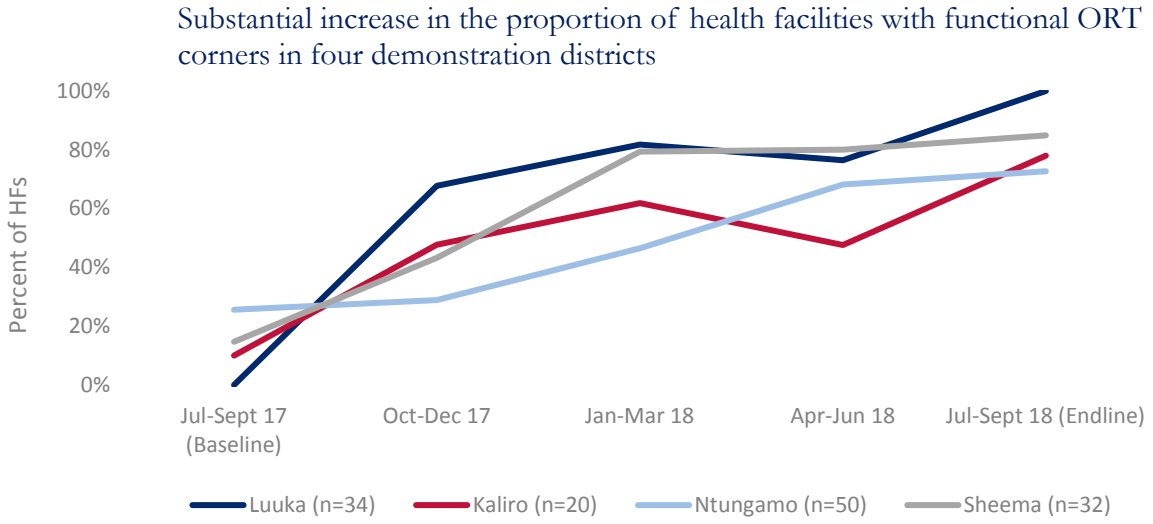
Improved technical capacity to implement the ECHP: During the two years prior to MCSP's involvement in the demonstration districts, only 11% of health workers had been trained in IMNCI. The national team of IMNCI master trainers had not been fully functional for over five years, and MCSP's two RHITES regions and four demonstration districts lacked teams to support refresher training for frontline health workers on updated IMNCI guidelines. Since trained health workers was a key requirement of the National Minimum Health Service Standards and Service Delivery Standards, MCSP's strategy was to train an adequate corps of health workers to support IMNCI service delivery in the districts. MCSP supported a cascade training model that started with reactivating and reorienting the team of national IMNCI master trainers. Later, MCSP worked with the same team to build the capacity of RHITES staff in each of the two regions and of select staff from each of the four districts. These trainers led the effort to strengthen frontline health worker management of common childhood illnesses using the two cost-saving IMNCI training approaches described earlier —DL and SIC. With MCSP's support, RHITES EC and SW trained a total of 374 health workers across the four districts, and supported them to use IMNCI to improve the quality of their child health services. Additionally, MCSP oriented 2,427 village health team (VHT) members to promote key family care practices for child health in their communities, as well as identify and refer sick children to HFs. As a result of MCSP engagement and training

IMNCI Capacity Building Results

- ✓ % of HFs with at least 2 health workers trained in IMNCI improved from **7% to 72%**
- ✓ % of HFs with job aids on integrated child and newborn case management from **7% to 89%**
- ✓ % of villages in EC region with at least 2 VHTs oriented on key family care practices from **0% to 100%**

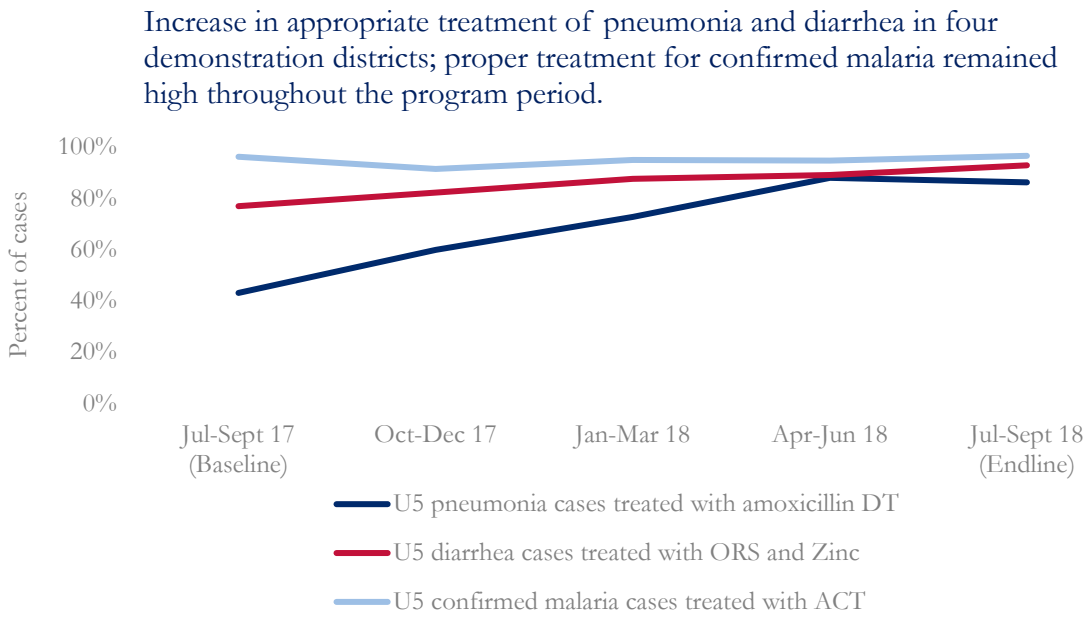
of HF managers on the low cost interventions within the ECHP, including the need for the oral rehydration therapy (ORT) corners for diarrhea management, during the final months of MCSP's involvement, the managers in all four demonstration districts allocated part of their primary health care (PHC) funds to the procurement of ORT corner equipment (see Figure 2). In an endline assessment examining the changes in service delivery and case management practices during its implementation period, MCSP observed that U5 diarrhea cases treated with ORS and zinc increased from 2,938 at baseline (July-Sept 2017) to 4,005 at endline (July-Sept 2018) in the 4 demonstration districts (see Appendix C).

Figure 2. Proportion of health facilities with functional ORT corners in the four MCSP demonstration districts from baseline to endline.



Quality of case management improved in demonstration districts. MCSP also provided guidance and support on the use of quality improvement approaches and tools for improvement of case management practices at HF level. An improvement in the management of pneumonia cases with amoxicillin dispersible tablets (DT) and diarrhea cases with ORS and zinc, was observed. Use of the proper approach for testing fever cases for malaria with a rapid diagnostic test (RDT) and/or microscopic testing also increased during this training period (see Figure 3).

Figure 3. Case management practices for common childhood illnesses across the four MCSP demonstration districts from baseline to endline.

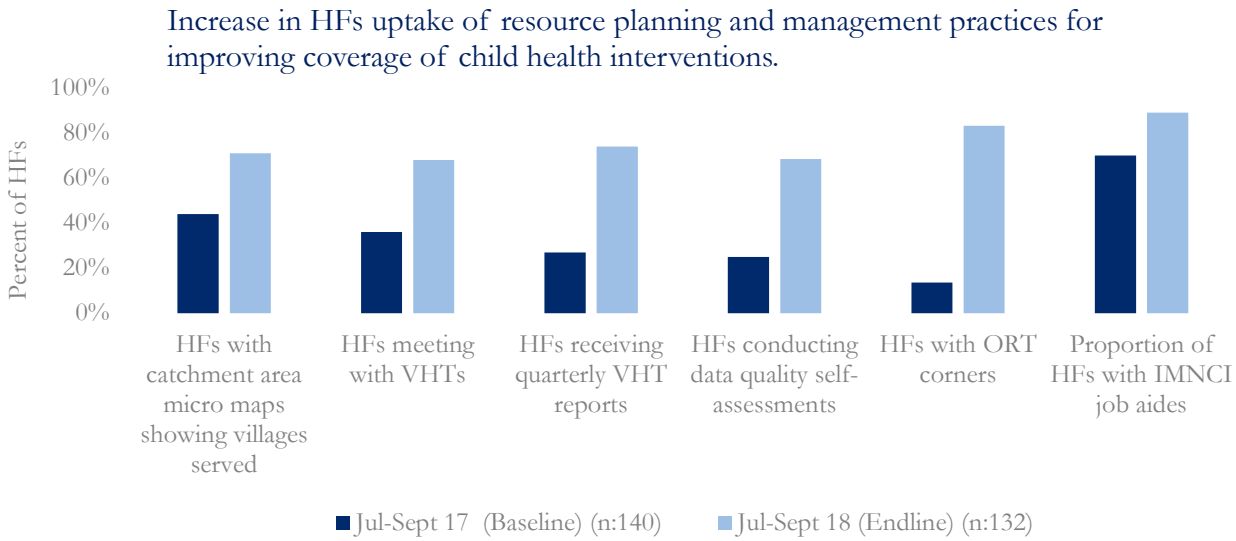


Objective 3: Strengthen district level management and planning practices to support delivery of the ECHP

Improved management and planning practices for the essential child health package using the REC approach: Inadequate planning by district level staff, and limited understanding of the needs of their catchment areas by HF staff, present major challenges to the roll out of the ECHP. MCSP leveraged the experience and expertise of using REC for RI to support piloting of REC tools and processes for other child health interventions in the demonstration districts. At the regional and district level, MCSP worked with the MOH and RHITES to build the capacity of DHMTs and HF managers through training and mentorship. MCSP and RHITES supported HF staff to work with VHTs to use the adapted RED/C approach and tools. As a result, between July 2017 and September 2018, the proportion of facilities implementing the RED/C practices adapted for child health increased. Figure 4 shows the uptake of select RED/C practices by 134 HFs supported by MCSP and RHITES in the four demonstration districts. Notably, by July 2018, at least 60% of all HFs were implementing the RED/C practices. Over 70% of facilities had developed micro-maps of their catchment areas, and over half were conducting VHT quarterly review meetings aimed at using data to improve service targeting and engagement of stakeholder

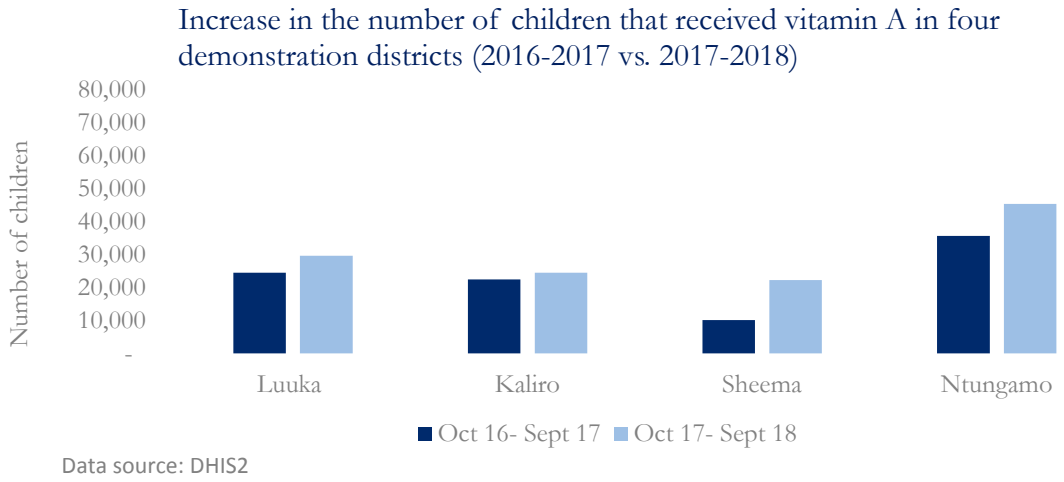
A health worker from MCSP-supported Shuuku Health Center IV in Sheema district interacts with an infant being seen at the Outpatient Department; staff were trained in REC-QI, which they used to identify under-served children eligible for child health services in the community. *Photo: Ambrose Watanda/MCSP*

Figure 4. Uptake of resource planning and management practices for improving coverage of child health interventions in 134 facilities in the four demonstration districts.



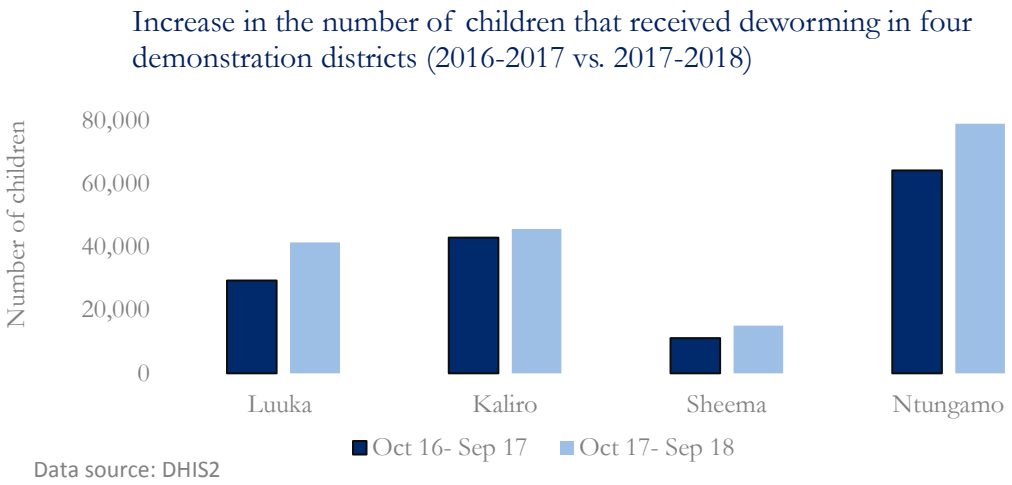
MCSP oriented HF managers on how to use information collected from HF catchment areas in collaboration with community members to identify and prioritize underserved villages for outreach services and other targeted interventions. Figures 5 and 6 show the number of children reached with two interventions from the ECHP, namely vitamin A supplementation and deworming across the four demonstration districts. Overall, the number of children reached with the two interventions increased during the period from October 2017 to September 2018 (2017/2018), compared to the prior 12-month period (2016/2017).

Figure 5. Number of children that received vitamin A in the four demonstration districts.



Data source: DHIS2

Figure 6. Number of children that received deworming in four demonstration districts.



Objective 4: Complete costing analysis for delivery of the ECHP.

Cost data to inform scale-up of ECHP: MCSP worked with the GOU, RHITES-SW and RHITES-EC to conduct a costing analysis of national, regional and district strategies to roll out the ECHP. The programmatic focus was on direct costs associated with training and supporting the implementation of IMNCI as part of the ECHP.

At the district level, RHITES-SW and RHITES-EC conducted IMNCI trainings for health center (HC) II, HC III, and HC IV staff. On average, the programs trained two facility staff from each HC II, four staff from each HC III, and 8-10 staff from each HC IV. Facilities then received mentorship from district and program staff in accordance with the SIC or DL mentorship sequence. Table 2 details the combined training and mentorship average costs to roll out the SIC and DL methodology at facility level. The average per facility cost increased from HCII to HCIVs for both the distance learning and short-interrupted course methodologies. On average, the short-interrupted course per facility cost was higher than the distance learning. However, the percent difference in cost varied based on the facility level and number of persons trained; at HCII, the short-interrupted course per facility cost was 12% more expensive than the distance learning methodology cost; 28% more expensive at the HCIII level; and 42% more expensive at the HCIV level.

Table 2. Average per facility combined training and mentorship costs, by methodology and facility level, MCSP and RHITES perspective.

Facility level	Distance learning (4 mentoring visits)	Short-interrupted course (3 mentoring visits)
HCII (2 persons trained)	UGX 4,679,231 / USD 1,263	UGX 5,242,151 / USD 1,415
HCIII (4 persons trained)	UGX 7,176,483 / USD 1,937	UGX 9,190,838 / USD 2,481
HCIV (9 persons trained)	UGX 13,419,615 / USD 3,622	UGX 19,062,555 / USD 5,145

The analysis team also estimated costs from the GOU perspective, determining what it would cost the GOU to assume financial responsibility for implementing the training of trainers (TOT) and the integrated training and mentorship methodologies. To estimate these costs from the GOU perspective, the analysis team applied an average government salary rate[3] to the MCSP and RHITES program level of effort (captured in days). The analysis team did not adjust lodging and meals and incidental expenses (M&IE) rates as those reported by the

[3] Calculated as the average of U2 upper and U2 lower Government of Uganda salary band monthly rates. Monthly salary estimates were divided by an average 20 work-day month for a daily rate.

programs aligned with government scales, though budgeting projections may vary depending on the level and number of government staff involved in trainings. Table 3 displays the average per facility costs from the GOU perspective to train and mentor health workers using the DL and SIC methodologies. Similar to the findings from the MCSP/RHITES perspective, the estimated per facility cost for the GOU to implement the distance learning methodology was less than the short-interrupted course methodology for all included facility levels, despite the fact that the distance learning approach included more mentoring visits.

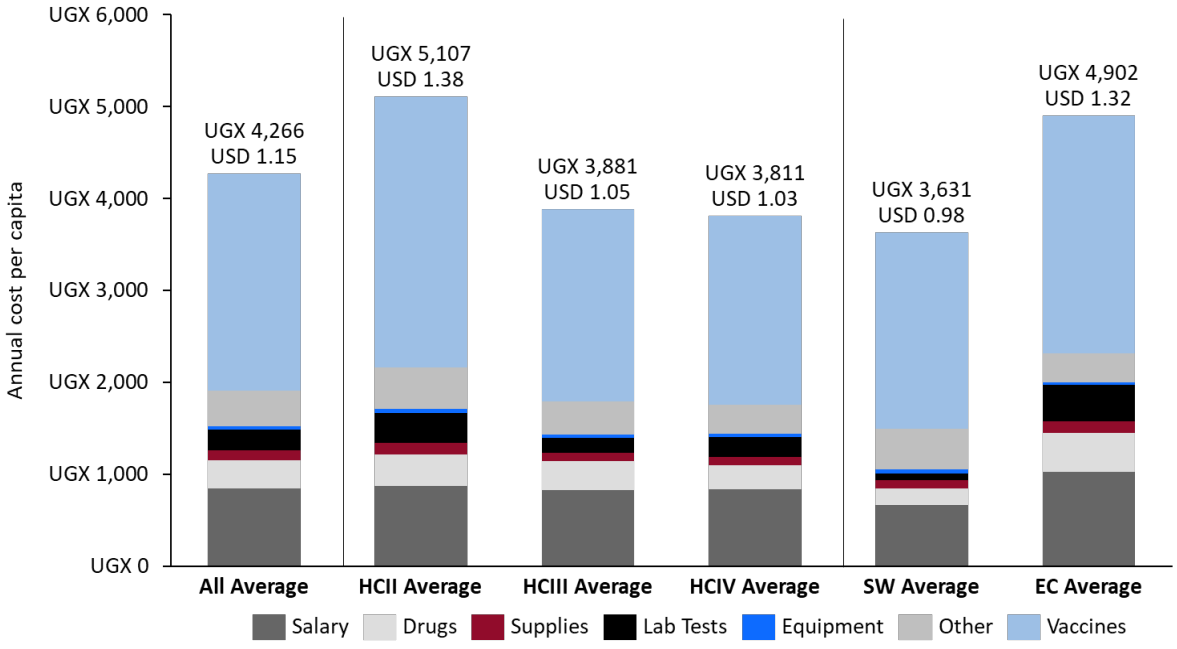
Table 3. Average per facility combined training and mentorship costs, by methodology and facility, government perspective.

Facility level	Distance learning (4 mentoring visits)	Short-interrupted course (3 mentoring visits)
HCII (2 persons trained)	UGX 2,912,019 / USD 782	UGX 3,841,498 / USD 1,031
HCIII (4 persons trained)	UGX 4,630,961 / USD 1,243	UGX 6,979,053 / USD 1,873
HCIV (9 persons trained)	UGX 8,928,315 / USD 2,396	UGX 14,823,017 / USD 3,978

Data on ECHP service delivery costs in public primary care facilities: To complement the cost estimates of the strategies to roll out the ECHP, MCSP determined the actual costs of delivering the services and activities included in the ECHP at PHC facilities in the supported districts. The facility costing employed a retrospective ingredients-based approach to estimate the costs of provision of the services and activities included in the ECHP in HC IIs, HC IIIs, and HC IVs. The costing identified each of the services and activities within the ECHP identified cost categories, collected unit cost and utilization data for each service/activity, and then generated annual cost estimates for the overall package.

Across all sampled facilities, the annual per capita and per child under-five cost of ECHP service delivery was UGX 4,266 and UGX 19,184 (USD 1.15 and USD 5.18), respectively. Per capita and per child U5 costs decreased from HC II to HC IV, given the relatively larger catchment populations of HC IVs, thereby spreading the costs over a larger population. These costs were also higher in the EC region compared to SW region; the EC per capita and per child U5 costs were UGX 4,902 and UGX 21,522, respectively (USD 1.32 and USD 5.80), compared to UGX 3,631 and UGX 18,845 (USD 0.98 and USD 5.08) in SW (see Figure 7).

Figure 7. Annual per capita cost to deliver ECHP, by cost category, facility type, and region.



On a per capita basis and excluding private domestic sources of financing, the estimated total annual cost of the ECHP was approximately 5% of Uganda's per capita current health expenditure from external and domestic public sources. Considering only domestic GOU cost components, the annual per capita ECHP cost was approximately 10% of per capita domestically sourced general government health expenditures, suggesting that the ECHP is a relatively affordable package of primary care services.

With the roll out and delivery of the ECHP in the four demonstration districts in Uganda, this costing analysis produced an important piece of evidence to inform GOU and implementing partners planning for the expansion of training and service delivery approaches regionally and nationally. The costs to deliver the ECHP showed that the package was a relatively affordable set of integrated interventions with the potential to contribute to U5 mortality reductions through improved case management.

Objective 5: Improve availability of strategic knowledge and tools to scale-up the ECHP

Increased availability of strategic knowledge and tools to support implementation of the ECHP: The limited availability of quality data to inform planning and improvement of child health services was identified at the start of MCSP as one of the major challenges affecting the delivery of child health services. MCSP, in collaboration with the MOH Department of Health Information, conducted orientation, and supported targeted onsite mentorship of the RHITES partners and health service providers in the four demonstration districts to:

- ✓ Generate baseline data on child health for each of the districts;
- ✓ Understand and correctly use national MOH registers for child health service delivery;
- ✓ Use routine Data Quality Self-Assessments (DQSA) tools at the HF level to improve and validate the quality of child health data generated and reported.
- ✓ Understand and use health facility catchment mapping tool to identify and estimated targets of children to be reached with health services

311
Health Workers

2,527
VHTs

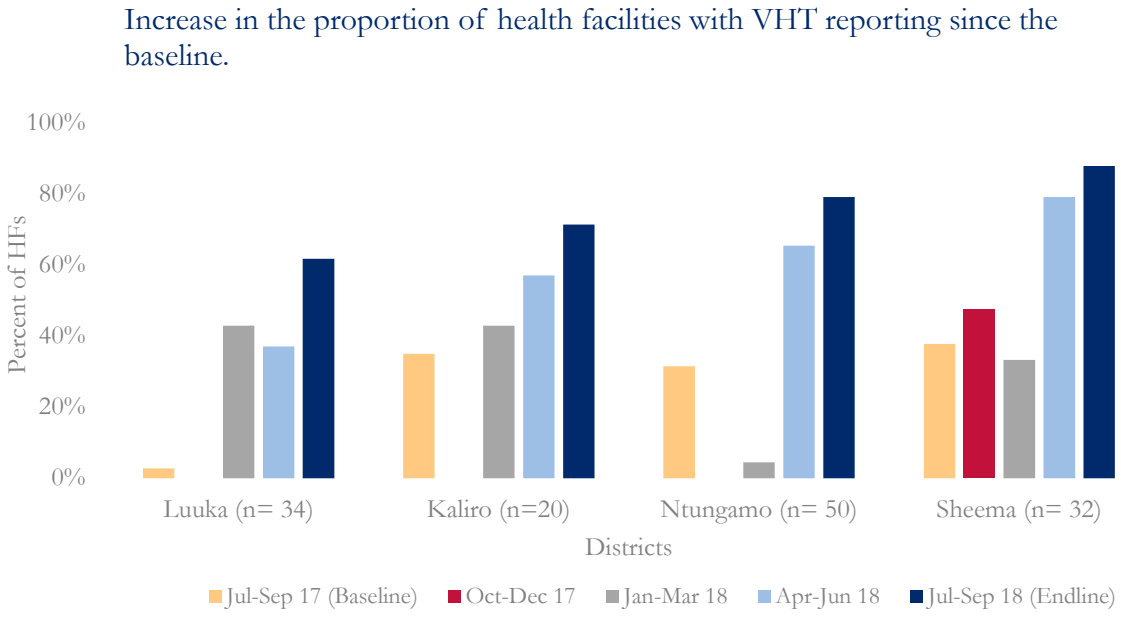
Oriented on the use of HMIS tools

The proportion of HFs conducting DQSA more than doubled, from 28% to over 60%. MCSP oriented a total of 311 health workers and 2,527 VHTs on the use of HMIS tools. Figure 8 shows the resulting increase in the proportion of HFs submitting community HMIS reports via VHTs from baseline. MCSP support also contributed to an overall improvement in the accuracy of child health data reported through the HMIS.

Additionally, health facility staff and district managers in Uganda generate data for the health system as a whole but often lack the tools and skills to use data effectively in monitoring and taking action to improve their own performance. To address this, MCSP worked with the MOH to develop a tool (e.g., child health scorecard), focusing exclusively on child health indicators, to monitor implementation of the ECHP at facility and community level (see Appendix F for the child health scorecard). The development of the scorecard built on the experience and lessons learnt by the MoH from earlier efforts to put in place and roll out an integrated RMNCAH score card. Specifically, the scorecard was designed using only indicators that could be calculated using readily available data from HMIS registers, records and reports; and easily be interpreted by intended end-users at district and health facility level. It included both facility and community indicators related to child health and could be populated either manually or electronically, eliminating the need for a computer. The child health score card proved to be a useful quality improvement tool for health facility and district level health managers. It provided a mechanism to visually present and easily communicate health facility child health service delivery performance to various stakeholder groups, and helped stakeholders to identify and prioritise poorly performing child health service delivery interventions and health facilities for support. It helped district level managers at district level to identify and scale up good practices, such as the allocation by health facilities of PHC funds to support community engagement activities for child health. To ensure the reliability of the child health score card performance data, MCSP with the MoH built capacity of health facilities to conduct routine Data Self Quality Assessments. While some improvements were observed, data quality remains a challenge that

must be continually addressed to ensure the credibility of the scorecard and its usefulness in monitoring and planning. The child health score card has now been adopted by the DHOs in the four demonstration districts. At the national level, experiences from implementing the scorecard were shared and have been used, along with experiences from using other performance tracking tools, to revise and improve in the MoH integrated RMNCAH scorecard.

Figure 8. The proportion of health facilities submitting community HMIS reports via VHTs, by district.



Note: During October-December 2017, the release of funding from MOH and UNICEF for VHT activities was delayed, which affected VHT reporting of community date in three of the four demonstration districts.

MCSP also worked to increase the availability and use of strategic knowledge. This included the establishment of a community of practice that convened partners through several half-day meetings to share and learn from MCSP's and other partners' experiences implementing the ECHP; participation in webinars and MOH national technical working groups to disseminate MCSP's learning; and development and dissemination of key knowledge sharing products. Appendix C shows the knowledge sharing products produced by the MCSP Child Health program. MCSP's sharing of knowledge and tools for ECHP scale-up led to the adoption of MCSP's technical approaches by the MOH and other partners before the program's end date.

Cross-Cutting and Global Learning Themes

The MCSP Child Health program supported activities and learning related to two global themes - health systems strengthening and equity.

Health Systems Strengthening

To address barriers that affect service delivery and support institutionalization and scale up of high impact child health interventions, MCSP built the **leadership capacity** of district MCH focal persons (e.g., ADHO-MCH) to plan, oversee and monitor implementation of the ECHP. MCSP fostered a culture of accountability among the HF managers for the oversight and continuous improvement in delivery of the ECHP, as well as reporting on the delivery status of the ECHP at facility level through the routine HMIS.

MCSP worked with the RHITES partners, the MOH Pharmacy Division, and other USAID implementing partners to support the **national health supply chain** to address stock-outs of the essential commodities needed for delivery of the ECHP. Compliance with the national guidelines for the rational use of medicines was strengthened, thus minimizing the wastage of expensive antibiotics and other medicines. Strengthening the capacity of the sub-national level to use catchment area information for more effective planning and management was a key step in ensuring adequate stocks of essential commodities.

MCSP also took advantage of the previously planned review of the **national HMIS** to incorporate into HMIS tools the updated IMNCI disease classifications and reporting on the stock status of the ECHP commodities. MCSP supported improvements in the quality and completeness of reported child health data and, as mentioned above, developed a scorecard to facilitate the effective use of data for decision-making and ongoing monitoring of child health services.

MCSP strengthened the **health workforce** by ensuring that optimum numbers of health workers from each facility were trained in IMNCI and designing and testing the two IMNCI training models to minimize the number of days that health workers were taken away from their facilities. Additionally, MCSP strengthened the leadership skills of the HF managers to support and empower their frontline health workers to complete the IMNCI training course and effectively translate their learning into practice.

Finally, MCSP **mobilized local resources** to support the delivery of the ECHP by engaging and educating HF managers on the low cost interventions included in the ECHP, especially the ORT corners. District health managers across the four demonstration districts allocated portions of their PHC funds for HF management to the procurement of equipment to establish ORT corners.

Equity

To address disparities in access to child health services MCSP collaborated with RHITES partners and the MOH to adapt and use of the RED/C approach to identify and reach the most remote and underserved populations. The orientation of HF managers to the mapping of their communities and analysis of child health intervention coverage contributed to the identification and subsequent relocation of outreach services to underserved villages.

MCSP fostered inclusive development through **promotion of community and non-health stakeholder engagement** by HFs in the planning and monitoring of child health service delivery, capitalizing on all opportunities to involve and reach the intended beneficiaries and raise awareness of child health services. The use of VHTs to register all children and report on the coverage of child health interventions in their communities was especially successful. VHTs were able to identify and refer unreached children to the HFs, thereby enhancing equitable access to child health interventions.

MCSP promoted the documentation and analysis of participants by gender for all of the program activities implemented. Disparities in gender and their implications for the expected program beneficiaries were analyzed and discussed with partners. Representation of more male VHTs than female VHTs amongst those who were oriented on the RED/C approach was flagged for future monitoring by the RHITES partners, as this likely limits women's and children's access to community services.

Conclusions

Enabling and Constraining Factors

The following **enabling factors facilitated** MCSP Child Health program achievements**:**

- **Program implementation guided by a work plan developed jointly with key stakeholders:** MCSP's work plan was jointly developed with the MOH and RHITES partners to align with their previously-established program objectives. This ensured MOH and RHITES' support and also minimized scheduling

conflicts and competing priorities between MOH, RHITES and MCSP that might have delayed or prevented activities from being implemented.

- **Clear stipulation of partner roles and responsibilities:** At the start of the program, USAID introduced MCSP to the RHITES partners and organized meetings to formally launch their collaboration, highlighting USAID's interest and commitment to the MCSP-RHITES partnership. USAID also provided an opportunity for MCSP and RHITES to clarify roles, responsibilities and accountability for program implementation, reporting, and results.
- **Strong district health team leadership and oversight for the roll out of activities** Follow up and supervision of health workers by the Assistant District Health Officer for Maternal and Child Health (ADHO-MCH) was critical to ensure the timely start-up of IMNCI training and therefore, adequate time for coverage of content in the one-day face-to-face sessions. Follow up by the ADHO-MCH ensured that health workers enrolled in, completed the training course, and were available at the HFs for planned mentorship visits.
- **Engagement of non-health stakeholders at the district level**: The MCSP Child Health program applied learning from the MCSP RI program to work with the RHITES EC and SW partners to engage non-health stakeholders, including the Chief Administrative Officer, District Chairman and the Secretary of Health, to address leadership challenges at higher-level HFs. The non-health stakeholders were invited to participate in quarterly review meetings, as well as supportive supervision and mentorship visits to the HFs in their districts. This enabled the leveraging of local resources to address the challenges commonly faced by HFs, and helped to enforce the changes needed to improve child health service delivery. District leadership from all four demonstration districts committed to providing vehicles and fuel to support transportation of essential child health commodities, including vaccines, from the district stores to the HFs.

<u>C**onstraining factors** that limited MCSP Child Health program were limited by</u>**:**

- **Frequent stock-outs of essential commodities and supplies needed to deliver the ECHP**: Frequent stock-outs of essential commodities remained a challenge that continuously affected motivation of health workers to practice what they had learned. Addressing stock-outs requires support to improve the quality of reports submitted and therefore used to forecast and order supplies needed for child health services. Additionally, the high price of key commodities, especially amoxicillin DT, which is the recommended first line treatment for pediatric pneumonia, prevents the ordering of sufficient quantities and is an important challenge to be addressed at the national level.
- **Inadequate allocation of resources for community activities:** Support for community activities is key to aligning service delivery of the ECHP to the needs and preferences of the community. Effective implementation of community activities was hindered by the sub-optimal use of volunteer community structures (e.g., VHTs) and inadequate allocation of resources by HF managers to support community engagement activities. Some HF managers were responsive in allocating funds from PHC grants, as recommended in the national PHC guidelines for community engagement activities. Nonetheless, the lack of transparency and improper use of PHC funds remains a major barrier to the sufficient allocation of resources to community engagement activities.
- **Limited use of data for decision-making by health workers at the facility level**: The ability to estimate coverage figures, as well as the potential contribution of RED/C for child health to coverage gains, was constrained by incomplete and inaccurate community data reported through the HMIS and the inability of HF managers to understand and improve the quality and use of HMIS data to track children reached.
- **Orientation of HF managers more towards clinical and curative services than towards the health needs of communities and individuals:** Using the adapted RED/C approach requires a shift in health worker mindset. Too often, health workers feel accountable only for clinical and curative services. RED/C requires community outreach and it holds health workers accountable for meeting the preventative and curative health needs of the children in the communities they serve. This shift in mindset takes time and requires continuous support and demonstration of how this reorientation can generate the kind of results and impact expected of HF managers and staff.
- **Short duration of MCSP's child health activity:** While the project period was officially 24 months; actual implementation of activities started eight months into the project period, leaving only 12 months for execution of the project. Although positive results were observed during the MCSP implementation period, sustaining these results will need continued support from the MOH and implementing partners.

Particularly, more support will be needed to further strengthen child health practices and culture, such as collecting and using data for service delivery planning, as well as health facility ownership and support of community health interventions.

Recommendations

Over a period of 12 months, MCSP identified and demonstrated the feasibility of implementing a "lightened" package of the child health interventions prioritized in Uganda's RMNCAH Sharpened Plan at all levels of care. This "lightened" or streamlined ECHP addressed the major causes of ill health and covered the top ten RMNCAH interventions that contribute to saving the most lives for children under-five. With a cost equivalent to only 10% of the current government per capita expenditure on health, the ECHP supported by MCSP was found to be affordable.

MCSP revitalized and facilitated use of the IMNCI approach as a vehicle for integrated delivery of the ECHP at all levels of care. MCSP used lessons learned from Uganda's experiences to identify alternative approaches for rolling out IMNCI. Improved health worker case management practices were observed following the roll out of IMNCI. Additionally, increased adoption of better management and planning practices was observed following MCSP's introduction of an adapted version of the RED/C approach. Furthermore, MCSP addressed the gap in information available to inform decisions about child health service delivery by strengthening the capacity at national and sub-national level to collect, report, and use quality data. Finally, MCSP used learning from its demonstration districts to inform and initiate processes to improve national policies to support implementation of the ECHP at scale.

Based on experiences and learning from program implementation in the four demonstration districts, MCSP recommends that the MOH and its implementing partners consider the following actions:

1. **Expedite implementation of the prioritized package of child health interventions in the national RMNCAH Sharpened Plan.** MCSP demonstrated the feasibility of implementing a lightened ECHP at all levels of care. Given the limited availability of resources, MOH and its implementing partners should consider starting with the lighter ECHP identified by MCSP in collaboration with the MOH and USAID RHITES partners. Individual interventions in the ECHP may be given more weight during implementation, depending on the disease profile of a given district or region.
2. **Provide support to ensure access to and availability of essential medicines and supplies needed for the full implementation of the ECHP.** Frequent stock-outs of essential commodities remained a challenge that continuously affected service delivery and implementation of the ECHP. Addressing stock-outs requires support to improve the quality of reports used to forecast and order supplies needed for child health services. Additionally, the high price of key commodities, especially amoxicillin DT, which is the recommended first line treatment for pediatric pneumonia, prevents the ordering of sufficient quantities and is an important challenge to be addressed at the national level. This is a critical component in achieving the full impact of the ECHP and contributing to a reduction in child mortality.
3. **Invest in improving health worker capacity for implementation of the updated IMNCI case management guidelines**. The alternative training approaches piloted by MCSP and subsequently taken up by the MOH provide cost-saving options that can be used to improve health worker knowledge and skills for IMNCI implementation.
4. **Expand the use of RED/C approach, especially catchment area mapping and planning.** RED/C is a system strengthening approach for child health and potentially for other RMNCAH interventions for which population coverage is a goal. MCPS's collaboration with the MOH on the use of catchment area mapping and planning showed its potential for improving prioritization, planning, equitable access, and community participation in RMNCAH services, thereby facilitating full implementation of Uganda's RMNCAH Sharpened Plan. MCSP is excited about the MOH's plan for its full implementation and scale up. However, this will require allocation of sufficient time and support to develop a culture of being community-oriented and using catchment area and service delivery data to improve coverage amongst HF managers. Successful implementation of catchment area-based mapping and planning also will require adequate allocation of resources for community engagement and outreach activities.

5. **Prioritize and continue support for quality documentation, ownership, use and regular reporting of child health service delivery data.** This is necessary for the full realization of results from IMNCI, the Catchment Area Planning and Mapping for Action (CAMPA) national guide and other approaches that have been used to roll out the ECHP.

Way Forward

The MCSP Child Health program successfully provided above-site technical assistance to USAID's RHITES partners in the EC and SW regions, generating many lessons learned that have already informed MOH national guidelines and implementation of Uganda Reproductive Maternal and Child Health Improvement Project (URMCHIP) funded through World Bank IDA facility and Global Financing Facility (GFF). It is anticipated that additional learning will be gained as the RHITES partners continue to implement the work over the next several years and with a wider geographical scope. Continuation of the learning Community of Practice initiated by MCSP for the RHITES partners and other child health stakeholders would provide an effective forum for further informing national program and policy guidance and facilitating adoption at scale of lessons learned from RHITES' and other implementing partners' experiences.

Appendix A: Performance Monitoring Plan (PMP)

Strategic Objective: Provide above-site technical assistance (TA) program to provide tailored support to the RHITES projects in the SW and EC regions.									
Link to CDCS[4]	**Results**[5]	**Baseline value**[6]	**FY 2017**	**Quarterly Status – FY 2018**				**Life of Project Achievement to date (% or cumulative #)**	**Comment**
			Annual target	**Q1 (Oct-Dec'17)**	**Q2 (Jul-Sept'18)**	**Q3 (Apr-Jun'18)**	**Q4 (Jul-Sept'18)**		
IR 2.2; Sub IR 2.2.1	**Goal:** To contribute to reduction in child mortality in SW and EC regions of Uganda	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No indicator selected because of short implementation period and cost of monitoring of child mortality vs program budget
Intermediate Result (IR) 1: Enhance national guidelines and frameworks for implementation of essential child health package									
IR3.3; Sub IR 3.4.1	Number of national level guidelines, tools and manuals, report, briefs developed or revised for CH with MSCP support (CSS, QoC, CDSR, IMNCI) disaggregated by topics and type of products)	0	8	6	-	2	1	112%	For Quarter 4 (Q4) finalized draft for National Guidelines for CAMPA
IR 2: Strengthen competencies and practices of RHITES partners and MCSP demonstration districts to implement the essential child health package									
Sub IR 2.2.1	Proportion of cases of children under 5 years of age diagnosed with malaria through RDT and/or microscopy testing who received ACT treatment during the last quarter	Luuka= 99% Kaliro= 88% Total EC=93% Ntungamo= 98% Sheema=100% Total SW= 98%	Luuka 85% Kaliro 85% Total EC= 85% Ntungamo= 85% Sheema= 85% Total SW= 85%	Luuka= 98% Kaliro=100% Total EC= 99% Ntungamo= 83% Sheema= 84% Total SW=84%	Luuka= 94% Kaliro= 91% Total EC= 92% Ntungamo= 98% Sheema= 97% Total SW=98%	Luuka= 97% Kaliro= 89% Total EC= 93% Ntungamo=99% Sheema= 95% Total SW= 97%	Luuka= 96% Kaliro= 91% Total EC= 93% Ntungamo= 98% Sheema= 100% Total SW= 99%	Luuka= 96% Kaliro= 91% Ntungamo= 98% Sheema=10%	
Sub IR 2.2.1	Proportion of cases of children under 5 years of age with fever seeking care at HFs who received RDT and/or microscopy	Luuka= 84% Kaliro= 87% Total EC = 86% Ntungamo= 100%	Luuka= 85% Kaliro= 85% Total EC= 85% Ntungamo=85%	Luuka= 98% Kaliro= 96% Total EC= 97% Ntungamo= 88%	Luuka= 94.9% Kaliro= 97% Total EC= 96% Ntungamo= 99%	Luuka = 78% Kaliro =100% Total EC= 89% Ntungamo= 98%	Luuka= 98% Kaliro= 99% Total EC= 98% Ntungamo= 100%	Luuka: 98% Kaliro: 99% Ntungamo= 100%	

[4] Identify CDCS IRs or Sub IRs where applicable, for example 3.2.2 or 1.1, etc. Only list CDCS results where your Activity can contribute results (and where aligned within the approved AMELP).
[5] List Activity goal, intermediate results, and sub intermediate results.
[6] Indicate year for baseline values.

Strategic Objective: Provide above-site technical assistance (TA) program to provide tailored support to the RHITES projects in the SW and EC regions.									
Link to CDCS[4]	**Results[5]**	**Baseline value[6]**	**FY 2017**	**Quarterly Status – FY 2018**				**Life of Project Achievement to date (% or cumulative #)**	**Comment**
			Annual target	**Q1 (Oct-Dec'17)**	**Q2 (Jul-Sept'18)**	**Q3 (Apr-Jun'18)**	**Q4 (Jul-Sept'18)**		
	testing for malaria during the last quarter	Sheema = 4% Total SW = 97%	Sheema = 85% Total SW = 85%	Sheema= 89% Total SW = 88%	Sheema= 94% Total SW= 96%	Sheema= 93% Total SW=96%	Sheema= 100% Total SW=100%	Sheema= 100%	
Sub IR 2.2.1	Proportion of cases of children under 5 years of age with pneumonia seeking care at HFs who received appropriate treatment with antibiotic during the last quarter	Luuka= 31% Kaliro= 27% Total EC= 29% Ntungamo= 77% Sheema= 38% Total SW= 57%	Luuka= 85% Kaliro= 85% Total EC=85% Ntungamo= 85% Sheema= 85% Total SW= 85%	Luuka=17% Kaliro= 38% Total EC= 28% Ntungamo= 95% Sheema= 90% Total SW= 92%	Luuka= 62% Kaliro= 42% Total EC= 52% Ntungamo= 96% Sheema= 91% Total SW= 94%	Luuka= 80% Kaliro= 86% Total EC=83% Ntungamo= 97% Sheema= 89% Total SW=93%	Luuka= 65% Kaliro= 96% Total EC= 80% Ntungamo= 91% Sheema= 94% Total SW=93%	Luuka= 65% Kaliro= 96% Ntungamo= 91% Sheema= 94%	There was a prolonged period for the stock-out of amoxicillin D during the quarter. This affected the overall performance of the indicator. In Luuka 58.1% of the facilities experienced a stock-out for 31.8 days
Sub IR 2.2.1; 2.2.2	Proportion of cases of children under 5 years of age with diarrhea seeking care at HFs who received ORS and zinc in the last quarter	Luuka= 73% Kaliro= 58% Total EC= 66% Ntungamo= 84% Sheema= 95% Total SW= 90%	Luuka = 85% Kaliro = 85% Total EC =85% Ntungamo = 85% Sheema = 85% Total SW = 85%	Luuka= 77% Kaliro= 96% Total EC =87% Ntungamo= 92% Sheema= 64% Total SW= 78%	Luuka= 76.4% Kaliro= 82.1% Total EC= 79% Ntungamo= 97% Sheema= 95% Total SW= 96%	Luuka= 91% Kaliro= 84% Total EC= 88% Ntungamo= 95% Sheema= 86% Total EC=91%	Luuka= 91% Kaliro= 88% Total EC=89% Ntungamo= 95% Sheema = 98% Total EC=97%	Luuka= 91% Kaliro= 88% Ntungamo= 95% Sheema= 98%	
IR 3.3 Sub IR 3.3.1	Number of health workers (HWs) and RHITES staff trained as trainers for (Integrated Community Case Management) IMNCI using updated guidelines, job aides and tools	0	Health worker=12 RHITES= 4 Regional TOT on IMNCI: EC: 12 participants (4M: 8F)	Health worker=12 RHITES= 0 Regional TOT on IMNCI: EC: 12 participants (4M: 8F)	Health worker=0 RHITES= 0	Health worker=0 RHITES= 0	Health worker=0 RHITES= 0	Health worker=12 RHITES= 0 Regional TOT on IMNCI: EC: 12 participants (4M: 8F)	Additional RHITES staff started TOT course but were not able to complete because of lack of funding. RHITES implementing partners have included finalization of training for additional TOTs in their upcoming PY workplan and budgets.

Strategic Objective: Provide above-site technical assistance (TA) program to provide tailored support to the RHITES projects in the SW and EC regions.									
Link to CDCS[4]	**Results[5]**	**Baseline value[6]**	**FY 2017**	**Quarterly Status – FY 2018**				**Life of Project Achievement to date (% or cumulative #)**	**Comment**
			Annual target	**Q1 (Oct-Dec'17)**	**Q2 (Jul-Sept'18)**	**Q3 (Apr-Jun'18)**	**Q4 (Jul-Sept'18)**		
IR 3.3 Sub IR 3.3.1	Proportion of HFs with job aides for case management of childhood illnesses in MCSP demonstration districts	Luuka= 3% Kaliro= 0% Total EC= 2% Ntungamo= 11% Sheema= 14% Total SW= 12%	Luuka= 100% Kaliro= 100% Ntungamo= 100% Sheema= 100%	Luuka= 48% Kaliro= 77% Total EC= 63% Ntungamo= 49% Sheema= 25% Total SW= 38%	Luuka= 97% Kaliro= 95% Total EC = 96.2% Ntungamo= 96% Sheema= 94% Total SW = 95%	Luuka= 97% Kaliro= 95% Total EC= 96% Ntungamo= 96% Sheema= 88% Total SW= 92%	Luuka= 88% Kaliro= 86% Total EC= 87% Ntungamo= 96% Sheema= 88% Total SW= 92%	Luuka: 88% Kaliro: 86% Ntungamo: 96% Sheema: 88%	
IR 3: Strengthen district level management and planning practices to support the delivery of the essential CH package using adapted REC-QI approaches									
IR1.1; Sub IR 1.1.2, IR 3.2 Sub IR 3.2.1, 3.2.2 & 3.2.4 IR 3.3 Sub IR 3.3.5, 3.3.6	Proportion of HFs with catchment area micro-map available and displayed showing health provider assigned for every village	Luuka= 25% Kaliro= 50% Total EC= 38% Ntungamo= 46% Sheema= 57% Total SW= 52%	Luuka = 85% Kaliro = 85% Total EC =85% Ntungamo = 85% Sheema = 85% Total SW = 85%	Luuka=32% Kaliro= 65% Total EC= 48% Ntungamo= 78% Sheema= 58% Total SW= 63%	Luuka= 53% Kaliro= 48% Total EC =50% Ntungamo=74% Sheema= 73% Total SW= 73%	Luuka= 41% Kaliro= 62% Total EC= 52% Ntungamo= 92% Sheema= 80% Total SW= 86%	Luuka= 62% Kaliro= 70% Total EC=67% Ntungamo= 86% Sheema= 61% Total SW= 73%	Luuka= 62% Kaliro= 70% Ntungamo= 86% Sheema= 61%	
IR 2.2.1; IR 3.3.6	Number of cases of children under 5 years of age referred to HFs for care by VHTs	Luuka= 332 Kaliro= 126 Total EC= 458 Ntungamo= 10 Sheema= 370 Total SW= 380		Luuka= 275 Kaliro= 258 Total EC= 533 Ntungamo= 56 Sheema= 59 Total SW= 115	Luuka= 340 Kaliro= 202 Total EC= 542 Ntungamo= 234 Sheema= 28 Total SW= 262	Luuka= 280 Kaliro= 1,163 Total EC= 1,443 Ntungamo= 36 Sheema= 127 Total SW= 163	Luuka= 1,430 Kaliro= 1,600 Total EC= 3,030 Ntungamo= 61 Sheema= 164 Total SW= 225	Luuka= 1,430 Kaliro= 1,600 Ntungamo= 61 Sheema= 164	In efforts to increase the utilization of the child health cards in the EC region, all in-charges have been facilitated by RHITES to ensure that caregivers with children are referred to have child health cards updated and also conduct immunization mop-ups, which has led to the increase.

Strategic Objective: Provide above-site technical assistance (TA) program to provide tailored support to the RHITES projects in the SW and EC regions.									
Link to CDCS[4]	**Results[5]**	**Baseline value[6]**	**FY 2017**	**Quarterly Status – FY 2018**				**Life of Project Achievement to date (% or cumulative #)**	**Comment**
			Annual target	**Q1 (Oct-Dec'17)**	**Q2 (Jul-Sept'18)**	**Q3 (Apr-Jun'18)**	**Q4 (Jul-Sept'18)**		
IR 3.3; Sub IR 3.3.1	Number of health workers and RHITES implementing partner (IP) staff trained on adapted REC-QI approach	0	Health workers=173 RHITES partners= 22	EC: Health workers=72 RHITES partner=2 SW: Health workers=72 RHITES partner=2	EC: Health workers =51 Village Health Teams(VHT)= 10 Other non-health stakeholders= 28	EC: Health workers=0	EC: Health workers=0	EC: Health workers=123 RHITES partner=2 Village Health Teams(VHT)= 10 Other non-health stakeholders= 28 SW; Health workers =72 RHITES partner=2	
IR 3.3. Sub IR 3.3.1; 3.3.5	Number of HFs supported by RHITES and District teams with MCSP TA to conduct micro-mapping and planning to improve coverage of CH interventions		Luuka= 35 Kaliro= 21 Total EC= 56 Ntungamo= 44 Sheema= 35 Total SW= 79	Luuka= 30/35 Kaliro= 0/21 Total EC= 30/56 Ntungamo= 22/44 Sheema= 0/35 Total SW = 22/35	Luuka = 18/34 Kaliro = 17/21 Total EC =35/55 Ntungamo=41/44 Sheema= 32/35 Total SW= 73/79	Luuka= 18/35 Kaliro= 18/21 Total EC= 36/56 Ntungamo=40/44 Sheema= 31/35 Total SW= 71/79	Luuka =33/35 Kaliro=21/21 Total EC =54/56 Ntungamo=37/44 Sheema= 32/35 Total SW= 69/79	Luuka= 33/35 Kaliro= 21/21 Ntungamo=37/44 Sheema= 32/35	
IR 3.3, Sub IR 3.3.5	Number of HFs with updated monitoring chart or REC tool showing coverage of CH indicators	Luuka= 8 Kaliro= 9 Total EC= 17 Ntungamo= 33 Sheema= 23 Total SW= 56	Luuka= 35 Kaliro= 21 Total EC= 56 Ntungamo= 44 Sheema= 35 Total SW= 79	Luuka= 29% Kaliro= 52% Total EC= 20 Ntungamo= 62% Sheema= 48% Total SW = 42	Luuka= 35.3% Kaliro= 28.6% Total EC= 18 Ntungamo= 71% Sheema= 74% Total SW= 56	Luuka= 32% Kaliro= 48% Total EC = 21 Ntungamo= 84% Sheema= 77% Total SW= 64	Luuka= 44% Kaliro= 44% Total EC= 25 Ntungamo= 55% Sheema= 67% Total SW= 61%	Luuka= 44% Kaliro= 44% Ntungamo= 55% Sheema= 67%	

Strategic Objective: Provide above-site technical assistance (TA) program to provide tailored support to the RHITES projects in the SW and EC regions.									
Link to CDCS[4]	**Results[5]**	**Baseline value[6]**	**FY 2017**	**Quarterly Status – FY 2018**				**Life of Project Achievement to date (% or cumulative #)**	**Comment**
			Annual target	**Q1 (Oct-Dec'17)**	**Q2 (Jul-Sept'18)**	**Q3 (Apr-Jun'18)**	**Q4 (Jul-Sept'18)**		
IR 3.3 Sub IR 3.3.1; 3.3.5	Number of health workers and RHITES IPs trained and mentored on the proper use of CH HMIS tools	0	HWs= 222 VHTs= 4,530 RHITES partner=22	**EC:** VHTs= 487 (F=260, M=227) HWs= 72 (F=36, M=36) RHITES partner=2 (F=1, M=1) **SW:** VHTs:595 (F=365, M=230) HWs :72 (F=32, M=40) RHITES partners: 2 (M=2)	**EC:** VHTs =713 (F=275, M=438) **SW:** VHTs: 732 (F=586, M=146)	**EC:** Health workers= 36 (F=15, M=21) RHITES partner=1 **SW:** Sheema Health workers= 38 (F=15, M=23) RHITES partner=1	**EC:** Health workers Luuka= 50 (F=36, M=14) RHITES partner=1 (M=1) **SW:** Health workers Ntungamo= 43 (F=25, M=18)	**EC:** VHTs= 1,200 (F=535, M=665) HWs=158 (F=87, M=71) RHITES partner=3 (F=2, M=1) **SW:** VHTs= 1,327 (F=951, M=376) HWs= 153 (F=72, M=81) RHITES partners=2 (M=2)	
IR 3.3 Sub IR 3.3.5	Proportion of HFs with timely and complete reports on community level CH indicators from VHT registers and CH registers entered in DHIS2 for the previous quarter	Luuka= 2.8% Kaliro= 35% Total EC= 19% Ntungamo = 32% Sheema = 38% Total SW = 35%	Luuka= 85% Kaliro= 85% Total EC= 85% Ntungamo= 85% Sheema= 85% Total SW= 85%	Luuka= 0% Kaliro= 0% Total EC= 0% Ntungamo= 0% Sheema= 48% Total SW= 24%	Luuka= 43% Kaliro= 43%) Total EC= 43%) Ntungamo= 5% Sheema= 33% Total SW= 18%	Luuka= 37% Kaliro= 57% Total EC= 45% Ntungamo= 50% Sheema= 74% Total SW= 61%	Luuka= 62% Kaliro= 71% Total EC= 66% Ntungamo= 79% Sheema= 88% Total SW=83%	Luuka= 62% Kaliro= 71% Ntungamo= 79% Sheema= 88%	

Strategic Objective: Provide above-site technical assistance (TA) program to provide tailored support to the RHITES projects in the SW and EC regions.									
Link to CDCS[4]	**Results**[5]	**Baseline value**[6]	**FY 2017**	**Quarterly Status – FY 2018**				**Life of Project Achievement to date (% or cumulative #)**	**Comment**
			Annual target	**Q1 (Oct-Dec'17)**	**Q2 (Jul-Sept'18)**	**Q3 (Apr-Jun'18)**	**Q4 (Jul-Sept'18)**		
IR 3.3 Sub IR 3.3.5	Proportion of HFs that conduct data quality self-assessment and reporting to validate CH indicators	Luuka= 13.9% Kaliro= 15% Total EC=14% Ntungamo= 39% Sheema= 32% Total SW = 36%	Luuka= 85% Kaliro= 85% Total EC= 85% Ntungamo= 85% Sheema= 85% Total SW = 85%	Luuka= 16% Kaliro= 41% Total EC= 29% Ntungamo= 38% Sheema= 73% Total SW = 55%	Luuka= 24% Kaliro=38% Total EC= 30% Ntungamo= 52% Sheema= 54% Total SW= 53%	Luuka= 91% Kaliro= 95% Total EC= 93% Ntungamo= 77.3% Sheema= 89% Total SW= 83%	Luuka= 47% Kaliro= 71% Total EC= 56.4 Ntungamo= 80% Sheema= 76% Total SW= 78%	Luuka= 47% Kaliro= 71% Ntungamo= 80% Sheema= 76%	The increase in Q3 resulted in regular mentorship visits to facilities and Data Quality Self-Assessment and Improvement (DQS&I) was part of the assessment. However, the reduced intensity in follow up led to the decline since the period of implementation did not guarantee institutionalization of the practice.
IR 3.4.2	Number of technical and policy briefs on the essential CH package developed by program to inform the national scale up	0	4	0		2	1	3 (75%)	CAMPA Guide under review; IMNCI training manuals for Short Interrupted Course (SIC) and Distance Learning (DL)
	Guiding Principles								
	Success story documentation		8	0	1	1	1		

Appendix B: Success Stories

Photo by Ambrose Watanda/MCSP

Photo. A mother with her child who was successfully classified and treated for an ear infection and pneumonia by an MCSP-supported health facility.

Provider Training and Community Leadership: Improving Care for Children under Five

The Ministry of Health in Uganda has identified Integrated Management of Newborn and Childhood Illnesses (IMNCI) as the main strategy for increasing coverage of low-cost, high-impact, evidence-based child health interventions at all levels of the health system. Geared toward reducing death, illness, and disability, and improving growth and development among children under five years, this approach includes implementation of both preventive and curative elements by families, communities, and health facilities.

In July 2017, USAID's flagship Maternal and Child Survival Program (MCSP) began piloting two in-service training approaches for delivering the updated Uganda IMNCI curriculum: the Short Interrupted Course (SIC), which entails two sessions of two and half-day face-to-face trainings over a six-week period; and the Distance Learning (DL) course, where trainees have three one-day face-to-face training sessions. Both training approaches entailed intermittent mentorship support between face-to-face sessions. The IMNCI pilot was introduced to overcome challenges of the previous six-day face-to-face training approach, including health workers' inability to translate training content into practice, leading to poor quality of care for children under five years at public health facilities. So far, almost 60% of the health workers who provide care to children in this age group in multi-level health facilities in four MCSP demonstration districts in South Western (Ntungamo and Sheema) and East Central (Luuka and Kaliro) Uganda have been trained using either of these approaches.

Shamim Nakirube is the health facility in-charge of Nairika Health Center, one of the health facilities MCSP trained on the new IMNCI guidelines using the SIC approach in December 2017. She returned to her health facility to embark on changing the poor clinical practices for under-five children, including misdiagnosis of complaints, improper drug prescriptions, and incorrect case referral. Shamim and her co-worker are certified nurses, and both had training in Integrated Management of Childhood Illness (IMCI) during their pre-service training almost five years back. This pre-service training consisted of just a few lessons with minimal clinical exposure. During MCSP's IMNCI SIC training, the two facility staff and others in the district were re-introduced to IMNCI methodology of assessment, classification, and treatment of children under age five, based both on the child's presenting symptoms and the child and caregiver's sociodemographic history.

NAME
Shamim Nakirube

ROLE
Health Facility In-Charge, Nairika Health Center

LOCATION
Luuka District, Uganda

SUMMARY
After receiving training on the new IMNCI guidelines using the "short interrupted" approach in December 2017, Shamim Nakirube, the health facility in-charge for Nairika Health Center, and her fellow nurse began implementing the new IMNCI practices. Shamim improved the use of drugs and quality of care for children at her facility and worked alongside the local council to educate the surrounding community on the importance and benefits of the IMNCI guidelines.

The SIC training used videos, assignment booklets, short cases, clinical guides, and real patient exposures from the nearby Iganga General Hospital during the face-to-face training sessions. Health workers received hands-on skills and knowledge about the new IMNCI national guidelines, which included classification of pneumonia and diarrhea, assessment for HIV and tuberculosis, responsive childcare and cognitive stimulation, care for the sick newborn, and other emerging issues that the previous IMCI training modules did not cover. In a variation from other training approaches, trainees were expected to conduct clinical assignments while seeing patients, and to complete all course-reading materials. These assignments were reviewed and monitored during the follow-up mentorship sessions, jointly supported by USAID's Regional Health Integration to Enhance Services (RHITES) project and MCSP.

"Before the training, we used to treat every child who presented with a fever with Coartem for malaria even before we run a quick diagnostic test. All coughs and colds, which were way too common, were treated with Septrin and diagnosed [as] an upper respiratory tract infection, a non-conclusive diagnosis with no clear line of treatment. This found us constantly running out of drugs and supplies, we often had to refer our patients who are mostly rural to local drug shops to purchase prescriptions which they could barely afford."

- Shamim Nakirube, Health Facility In-Charge, Nairika Health Center

Shamin and her colleague knew that to strengthen the quality of services offered at Nairika Health Center and address improper diagnosis and treatment from the previous quarter, they had to implement the IMNCI guidelines. So, in January 2018, they started using the protocols to ensure proper history-taking, patient assessment and classification, and treatment or referral. By the next quarter, Shamin and her colleague had greatly improved the use of drugs and quality of care for children at Nairika Health Center. The proportion of cases with a general classification of upper respiratory tract infection decreased, as did the proportion of children with cough or cold who were treated with an antibiotic. Despite this success, Shamim faced an uproar from the community. Community members saw children return home with no drugs despite their apparent ill health and the availability of drugs, and expressed their anger and frustration with the "new treatment methods." Even after health education by Shamim on the new IMNCI guidelines, which recommended interventions like basic home remedies for coughs and colds and treating only pneumonia cases with amoxicillin, these members revolted and registered a complaint about the health workers' incompetence with the area's elected leader, the Local Council III (LC3) Chairman.

Summoned to the LC3 Chairman's Office, Shamim was shaken and afraid of punitive action against her. But she carried along her IMNCI resources, which she used to thoroughly educate the chairman on the new guidelines and the advantages of providing proper classification and treatment (e.g., rational use of drug and medical supplies, and prevention of future drug resistance). When he saw the evidence of improved quality of services to under-five children documented in the health center's data management tools, the LC3 Chairman called a meeting of the local religious, political, parish and village leaders to inform them about the new guidelines. He tasked them with spreading a new message—that IMNCI practices had been endorsed and adopted by the sub-county—during all community gatherings.

After the local leaders conducted this sensitization, Shamim encountered a community that was much more receptive to IMNCI. Today, she often receives positive feedback from the parents of children who are referred back to their homes for basic home remedies, and has noted a reduction in stock-outs of essential drugs like the first-line malaria treatment, Coartem, which was previously misused. Although Nairika Health Center still faces some community resistance, Shamim and her colleagues are confident of the quality of care they are now providing to children under five years, as a result of the IMNCI training and the support of local leaders.

By Bryan Tumusiime, Knowledge Management Advisor, MCSP Uganda

Photo by Ambrose Watanda/MCSP

Photo. Moses Magada, Health Facility In-Charge of Buyinda Health Center, conducts a monthly child health performance review meeting.

NAME

Moses Magada

ROLE

Health Facility In-Charge, Buyinda Health Center

LOCATION

Kaliro District, Uganda

SUMMARY

Building on the successes of the Reaching Every Child (REC) approach, MCSP Uganda Child Health supported USAID RHITES partners to roll out essential child health interventions beyond immunization. With this support, Buyinda Health Center used the REC approach to broadly strengthen child health services and increase the number of children receiving these services.

Using an Innovative Approach to Expand and Increase Access to Essential Child Health Interventions

In Uganda, an estimated 60 out of every 1,000 children born die by the age of five years, largely due to common preventable and treatable conditions including pneumonia, malaria, diarrhea, malnutrition, and HIV/tuberculosis. Most of these deaths occur among society's most vulnerable children, such as those born to mothers with no education and those born too soon or too close to their siblings. Since 2017, USAID's flagship Maternal and Child Survival Program (MCSP) for Child Health has worked with the Ministry of Health (MOH) and other USAID partners, applying successful experiences from the Reaching Every Child (REC) approach to routine immunization. The REC approach is a low-cost, high-impact strategy that has shown positive results in strengthening linkages among non-health stakeholders, community health workers (e.g., village health team members, or VHTs), and health facilities. The approach helps facilities map and know their populations, in order to provide them with needed services.

Leveraging on REC's successes, MCSP supported the USAID Regional Health Integration to Enhance Services (RHITES) partners to roll out essential child health interventions beyond immunization, such as vitamin A supplementation, deworming, use of long-lasting insecticide-treated nets for under-five children, and access to safe and improved sanitation at the household level. Similarly, MCSP oriented 323 sub-national health workers, 3,327 VHTs and district non-health stakeholders, including political and administrative leaders, on the REC approach and their roles in reaching every child with essential child health interventions.

Buyinda Health Center, located in Kaliro District in East Central Region, is the only facility in Buyinda sub-county that provides outpatient care to a population of 23,000 people living within a 15-kilometer radius. During the meeting at district level, with support from MCSP and RHITES and guidance from district mentors, Buyinda staff mapped out its catchment area and population, including underserved villages with children under five who were eligible for the essential child health interventions.

This exercise also included support for Moses, the health facility in-charge, to develop a plan for reaching these targeted children within the next three months. On return to his health facility, and using the data shared during the mapping exercise, Moses engaged VHTs and other staff in identifying and reallocating outreach sites (see Photo 2).

As a follow-on, each VHT was provided a household register and tasked with capturing in their villages, the details of each child status in receiving the essential child health interventions including; vitamin A supplementation, deworming, and vaccinations.

The VHTs were also charged with assessing and advising each home in their village on key family care practices, such as boiling water for drinking, safe storage of drinking water, use of a drying rack for washed utensils, proper mosquito net use, and use of a clean and covered pit latrine. They also followed-up and referred to service points any children who missed out on the essential health interventions.

To motivate VHTs to conduct community-level activities, Moses also allocated an allowance of Uganda shillings 10,000 (about US $3) per quarter for 15 VHTs from the health facility's centrally provided primary health care funds.

"REC has made me appreciate and learn to work with my VHTs in knowing the people and children that we have to serve. Our VHTs feel more confident since they have registers to use to track children and women, and can see the results of their hard work when we plot our data in the health facility. It gives me great joy to see more children being served and happy and healthy, thanks to MCSP and RHITES."

- Moses Magada, Health Facility In-Charge, Buyinda Health Center

Photo by Ambrose Watanda/MCSP

Photo 2. Moses Magada (right) with VHTs and other staff, reviewing Buyinda Health Center's catchment map and population distribution.

The next month, the health facility team began integrated outreaches at accessible posts to provide all child health interventions: catch-up vaccinations, vitamin A supplementation, deworming, and health education about healthy family care practices. In the subsequent quarter, Buyinda Health Center initiated monthly review meetings that assessed VHTs' efforts in registering the uptake of essential child health interventions and gaps in service coverage at both outreaches and the health facility.

As a result of these performance review sessions, using quality improvement approaches to close the identified gaps, the health facility: 1) mentored VHTs on collecting and summarizing community data using the household registers; 2) identified and provided services to children who had missed child health services; and 3) partnered with a local organization, Water Mission, to support community water, sanitation, and hygiene activities.

Within three months of implementing REC to increase service coverage, Buyinda Health Center registered marked results in providing child health services at both the health facility and outreaches: 1,200 more children received their second dose of vitamin A supplementation, up to 1,600 children received their second deworming dose, and up to 50 children who had missed their first round of the pentavalent vaccine were tracked and immunized. Other health facilities could easily adapt Buyinda's approach to strengthening child health services to reach more underserved children and ultimately, decrease under-five morbidity and mortality.

By Bryan Tumusiime, Knowledge Management Advisor, MCSP Uganda

Photo by Jasper Abor/MCSP

Photo. Annet K. and her son, Aaron of Rwamarebe Village, who regained his health after receiving an IMNCI intervention at an MCSP-supported health facility in Ntungamo District, Uganda.

ROLE

Mother and son, residents of Rwamarebe Village in the MCSP-supported Ntungamo District

NAME

Annet and Aaron K.

LOCATION

Ntungamo District, Uganda

SUMMARY

MCSP and RHITES programs are collaborating to support IMNCI at 132 health facilities to provide lifesaving health services for children under age five. An example of the benefits of this work occurred in Ntungamo District, where Annet K's critically ill son Aaron was treated. IMNCI-trained staff at Itojo Hospital used the IMNCI approach to successfully diagnose and treat the two-year old, whose health is now restored.

Using Integrated Management of Newborn and Childhood Illnesses to Save Children's Lives

According to Uganda's Demographic and Health Survey (UDHS 2016), one in 16 Ugandan children do not live to reach their fifth birthday. USAID's flagship Maternal and Child Survival Program (MCSP) is collaborating with the Ugandan Ministry of Health and USAID's Regional Health Integration to Enhance Services (RHITES) projects in the East Central (EC) and South Western (SW) regions to contribute to a reduction in child mortality. In four districts, MCSP demonstrated a package of low-cost, high-impact, evidence-based child health interventions that are applicable and scalable at different levels of the health system.

This 18-month demonstration program is translating the capacity-building approach of Integrated Management of Newborn and Childhood Illnesses (IMNCI) into appropriate case identification and clinical management of malaria, diarrhea, pneumonia, HIV/tuberculosis (TB), and malnutrition to reduce child mortality. At MCSP-supported health facilities in SW, the program identified numerous knowledge gaps among health workers in the provision of essential child health services, which led to the misclassification of sick children, incorrect prescription and treatment approaches, and poor management of complicated cases. These in turn led to unnecessary delays in referral and an increased risk of mortality.

In early 2017, Annet K., a mother of four living in Rwamarebe Village of Ntungamo District, had grown very concerned about her two-year-old son, Aaron, who was suffering from a persistent cough and high fever. Despite receiving care from a local private clinic where he was diagnosed and treated for pneumonia, Aaron was not improving. With Aaron's fever continuously increasing, his weight dwindling, and his cough worsening, Annet rushed him to Kitagata Hospital in nearby Sheema District. He was treated as an inpatient for severe pneumonia and discharged. On their return home, there was an initial improvement in Aaron's condition, followed by rapid deterioration in his condition with the return of a high fever and severe cough. Annet and her husband rushed Aaron to Itojo Hospital in Ntungamo District, a health facility whose staff had recently received IMNCI training and mentorship supported by MCSP. At Itojo Hospital, based on the severity of his condition Aaron was triaged and assessed quickly ahead of other patients.

Aaron was admitted to the hospital. Meanwhile, the IMNCI-trained nurse referred to her MCSP-provided IMNCI Case Classification Guide, and requested further tests to investigate Aaron's persistent cough, which would not improve despite two rounds of pneumonia treatment. Aaron was diagnosed with severe acute malnutrition and pulmonary TB, confirmed by GeneXpert testing, and put on specific treatment for both conditions. The hospital also conducted a contact-tracing exercise among Aaron's relatives. This led to identification of an individual living with the family who had multi-drug resistant TB (MDR-TB). This relative was referred to Mbarara Regional Referral Hospital for life-saving treatment.

"My two-year old son, Aaron, got much improvement on treatment. I noticed the swelling of the legs had disappeared, his appetite improved, the cough subsided and the fever reduced. I can now sleep well because before I was always worried all day and night. I am now happy because he is even gaining weight; from 8 kilograms now he weighs 11 kilograms and can play well. I am happy with the services my child got from the hospital because my child could have died."

- Annet K., Mother and Resident of Rwamarebe Village

After one month in nutritional rehabilitation and TB inpatient treatment, Aaron was discharged healthy, strong, and ready to live his life. His mother Annet said, "Aaron got much improvement on treatment. I noticed the swelling of the legs had disappeared, his appetite improved, the cough subsided and the fever reduced. I can now sleep well because before I was always worried all day and night. I am now happy because he is even gaining weight; from 8 kilograms now he weighs 11 kilograms and can play well. I am happy with the services my child got from the hospital because my child could have died."

MCSP and the RHITES projects are collaborating to support IMNCI at 132 health facilities to provide life-saving health services for children under age five. The IMNCI approach, when scaled to lower-level health facilities across all cadres, can also reduce referral and treatment costs for families by ensuring correct, and timely classification and management of children under five.

By Jasper Abor, Child Health Officer, MCSP Uganda

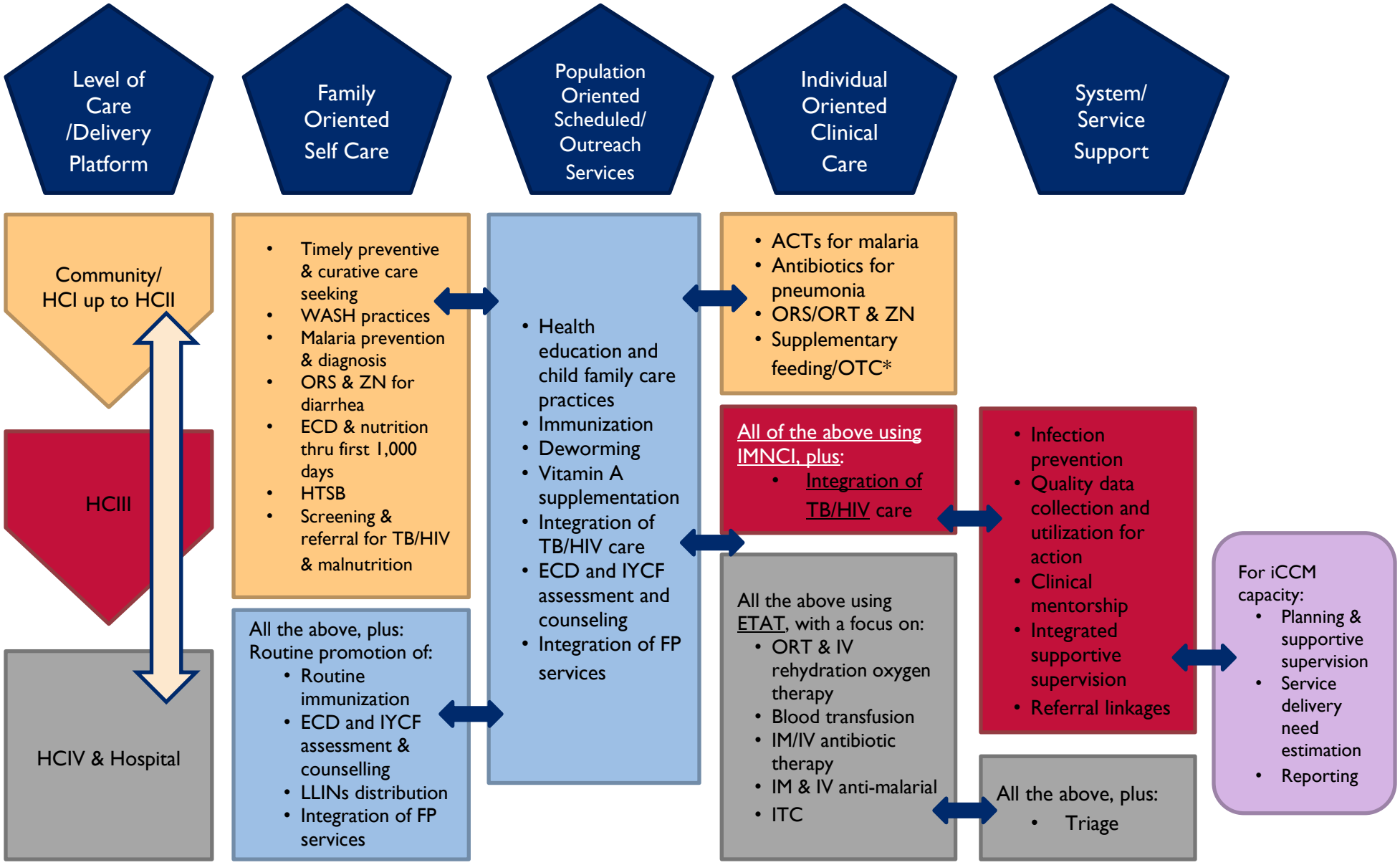
Appendix C: List of Materials and Tools Developed or Adapted by the Program

#	Material or Tool Name	Type of Tool/Material
1	Alternative approaches for delivery of IMNCI training (report forthcoming)	Report
2	Costing of an Essential Child Health Package in Uganda: Analysis of Costs to Roll-out and Deliver the Package at Public Primary Health Care Facilities	Report
3	Strengths, Challenges, and Opportunities for RMNCH Financing in Uganda	Report
4	MCSP Uganda CH Baseline Report	Report
5	MCSP Uganda CH Endline Report (report forthcoming)	Report
6	Increasing Coverage of Child Health Interventions in Uganda using the Reaching Every District/Child Approach	Technical Brief
7	Using a health facility scorecard to monitor and improve the coverage of child health interventions in rural Uganda	Technical Brief
8	Using an Innovative Approach to Expand and Increase Access to Essential Child Health Interventions	Success Story
9	Using Integrated Management of Newborn and Childhood Illnesses to Save Children's Lives (Try, Try Again: Reimagined Provider Training is Saving Children in Uganda)	Success Story
10	Provider Training and Community Leadership: Improving Care for Children under Five	Success Story
11	Improving Access to and Quality of Routine Immunization and Child Health Services in Uganda	Video
12	Photo Essay: Mapping Communities for a Healthy Future: Health care options expand for families in Rural Uganda	Photo Essay

Appendix D: Learning Matrix

Learning question	Funding source	Leadership	Status/Update, incl. IRB Approvals and planned technical assistance	Final products and dissemination
What is the country and global experience in resource mobilization for iCCM scale-up? A case study of joint malaria/iCCM applications to the Global Fund under the New Funding Model.	Core	MCSP CH Team	• Data collection, analysis, dissemination, and final products completed. • Not subject to IRB approval.	• Country reports (5), one featuring Uganda: The Global Fund New Funding Model: Lessons from Uganda on Integrating the Integrated Community Case Management Model (iCCM) • Synthesis report: Leveraging the Global Fund New Funding Model for Integrated Community Case Management: A Synthesis of Lessons from Five Countries
Which key data elements related to MNCH indicators are present in routine health information systems in the 24 priority countries, and how are they managed?	Core	MCSP CH Team	• Data collection, analysis, dissemination, and final product completed. • Not subject to IRB approval.	• Review of the Maternal and Newborn Health Content of National HMIS in 24 countries, including Uganda: What Data on Maternal and Newborn Health Do National Health Management Information Systems Include? • Poster on HMIS review of findings at the Institution for Healthcare Improvement (IHI) Africa Quality Forum in Durban, South Africa in February 2018. • Poster Presentation at the 5th Annual Symposium on Health Systems Research in Liverpool in October 2018. • Limited findings disseminated at the USAID/George-Washington University 17th Annual Global Health Mini-University in October 2018 • Summary of results presented at the "Technical consultation on Development and Prioritization of Paediatric quality of care Indicators" meeting in Geneva in November 2018 and at the First Child Health Accountability Tracking (CHAT) Technical Advisory Group meeting, also in November 2018.

Appendix E: The Essential Child Health Package



Appendix F: Sample Child Health Scorecard for Luuka District*

PY4 Quarter 2 (January-March 2018)														
Health Facility name:	**Level of care**	**# of Villages served by HF**	**Submission of VHT quarterly reports**	**Presence of Quality Work Improvement team (QWIT)**	**QWIT team addresses CH**	**Duration of stock-out Zinc/ORS Co-pack (days)**	**Duration of stock-out Amoxicillin DT (days)**	**Duration of stock-out of Measles vaccine (days)**	**Presence of an ORT corner**	**VHT Quarterly meeting**	**# of VHTs reporting**	**% of Pneumonia Treatment**	**% of Diarrhea Treatment**	**% of Malaria Treatment**
Naigobya UDHA	HC II	4												
Kiyunga	HC VI	28												
Nakiswiga hcii	HC II	6	Yes	Yes	Yes	0	0	0	Yes	1	1	67%	27%	100%
Maundo	HC III	5	Yes	Yes	No	0	30	0	Yes	1	1	97%	33%	93%
Waibuga	HC III	18	Yes	Yes	Yes	0	18	0	Yes	1	2	100%	35%	100%
Busiiro	HC II	6	Yes	Yes	Yes	0	0	0	Yes	1	1	75%	83%	100%
Bukendi	HC II	6	No	No	No	0	0	90	Yes	0	0	5%	76%	75%
Irongo	HC III	8	Yes	Yes	Yes	0	0	0	Yes	0	5	17%	90%	79%
Kiwalazi	HC II	8	Yes	Yes	Yes	0	60	90	Yes	1	5	100%	100%	87%
Kalyowa	HC II	6	No	No	No	0	0	0	Yes	0	7	-	100%	99%
Kiibinga	HC II	5	No	No	No	90	90	90	No	0	0	-	0%	-
Nawampiti	HC II	12	No	No	No	0	30	0	Yes	1	8	33%	186%	-
Ikonia	HC III	10	No	No	No	0	30	30	Yes	0	5	85%	77%	81%
Nawanyago	HC II	4	No	No	No	0	0	0	No	0	0	-	65%	96%
Naigobya Lutheran	HC II	3	No	Yes	No	0	17	90	No	0	0	11%	75%	60%
Bukanga	HC III	42	No	Yes	No	0	0	0	Yes	0	4	70%	80%	88%
Buwologoma	HC II	9	No	No	No	30	90	90	No	0	0	-	50%	100%
Budhana	HC II	4	No	No	No	5	90	30	Yes	1	0	-	91%	77%
Bulalu	HC II	7	No	No	No	0	83	0	Yes	0	7	62%	89%	100%
Ikumbya	HC III	11	No	Yes	Yes	0	60	60	Yes	0	2	44%	84%	93%

*Data extracted by MCSP from routine HF assessment (January to March 2018).

Indicates no data recorded /data invalid.

Appendix G: MCSP Uganda Child Health Team

In-Country Team	
Dr. Gerald Kalule Ssekitto	Chief of Party
Dr. Possy Mugyenyi	National Technical Director
Dr. Sarah Naikoba	Child Health Team Lead
Dr. Eisha Grant	Child Health Advisor
Bryan Tumusiime	Knowledge Management Advisor
Robert Byabasheija	MEL Advisor
Jasper Abor	Child Health Officer
Agnes Namagembe	Child Health Officer
Florence Kitaka	Finance and Administration Director
Jenipher Kyamazima	Finance and Administration Manager
David Otimeri	Finance and Administration Officer
Judith Atyang	Administrative Assistant/Receptionist
George Sekimpi	Head Driver
Nelson Opiyo	Driver
Michael Waidha	Driver

U.S Based Country Support Team	
Kate Onyejekwe	Country Support Manager, JSI
Victoria Rossi Lada	Senior Program Officer, JSI
Zeenat Patel	Senior Technical Advisor, Child Health, JSI
Disha Ali	Measurement, Monitoring, Evaluation, and Learning (MMEL) Advisor, JSI
Grace Chee	Health Systems Strengthening and Equity Team Lead, Results for Development (R4D)
Benjamin Picillo	Health Systems and Equity Program Officer, R4D
Meredith Lathrop	Senior Program Officer, R4D
Sydney Taylor	Senior Program Associate, R4D
Elena Kanevsky	Finance and Administration Director, JSI
Kadiatou Diallo	Program Coordinator, JSI