A COMPREHENSIVE MALARIA RESPONSE
ACKNOWLEDGEMENTS

We would like to thank the Government of Uganda for its continued support throughout the six and half year project, in particular, the staff of the Ministry of Health and National Malaria Program, district officials from the 34 project districts and health workers across the country. SMP would also like to appreciate the support of other United States Government-funded projects and other implementing partners.

This report was made possible by the generous support of the American people through the United States President’s Malaria Initiative (PMI), which includes the United States Agency for International Development (USAID), the Center for Disease Control (CDC) and the National Institutes of Health (NIH).

The contents of this document are the responsibility of Johns Hopkins Bloomberg School of Public Health / Center for Communication Programs (JHU-CCP), Malaria Consortium (MC), Infectious Disease Institute (IDI) and Communication for Development Foundation Uganda (CDFU) and do not necessarily reflect the views of the United States Government.

PHOTO CREDITS
Tine Frank, Kim Burns Case, Karen Rowe, Malaria Consortium, SMP interns and staff

STOP MALARIA PROJECT eTOOLKIT
https://www.k4health.org/toolkits/uganda-stop-malaria
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction to SMP</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Strategic Approaches</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>Supporting the National Malaria Response</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Advancing Malaria Prevention</td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td>Improving Malaria Case Management</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>Building Momentum in Communities</td>
<td>34</td>
</tr>
<tr>
<td>7</td>
<td>Conclusions &amp; Recommendations</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Acronyms</td>
<td>51</td>
</tr>
</tbody>
</table>
As part of the community mobilization activities, students in Kyoga Primary School in Mukono District are some of the 400,000 pupils who learned about the importance of preventing, testing for and treating malaria within 24 hours.
This is the story of the Stop Malaria Project, a comprehensive response designed to help reduce the burden of malaria in Uganda.

About 3.2 billion people worldwide are at risk of contracting malaria. In 2013, there were about 198 million cases and an estimated 584,000 malaria deaths.

**Malaria in Uganda**

In Uganda, malaria counts for 30-50% of outpatient visits and 15-20% of hospital admissions (World Health Organization 2013, Ministry of Health 2012). Malaria hinders the growth of the country’s economy and development.

In 2005, the United States Government (USG) launched the President’s Malaria Initiative (PMI), with the goal of reducing malaria-related deaths in selected countries, including Uganda, by 50% within five years. In 2009, the program was expanded and the new five-year goal has been to achieve Africa-wide impact by halving the burden of malaria in 70% of at risk populations in sub-Saharan Africa. Through PMI and other large funding sources such as the Global Fund (GF) to Fight AIDS, Tuberculosis and Malaria, Uganda has been able to make significant strides toward reducing malaria associated morbidity and mortality on a national scale.

“Before SMP, I didn’t really know the true impact of malaria, because I was only exposed to people coming to the health centers. But you can’t know the true impact of malaria until you move deep in to the villages; there you see how little knowledge people have of malaria. Before, I just got to educate the ones who came to the clinic, but SMP helped me reach deep and create awareness where it is needed the most.”

Christopher Kasozi,
Health Assistant, Mpunge, Mukono District
Stop Malaria Project

SMP was a five-year program, extended for one-and-a-half years (2008-2015), with funding by PMI and USAID. It was a comprehensive malaria project, managed by Johns Hopkins University Bloomberg School of Public Health Center for Communication programs (JHU-CCP), and implemented by a strong partnership of international and local organizations including Malaria Consortium (MC), the Infectious Disease Institute (IDI) and the Communication for Development Foundation Uganda (CDFU).

IR 1: Improving and implementing malaria prevention programs in support of the National Malaria Strategy;
IR 2: Improving and implementing malaria diagnosis and treatment activities in support of the National Malaria Strategy; and
IR 3: Strengthening NMCP’s capacity to monitor and evaluate malaria interventions.

As multiple partners in SMP, we each tap into our different expertise and experiences. To me, we (partners) form the whole body, and each of us has our own relationships with districts and we can use these to make it easier to implement the project. Our partnership is surely a benefit to the project, and to the districts and communities we serve.”

Basil Tushabe,
Executive Director, CDFU

The overall goal of the project was to assist the Government of Uganda to meet its goal of reducing malaria-related mortality by reaching families with proven malaria prevention, diagnosis and treatment interventions. Specifically, the project focused on reaching two highly vulnerable groups, children under five years of age and pregnant women, with proven preventive and therapeutic interventions including, long-lasting insecticide treated nets (LLINs), intermittent preventive treatment of malaria in pregnancy (IPTp), and artemisinin-based combination therapy (ACT) for treatment of uncomplicated malaria.

SMP worked directly with the National Malaria Control Program (NMCP), Uganda’s Ministry of Health (MOH) unit responsible for developing and guiding the implementation of the National Malaria Control Strategy, as well as with USAID and other development partners, to design and carry out project activities focused on achieving three intermediate results (IR):

- IR 1: Improving and implementing malaria prevention programs in support of the National Malaria Strategy;
- IR 2: Improving and implementing malaria diagnosis and treatment activities in support of the National Malaria Strategy; and
- IR 3: Strengthening NMCP’s capacity to monitor and evaluate malaria interventions.

SMP was a district-based project, and as such, a main focus was to assist district officials to support health facilities. SMP was designed to cover approximately 58% of the population living in high or moderate malaria transmission zones. Of the 5,500 health facilities across the 112 districts in Uganda, SMP activities have been implemented in 34 districts reaching 1,145 facilities including 35 hospitals, 54 level IV health centers, 386 level III health centers and 670 level II health centers.

“With Uganda’s recent decentralization policies, the number of districts has been increasing rapidly over the past few years. At the start of the project in 2008, there were 82 districts.”

Dr. Albert Peter Okui,
Program Manager MOH/NMCP

[SMP’s approach in working with NMCP and directly with district leadership will really leave some improved capacity for us to continue our work. The capacity they have helped us build to monitor and evaluate, and to collect and use data, will remain in the country and the NMCP.”]
This End-of-Project Report describes SMP’s strategic approaches; summarizes the project’s key interventions and results; highlights achievements from various stakeholders’ perspectives; and offers recommendations based on project lessons learned to inform future programming for malaria services in Uganda. The descriptions, stories and figures illustrate how effective strategies have led to meaningful results including:

- Strengthened capacity of national and district government staff to plan for and carry out more coordinated malaria programming and to monitor and evaluate malaria control activities
- Increased access to LLINs and strengthened systems for net distribution
- Improved delivery of preventive services through the development and dissemination of revised policies, guidelines and tools
- Increased IPTp uptake among pregnant women
- Improved laboratory diagnosis
- Improved access to malaria treatment by increasing the effectiveness of diagnostic, treatment services, and referrals, especially from health center II (HCII), to higher levels of health care
- Improved community members’ knowledge and attitudes regarding malaria diagnosis and treatment

**MONITORING AND EVALUATION (M&E)**

JHU-CCP led the monitoring and evaluation of project implementation, including routine monitoring and population-based surveys. Data from routine monitoring and findings from the studies provided lessons that were significant in focusing project implementation for better results.

**Health Facility Assessment (HFA) Surveys**
Between July and August 2011, SMP conducted a baseline HFA survey targeting health provider including doctors, clinical officers, midwives and nurses in selected facilities in districts served by the SMP as well as clients attending the targeted facilities for malaria-related services and district officials in selected districts. The baseline HFA was the basis for performance indicators and targets. In November 2013, a follow up HFA, with similar design characteristics as the baseline, was conducted to evaluate progress. The findings indicated significant improvement in prompt treatment-seeking (within 24 hours) of caregivers of children under five from 59%-81% between 2010/11 to 2012/13 (P-value: <0.001).

**Lot Quality Assurance Survey (LQAS)**
In 2012 and 2013, in collaboration with USAID’s Strengthening TB HIV/AIDS Response in the East (STAR-E) project, a LQAS was supported in six districts (Amuria, Katakwi, Soroti, Lwengo, Kiboga and Kibaale). The main purpose of the survey was to establish periodic district performance on key social services indicators. As a result the capacity of 126 district staff members were built in applying the LQAS methodology from data collection, manual analysis, results interpretation, dissemination and report writing.

**Joint Behavior Change Communication (BCC) Survey**
The Joint BCC Survey was conducted to examine the effectiveness of behavior change interventions implemented by a number of USAID implementing partners between November 2010 and November 2012. The Stop Malaria in your Community (or Mrs. Anopheles campaign) implemented by SMP was one of the campaigns evaluated during the Joint BCC Survey. Results from the evaluation can be found in Chapter 6.

**District Integrated Support Supervision (ISS)**
SMP provided financial and technical support to National Malaria Control Program staff at the MOH districts to carry out ISS twice a year or every quarter depending on the level of the health facility, as a way of monitoring and evaluating project activities in the health facilities. The purpose of the support supervision was to assess the capacity and gaps of health facilities in controlling and treating malaria-related cases. In response to performance gaps, specific action plans to address the gaps were developed with the health facility staff.

**Project Performance Monitoring**
For each activity conducted, activity reports were compiled summarizing data in relation to the program indicators and submitted to the SMP M&E desk for entry into the SMP database. In addition, HMIS and ISS data were used to track indicators in the PMP from the 3 regions on a quarterly basis. Monthly reports from the districts were validated and then compiled for the quarterly data summaries.
“The capacity building at district level is one of the very big SMP successes. We now have trainers that can be used within the district, and that is sustainable.”

Isiah Mubindo,
Malaria Focal Person, Mukono District
Created a continuum of learning and interacting across all levels

SMP activities were designed to reach recipients at multiple levels, including: behavioral change interventions at the individual, household and community levels; service delivery strengthening at the health facility level; and institutional capacity building at the district and national levels.

The aim was to enable national level efforts to link with district and community level needs, and to get communities to become more aware of and engaged in evidence-based malaria prevention efforts being introduced at the national level. Hence, SMP assisted the NMCP to reach out to districts, to better supervise malaria control activities within the districts and to coordinate the activities of malaria partners. SMP supported the NMCP to implement two national communication campaigns, using multiple communication channels and approaches, which helped individuals, families and communities to better understand the impact of malaria, and engaged communities in proven and effective malaria prevention activities being promoted by the MOH.

Focused on helping each level to recognize their levers of success

SMP emphasized helping communities, health facilities and districts to discover their own levers of success. The project included the use of self-assessments and performance improvement plans at community, health facility and district levels. Through this approach, the project coordinated key players at all levels to identify the strengths and weaknesses of their malaria control interventions. Key players would then make plans and set targets to improve performance, implement and monitor those plans, and then evaluate and adjust them accordingly. This enabled the project to respond to the unique needs of communities, facilities and districts, and foster ownership and self-reliance at all levels.

“SMP’s emphasis is on strengthening what they find, not building parallel structures. They work on improving the weak points in the system. Even if you find a weak person in a unit, but you show that person that you need him, he will try to improve. So SMP does not just pass by these people, but instead they work with them, encourage and support them.”

Carol Kyozira, Principle Biostatistician, MOH/Resource Center

Worked within the existing structures

SMP supported the USAID/Uganda sector-wide initiative to address human resource shortages and to develop the capacity of the health workforce at national and district levels. To ensure that the provision of quality services continues, all SMP work was implemented through and with existing government and not-for-profit health facilities. SMP provided on-the-job training to existing staff in these institutions to improve their capacity and ensure delivery of quality services. This approach ensured that staff members improved their technical knowledge and skills with minimal interruption of services. In addition, communication and community mobilization interventions also worked through existing community groups, health assistants, schools and radio stations among others.
Used a ‘do together’ approach

SMP’s participation in the development of the NMCP annual work plan provided the opportunity for SMP to align its activities to the NMCP plan. SMP supported national level MOH staff to facilitate malaria planning and review meetings. In parallel, SMP supported district health teams to conduct district-level meetings with health facility workers, and local district partners, purposely for advocacy, reviewing health facility performance and sharing information regarding project activities. As a result of these meetings - led by district leadership with SMP technical and financial support - SMP was able to ensure there was ownership of and support for malaria control activities by the district authorities.

“We work with SMP in a consultative manner. Whenever we are making a decision, we seek their opinion and input. SMP collaborates well with us in planning. They are very active, and are our main partner in all NMCP work.”

Dr. Albert Peter Okui,
Program Manager, MOH/NMCP

Acted as a ‘catalyst’ to develop a planning culture (at national and district levels)

Planning and budgeting for SMP-supported activities was done in a participatory and transparent manner, which also helped build the planning and budgeting skills of NMCP staff. With this approach, SMP annual planning started with district officials and health workers identifying activities to be implemented, and the next level of planning included NMCP and other SMP partners. All activities implemented, trainings conducted, and IEC materials used in SMP, were developed with and for use by the NMCP.

Collaborated and coordinated with other partners

SMP employed a management approach that involved collaborative planning, assessment and re-planning at national, district and health facility levels. SMP actively fostered coordination with partners, both in terms of program implementation and data sharing. SMP held quarterly meetings with NMCP to share activities implemented and plan for subsequent activities. In collaboration with WHO, SMP supported quarterly Roll Back Malaria (RBM) meetings as part of its support to NMCP coordination. To avoid duplication and to optimize the use of resources, when possible, SMP coordinated implementation of activities with other USAID implementing partners such as STRIDES for Family Health Project, Securing Ugandan’s Right to Essential Medicines (Uganda SURE), CAPACITY project, Strengthening Decentralization for Sustainability (SDS) and AFFORD for Health Marketing/Uganda Health Marketing Group (UHMG).

“SMP has been involved in the quarterly district management committee meetings through sharing of quarterly progress reports, quarterly work plans and joint planning at district level. Their participation has contributed to alignment of malaria prevention and control activities to the district annual work plans and district development plans of partner districts, and has led to improved coordination, improved collaboration, better communication, reduced duplication, and better use of resources in the partner districts. This partnership has provided a platform for measuring accountability because of increased awareness by the district of USAID supported activities.”

Francis Abwaimo,
Director Coordination, SDS Program
“SMP has supported and developed many implementation guidelines so now we will not be starting from scratch. We have a foundation and knowledge. We have national trainers who now have good materials to use. NMCP had spent three years without a strategic plan for malaria, and we had not provided health facilities with updated [malaria] test and treatment information and guidelines. But now, with SMP’s assistance, we have these critical reference documents.”

Rukari Medard,
Technical Officer, MOH/NMCP
The NMCP was established in 1995 upon recognizing that malaria is a major problem in Uganda. National level MOH staff were assigned to the program, and zonal coordinators and district malaria focal persons (MFP) were appointed. However, the level of funding by the Government of Uganda (GOU) for malaria control activities was fairly limited, and thus the NMCP’s abilities and effectiveness to guide malaria policy and implementation remained deficient. In 2000, Uganda increased its efforts to scale up proven malaria control interventions. Funding for malaria increased through bilateral and multilateral partners as well as global initiatives, yet the NMCP remained weak in its abilities to coordinate malaria control efforts. Hence one key component of SMP was to improve the capacity of MOH/NMCP to plan for and carry out more coordinated malaria programming.

SMP provided technical assistance to the NMCP to better plan and supervise malaria control activities, coordinate the activities of malaria partners and to improve the national malaria M&E system and database.

In 2010, SMP supported the MOH to carry out a comprehensive malaria program review (MPR). The findings from the MPR highlighted the need for a national malaria policy update, strategic planning and the development of joint annual work plans. SMP then acted as a catalyst to develop a planning culture by supporting this much needed policy development and documentation. In 2013, SMP supported the NMCP to develop the Malaria Reduction Strategy (MRS) 2014-2020. Through SMP’s support of quarterly RBM meetings, a culture of information sharing, planning and coordination of efforts in malaria control was developed.

Key Results

SMP’s targeted focus on assisting the NMCP to develop, update and disseminate its policies, strategies, operational guidelines, training manuals and other tools for malaria control, has led to reference documents being in place and used to ensure a more efficient and coordinated national response to malaria in Uganda.

Malaria Program Review Report 2001-2010
The report served as a baseline for NMCP to compare progress over time.

NMCP Planning Documents (e.g. Annual Work Plan 2011/12 & 2012/13, Strategic Plan 2010/15, M&E Plan 2010/15)
These planning documents provided written references for the MOH to clearly and effectively direct and guide implementation of the National Malaria Control Strategy, and to coordinate and communicate desired outcomes to other development partners.

This strategy was developed to ensure that all stakeholders appreciate the objectives for behavioral change communication and contributed to the indicators therein.

National Implementation Guidelines for Parasite-based Diagnosis for Malaria (2013)
These guidelines help ensure systematic diagnosis of malaria parasites.

Interpersonal Communication (IPC) Skills Training and Job Aid
These were developed to improve IPC of health workers with caregivers of children with fever and differential diagnosis.

Data Quality Assessment Guidelines
SMP supported the MOH to develop Data Quality Assessment guidelines, used at various levels including district and health facility levels, to assess the quality of HMIS data. As a result, there has been noticeable improvement in the quality of data being reported to the national level.

ANC LLIN Distribution Guidelines
Although ANC LLINs distribution had been piloted in the country earlier, the guidelines were not documented. SMP supported NMCP to develop the distribution guidelines to standardize the implementation of the policy, including M&E indicators.

Data Analysis and Use Training Manuals
To promote utilization of data generated from HMIS, SMP supported the MOH Resource Centre, in close collaboration with MOH technical departments and other implementing partners, to develop standard data demand and use tools for training of district and health workers in data management, analysis and interpretation, and use at national, district and health facility levels. SMP supported trainings, and every quarter districts have been conducting data use meetings sharing health facility performance and discuss service delivery improvements.

Integrated Malaria in Pregnancy Manual
This manual was developed to purposely provide reference materials for health workers at all levels of health care. It was also anticipated that guidelines would contribute to improving the quality of ANC services at health facilities.
Data Management

To address NMCP’s historically weak M&E capacity and to improve data access and use by the program, SMP seconded an M&E specialist to the NMCP for three years (2009-2011). This person strengthened the link between the NMCP and the MOH’s Resource Center staff. The Resource Center runs the country’s Health Management Information System (HMIS), which collects data from all health facilities in the public and not-for-profit private sector. An electronic data system was developed with support from SMP to promote data access and utilization.

MOH’s Malaria Control Strategic Plan 2005/6-2009/10 aimed at improving the collection, quality and utilization of routine data to monitor the implementation of malaria-related interventions. With this in mind, SMP worked with the national level resource center staff to revise the HMIS tools to capture more relevant malaria-related indicators. SMP also worked with district-level trainers and a recognized technical training institution. To ensure a continuum of learning, SMP used MOH-approved training materials and a cascade training model. This model is in line with the MOH practice of training central-level staff as trainers, who then train district trainers to roll out the on-the-job trainings to health facilities.

“SMP trained us in the software for the revised HMIS format and we learned the importance of informing people about how data helps with planning, for example when requesting for drugs. So I tell staff to own the data because it is not for SMP, neither is it for the district. It helps their facilities plan for better services. Now health workers see that we can compare one sub-county to another or even compare within a sub-county. We now even ask certain sub-counties to be more like other sub-counties who are performing well!”

Annet Nassolo, HMIS Focal Person, Lwengo District

Key Results

4,057 health workers (e.g. HMIS focal persons, biostatisticians, malaria focal persons, lab focal persons and health facility records personnel) were trained to use the revised HMIS tools.

2,788 data managers, health workers and district level leaders were trained to conduct DQAs.

Districts submitting timely HMIS data from districts to national level increased from 45%-99% between 2011 and 2014.

Districts submitting complete HMIS data from districts to national level increased from 40%-99% between 2011 and 2014.

Electronic data management is one of the sure avenues to storing data in an easy to access format, which promotes data utilization and evidence-based decision-making. In addition to the provision of trainings, SMP also supported HMIS strengthening at the district and health facility level by providing basic equipment (e.g. computers and internet modems) to improve data collection and reporting, and introduced data quality assessments (DQA). A main objective of the DQAs was to ensure that districts gained the capacity to develop and utilize data effectively.

The goal of improving data collection and reporting is to enhance utilization of health information data at health facilities and inform facility level decision-making. While identifying and reporting an actual statistic on ‘data use’ is quite challenging, evidence from the field suggests that improved data reporting is being translated into improved data use for planning and improving service delivery.

“We can see great changes in SMP districts in the timeliness, accuracy and completeness of reporting by districts. SMP has made sure that the tools needed for data reporting are available and people know how to use them. If I need to use data on malaria, I will first pick it from SMP districts. I trust it.”

Dr. Peter Okui, Program Manager, MOH/NMCP
Late and incomplete reporting from health facility to district level, poor data flow between departments at the health facility and limited data utilisation at the district and health facility have been on-going challenges for the MOH. SMP assisted the MOH Resource Centre to develop guidelines and training materials and to roll out two complementary data management trainings to all 34 SMP districts. The trainings focused on DQA techniques and data demand and use (DDU) to ensure that accurate malaria data is gathered and utilized at all levels to: monitor health indicators and programs; make and update evidence-based policies; and improve health services.

“The subsequent data reports after the trainings had minimal errors, unlike before,” says Francis Opolot, HMIS Focal Person in Kumi District. His colleague, District Biostatistician, Ben Kibet, recognizes that some health workers in his district “now understand the importance of data in measuring the impact of health service delivery at all levels.”

District officials were encouraged to introduce a range of activities to improve data quality. Mr. Opolot explains, “we as district officials are expected to do spot checking and spontaneous data cross checking, providing an enabling environment for regular data quality assessment. To motivate staff, we sometimes reward or recognize facilities with improved data quality during our review meetings.”

By integrating these data quality activities within the District Health Office policies and procedures, there is a potential for long-term sustainability. As Mr. Kibet explains, “HMIS will be the key in measuring performance and influencing decisions to improve the quality of health service delivery in our district.”

Officials in Mukono District are noticing similar data improvements. “Before, the timeliness and quality of HMIS reporting was a big problem,” explains Isiah Mubindo, Malaria Focal Person for the district. “For planning purposes you need reliable data for procurement of medicines and supplies. The over and under estimations in the past caused a lot of stock outs – you’d either run out of drugs or they would expire, and this affects the whole district’s planning. SMP were pioneers in this area. They were the first implementing partner to take up the issue of quality data and reporting. Now other partners are seeing the benefits and are also addressing the issues.”
Enhanced Supportive Supervision

MOH promotes ‘supportive supervision’ as a proven approach that helps transfer knowledge to practice and that ensures learning continues beyond the traditional training setting. According to MOH, supervision is to be conducted by a team of supervisors from the national and district levels. The ultimate goal is to give health workers the consistent guidance and mentoring they need to implement and maintain a safe and effective malaria program. However, in reality the GOU’s capacity to engage in meaningful support supervision has been limited as they lack the financial and human resources and tools to consistently carry out such activities.

NMCP, given their limitations, welcomed support from SMP to strengthen their supervision system. SMP worked with NMCP and districts to develop realistic support supervision schedules, and emphasized the importance of an ISS approach as a key strategy for NMCP to ensure malaria control activities were being fully implemented. To enhance an integrated approach, SMP encouraged NMCP to collaborate with other MOH departments, including maternal and child health, HIV/AIDS, the reproductive health division and resource center to conduct supervision to the districts.

“Nobody can be perfect when the support supervision team comes here and points out our weaknesses, it helps us change. We are happy with it because it has enabled us to change for better. Now we do two to three times more health education and four times more outreachs. ANC we now do daily as and when required, instead of the weekly clinic days of the past.”

Mirembe Kaganda,
Midwife and In-Charge, Bulika HCI, Mukono District

“SMP has helped to increase national level staff participation at district level, for example with supervision. SMP has helped make sure that supervision visits are not just a tour, but ISS has become a concrete and useful exercise to talk with health workers, check data and problem solve. At PMI we are proud to see national people so involved at district level.”

Joel Kisubi,
Program Management Specialist, USAID/PMI

SMP worked in close collaboration with NMCP to develop and refine comprehensive ISS tools, and to build the skills of district teams to conduct ISS in the SMP project districts. ISS was also used to monitor and evaluate project activities in the health facilities. Specifically, SMP and NMCP trained district supervisors in each district, comprised of the district malaria focal person, the HMIS focal person, a laboratory technician and other district health team members who have supervisory roles. During an ISS visit to health facilities, one or two SMP staff members, who technically supported the support supervision exercise, joined trained district supervisors. The team would spend time in each health facility observing, interviewing and providing onsite mentorship to health workers in antenatal care, case management, laboratory diagnosis, collection and use of data for decision making, behavior change communication as well as developing a plan to address identified gaps and challenges.

The ISS assessment tool and process developed by NMCP, with SMP support, has been revised and improved upon during the life of the project. The ISS process is comprehensive, focusing on issues related to availability, quality and utilization of services.
“Through ISS our microscope was fixed and has been maintained, and we now filter every new batch of field stain for more correct results.”
Kayonga David, Lab Assistant

“Because of ISS we now make sure the mothers take the IPTp pill from here using the treated water and cups from SMP. Before we would just give the pill for them to take at home.”
Nakalema Gladys, Midwife
“Now, I first audit properly patient by patient to improve the accuracy of data. I encourage the health workers to complete the data so our records are now more accurate.”

Nalubega Sarah, Medical Records Assistant

“We have less drug stock outs now. Before, we were not using the stock cards properly and would have a difference in paper balance and physical stock.”

Mary Frances, EN, in charge of store
During the Universal Net Coverage Campaign from 2013-2014, women in Iganga District return home with their new long lasting insecticide-treated nets.
Malaria Prevention

The NMCP Strategic Plan 2005/6-2009/10 targeted pregnant women for the distribution of long lasting insecticide treated nets (LLIN) particularly through antenatal (ANC) services. This was expected not only to increase the protection of this vulnerable group, but also to help improve the uptake of ANC services in general. The NMCP Strategic Plan for 2010/11-2014/15 includes an objective to ensure that at least 80% of the population consistently uses at least one malaria prevention method, and aims to achieve universal coverage with LLINs (defined in Uganda as one net per two people). SMP has aimed to support these two strategic plans by targeting pregnant women for LLIN distribution and IPTp uptake through ANC services, and by supporting pilot activities for the universal coverage campaign (UCC).

As SMP was getting started, the results from the 2009 Uganda Malaria Indicator Survey (MIS) were finalized and confirmed that less than half (47%) of households nationwide owned one or more ITNs and only 44% of pregnant women and 33% of children under five had slept under an ITN the night before the survey. The proportion of women receiving two doses of IPTp was 32%. Results of the 2011 Uganda Demographic and Health Survey (UDHS) showed an improvement compared to the 2009 MIS survey data on malaria prevention, with 60% of households nationwide owning at least one ITN; 47% of pregnant women and 43% of children under five having slept under an ITN the night before the survey. However, the UDHS report showed a decline in women receiving IPTp from 32% to 25%. The MIS 2014-15 results, expected to be available in mid-2015, is anticipated to show SMP’s and other partners’ inputs in reducing the malaria burden in Uganda.

SMP aimed to positively influence the above indicators and to reduce malaria-related morbidity and mortality by increasing the use of effective approaches to prevent malaria, particularly among those groups with increased vulnerability. Hence SMP activities were designed to improve malaria prevention: by increasing access to LLINs and IPTp; by improving service providers’ knowledge, attitudes, and skills related to IPTp and LLINs; and by improving community members’ knowledge, attitudes and actions regarding IPTp and LLIN use. The rest of this chapter is a brief description of SMP’s two significant malaria prevention interventions and results.

“When you look at the whole spectrum of activities that has been done with SMP in our district, you see that so many of the activities are going to be sustained. They have given us the skills and knowledge that will remain with our staff, who will be able to continue putting the skills attained into practice. We have learned to work with the NMS to ensure that some supplies that SMP had provided will be included in our national medical kits. The quarterly meetings initiated by SMP... we are already integrating them into our district work plans, so these important meetings and the technical supervision we’ve been having, are becoming part of our activity plans as a district.”

Dr. Musisi Diriisa, DHO, Kayunga District

NEARLY 24 MILLION LLIN DISTRIBUTED DURING SMP
Susan and her husband, Adiama William, travelled 30 miles on their bicycle to get to her first antenatal visit at Soroti Referral Hospital in northeastern Uganda.

SMP supported clinics and hospitals to encourage male involvement by rewarding couples who come to ANC together by serving them first. This simple action by the health workers was initiated by SMP’s multimedia campaign (Stop Malaria in Your Community) that aimed to help all community members recognize that malaria is a pressing health issue that requires a collective response.

Messages on preventing malaria are reaching men such as William who said, “I bought a mosquito net after that intensive malaria radio campaign and we have received another mosquito net at the ANC clinic, which means that we shall both be protected from malaria. Better still, the baby will have her own mosquito net.”

Another father at the ANC clinic, Otema Jackson, explained, “ever since I started attending antenatal care clinics with my wife, she has never missed a medical appointment and there has been a high sense of security and peace in our marriage.”

The communication campaign is estimated to have reached over 4 million adults in the 34 SMP-supported districts with messages on using LLINs consistently, attending antenatal care, taking preventive treatment for malaria during pregnancy and seeking timely testing and treatment for malaria for all household members.

“I think one of the things that has had a huge multiplier effect, has been the support we have been receiving from SMP to be able to provide LLINs to pregnant mothers,” says Dr. Musisi Dirisa, Kayunga DHO. “It improves the antenatal attendance within the health facilities, as well as the protection of the pregnant mothers and their children and husbands sharing the bed, so it has a huge multiplier effect.”
Malaria Consortium, SMP’s technical partner on the project, led the ANC LLIN distribution. MC also worked with Uganda Health Marketing Group (UHMG) to distribute LLINs in 8 SMP districts in the central region. Together, SMP supported all 34 districts in the start-up and continuity of routine ANC LLIN distribution, using an integrated approach by orienting health workers on the distribution of LLIN through ANC and on IPTp through Directly Observed Therapy (DOT). Service providers were taught to counsel mothers on the importance of sleeping under the net every night, to demonstrate hanging of LLIN and to improve interpersonal communication with pregnant women to encourage completion of at least two IPTp doses. Providers were also supported on how to keep accurate records of LLIN and IPTp on ANC cards and the HMIS register. As part of this process, SMP worked with the NMCP to develop guidelines for ANC LLIN distribution and ANC LLIN data collection forms to track and monitor the distribution of nets at health facility and district levels. In addition, SMP, with funding from PMI/USAID, piloted the universal LLINs distribution in four eastern region districts (Bugiri, Kaliro, Mayuge and Serere) where over 650,000 LLINs were distributed to households. Following the successful pilot distribution the MOH, in consultation with PMI/DFID and GF, recommended SMP as the lead agency for the national 2013-4 universal LLINs distribution of nearly 22 million nets with funding from Global Fund and DFID/PMI. The selection was based on the existing mechanism and experience of SMP and its sub-awardees in mass net distribution campaigns.

The cross-sectoral involvement of government structures at all levels – such as the village health teams (VHTs), district and sub-county stores, administrative and health officials, the police and armed forces, and the Medicines and Health Service Delivery Monitoring Unit – helped save costs in storage and administration, reduced bottlenecks in implementation and provided a platform for ownership at political, administrative and community levels. Using rolling distribution waves provided optimum use of time and human resources, allowing work activities to move forward across multiple parts of the country. The campaign showcased the effective coordination across all donors, partners, and all levels of the Ugandan government in executing this massive undertaking.

“I thought getting malaria was a normal occurrence to anybody. After my first miscarriage, I seriously considered the messages that were being taught by the health workers. They constantly re-emphasized the importance of using the nets. I realized that if I had followed the preventive messages, I would not have had a miscarriage. The sensitization I received influenced my attitude of visiting the antenatal clinic and using a mosquito net every night. Now I tell people that ‘malaria is preventable, you have some control over it, and you can have a healthy baby’.”

Jessica Nakafero, 
Mother, Rakai District
MASS NET DISTRIBUTION: SMP HELPS REFINE THE SYSTEM
“The project has done net distribution meticulously well. They put their core energy into it, paid attention to detail, and developed a tracking system for nets from national to district to end beneficiary. Through SMP, the lessons learned in both ANC net distribution and mass distribution in a few districts have been valuable as we move to nation-wide distribution.”

Daryl Martyris,
Former Agreement Officer Representative, USAID/PMI

“Malaria was a very big problem for us; we would go to the hospital many times in a month for treatment, sometimes the children would stay there for days on a drip.” The nearest health centre is Apac Hospital in town, about 8 km away.

Fred and Mary Okunyo’s household of thirteen people had only two nets. Mr. Okunyo explains, that their three-year-old grandson, Akora Sam (pictured left), has been hit the hardest by malaria. “He had malaria almost all the time,” says Fred. “As a parent or a grandparent, when you see the children like this, you just feel your heart paining. Always thinking ‘what can I do, how can I find the money’ made me feel a lot of stress.”

“When there is nothing in your hand, you have to borrow. And then you have to struggle to pay it back. It hinders the family’s wellbeing because you don’t have anything left to buy simple things like soap, salt and school books.”

In May 2014, as part of a nationwide, universal distribution, Fred and his family received four nets. “Everyone in the household is sleeping under a net now,” Fred explains. “There is a great, great change. Since the nets not one child has been to the hospital for malaria treatment. You can see them now, happy and playing; their faces look good. Before, you would not find them playing like this, you would mostly find them in bed, sleeping.”
Access to IPTp

The MOH emphasizes the need for focused antenatal care to help protect pregnant women from dangers associated with pregnancy, especially malaria in pregnancy, as it poses great public health concerns due to its maternal and fetal effects such as maternal anemia, frequent febrile episodes, abortions, stillbirths, pre-term deliveries, intrauterine growth retardation and low birth weights. The current MOH IPTp policy states that all pregnant women should have two doses of Sulfadoxine-Pyrimethamine (SP) to prevent malaria in pregnancy: at least 3 tablets of SP between 4 and 6 months of pregnancy and 3 SP tablets between 7 and 9 months. This requires availability of SP in health facilities. In 2013, the WHO revised its guidelines to recommend a minimum of 3 doses during pregnancy; SMP has been supporting the malaria in pregnancy technical working group in reviewing and updating the policy in Uganda.

To ensure no stock-outs of SP, SMP and USAID’s Securing Ugandans’ Right to Essential Medicine (SURE) project, worked closely with MOH and the National Medical Stores (NMS) to monitor the availability of SP in the health facilities in SMP-supported districts. SMP participated in facility audits led by SURE to check SP stocks and provided on-the-spot problem solving and guidance as necessary. SMP sensitised the district health officer (DHO), health facility in-charges and ANC providers around the prioritisation of SP for ANC since evidence revealed that many facilities were misusing SP for uncomplicated malaria cases.

SMP also worked with national, district and community stakeholders to facilitate an enabling environment for directly observed therapy for IPTp2. To support NMCP with its dual goal of increasing the uptake of IPTp among pregnant women and maintaining improved quality of ANC services, SMP, together with the district teams, provided on-the-job mentorship to health facility staff during integrated support supervision. SMP also procured and distributed safe drinking water commodities including AquaSafe tablets, cups and containers to health facilities in the 34 districts to help ensure DOTS of IPTp.

Key Results

In SMP supported districts, the proportion of pregnant women who took at least two doses of IPTp increased from 39% to 57% from 2010-2014. One SMP study finding suggested that in part this was due to the improved hygienic practices supported by SMP.

4,525 health workers from 1,025 health facilities offering ANC services were trained in IPTp.

“Before SMP, the nurses were providing DOTS IPTp only with one cup or they would tell the pregnant woman to take the doses at home. Because of sharing the cup to swallow the medicine, people were hesitant to take IPTp. After SMP provided additional cups and AquaSafe as well as jerry cans with taps for DOTS, the mothers have been increasingly coming for IPTp.”

Mr. Oluka Simon,
District Health Inspector, Kageramado
IPTp uptake in the 34 SMP-supported districts (HMIS data, 2009-2014)
A child has her finger pricked for a microscopy test in a Health Center III in Masaka District.
Malaria Diagnosis

According to MOH, all HCIIIs, HCIVs and hospitals are expected to be running a ‘functional laboratory’ or have a designated place for carrying out laboratory tests. Availability of functional microscopes and rapid diagnostic tests (RDTs) is a pre-requisite to parasite-based diagnosis of malaria. Microscopy also makes it possible to count the number of parasites, which is useful for monitoring the effectiveness of malaria treatment. Availability of skilled laboratory personnel is critical in facilitating treatment based on parasitological diagnosis. However, minimal access to RDTs, microscopes or lab reagents or poor functioning diagnostic microscopes have been identified as major reasons for malaria over-diagnosis and over-treatment (i.e. clinical diagnosis based on fever and anti-malarial medicine prescribed to the patient).

Appropriate diagnosis and treatment is critical for correct treatment, reduced waste of ACTs, and reduced risk of developing drug resistance. Moreover, the importance of functional laboratories extends beyond malaria to other major diseases, making efficient laboratory testing vital to identifying and treating life-threatening illnesses.

IDI led SMP activities designed to strengthen laboratory diagnostics, addressing both the limited availability of functional microscopes and limited availability of skilled lab personnel. SMP procured and distributed 82 microscopes and supported the health facilities in ensuring good maintenance of the microscopes. SMP emphasized complete cleaning of optical surface, lubrication of all moving mechanisms, adjustments and realignments and thorough cleaning of all external surfaces.

SMP supported the training of health workers on RDTs and microscopy to improve parasitological diagnosis at all levels of the health system. The trainings built the capacity of key personnel in districts to implement parasitological diagnosis of malaria and also modified attitudes and practices of health workers and clients to embrace parasitological diagnosis for malaria.

“SMP has been a blessing in my career development. I have gained experience in examination of malaria, and how to quantify malaria parasites. The SMP support supervision system is more of a mentorship program. We are helped to identify our weak points, causes and find the solutions to our own weaknesses, which makes the exercise more educational and informative.

“I learned how to maintain and handle machines properly, specifically the microscope, and have been able to transfer knowledge of quality malaria diagnosis to management of other cases. I have ensured that if you are getting quality services in malaria, then, it has to be the same with TB or HIV diagnosis.”

Godfrey Nyesiga,
Lab Assistant, Lwengo District
HELPING DISTRICTS TO IMPROVE LABORATORIES

“I oversee all the laboratories in Lwengo district,” says Philo Namalunda, the District Lab Focal Person (DLFP). “We have three HCIVs and five HCIIIs that have designated labs. We have pushed to ensure that we have a lab assistant at each place, and with SMP assistance, we have now trained most of them in lab diagnosis.”

Ms. Namalunda participated in the SMP-supported Laboratory Trainer of Trainers and explains that the SMP trainings she received and now rolls out in her district go far beyond just lab diagnosis. “We were trained in several aspects of lab management—how to handle the patient, the need to explain to the patient what you are doing, and not just prick his/her finger. We look at an extensive package, and help the lab workers to understand what it means to work in a lab; the importance of maintaining equipment, and other logistical management and practices. For me, as the DLFP, when they know what to do, it really eases my work. Now they know how to maintain the equipment, handle patients, keep the lab clean and all these practices make things go much more smoothly.”

One of her trainees, Miriam Mbambu, Lab Assistant, agrees, “The new knowledge I got is helping me to do my work well. I can read the parasites for malaria perfectly and I am more efficient and effective. The training also benefited the health facility since the other team members are now able to get results from my department and in time! Clients do not have to sit for long waiting for results and this minimizes congestion. I think clients have benefited more through getting better quality results and that translates into better treatment. The knowledge I obtained from the training has also enabled me to improve on handling other tests since most of the procedures are closely related. I keep records well and ensure quality improvement in all other lab tests. I make sure that these other tests also meet the standard as the ones emphasized under malaria diagnosis.”

% Facilities that Owned Working Microscope

[Graph showing percentage of facilities that owned working microscopes in different years and categories]

(Health Facility Assessments)
SMP worked with districts and MOH to introduce External Quality Assessment (EQA), a mechanism that provided an opportunity for slide re-checking. Microscope slides with blood smears from patients with suspected malaria were randomly selected and collected from facilities to be blindly rechecked by district trainers. In cases where the facility and district readings differed, slides were sent to the national level or to regional hospital laboratories to review the slides and produce final results. Toward the end of the project, the latter approach to tie-breaking was adopted because it allowed for immediate feedback and opportunities for one-on-one mentoring on the complexities of slide reading. Laboratory workers who consistently produced non-matching results were identified and followed up, and onsite training was provided to address these skill gaps.

At national level, the project worked with NMCP, Central Public Health Laboratories (CPHL) and other stakeholders involved in malaria diagnostics to form a national EQA team, responsible for slide re-reading at national level and dissemination of EQA findings to stakeholders. To encourage this valuable quality check becomes standardized, SMP participated in developing national EQA guidelines for nationwide implementation.

**Key Results**

Over the course of SMP, 1,596 laboratory health workers were trained in laboratory diagnostics, with an emphasis on microscopy, through a cascade training using the MOH-approved laboratory training guide. Central Public Health Laboratory (CPHL) conducted External Quality Assessments (EQAs) in an average of 204 health facilities every month and found an increase in accurate reading of positive slides for malaria parasites among lab workers trained. *The accuracy of slide reading results improved from 75%-94% between 2012-2014.*

“In the training we learned how to use RDTs, to read charts used to differentiate species of malaria and improving on our reporting systems. We received different charts and Standard Operating Procedures. The most significant change to come from the training was the RDTs. Using the microscope only, we could do around 80 tests per day; with the RDTs we can do around 120. The microscope can also be quite tiring on your eyes, and the frequent power cuts are also a problem. With the RDTs, our workload was improved. The charts have helped too because you can very quickly identify the species; before we would have to look through the books, so now we can be quicker and more specific.”

**Tondo Allan,**  
Lab Assistant in HCIV, Luwero District
Treatment for Uncomplicated and Severe Malaria

In Uganda, there are health staff shortages and many health facilities struggle to provide high quality services. The Malaria Control Strategic Plan for 2005-2010 called for enhancing the prompt treatment of children under five within 24 hours of fever onset; reducing the case fatality of severe malaria; establishing a system to provide highly effective pre-referral treatment; and improving the management capacity for severe malaria at health facilities and hospitals. Yet in 2009, MIS results revealed that only one-third (36%) of children under five were treated with an antimalarial drug on the same or the next day of onset of fever, and the percentage receiving an ACT was only 14%. The MPR results in 2010 reiterated the need to support the rapid scale-up of case management at the community and private sector levels.

SMP, through MC, provided the technical support for facility-based case management in SMP. The project activities aimed at strengthening the capacity of districts to provide mentoring and onsite training/support for malaria services through the government system. SMP worked with health facilities to improve pre-referral and referral management of malaria from lower to higher level facilities, and worked with NMCP to develop and roll out a training curriculum for integrated management of malaria (IMM) that includes management of both uncomplicated and severe malaria, as well as management of malaria in pregnancy and parasite-based diagnosis. The IMM curriculum promotes a team approach to managing patients, combining higher and lower cadres of health workers, nurses and laboratory technicians in the same trainings. 10,819 health workers were trained in IMM.

Management of Severe Malaria: The Clinical Audit Approach

SMP introduced the clinical audit, a quality improvement process first developed and piloted by MC, to improve malaria services. Clinical audits seek to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of corrective change. Clinical audits target health facilities that manage severe malaria (hospitals and HCIVs). The approach empowers health workers to identify problems in their context and to find local solutions. SMP provided technical and financial support to district clinical audit teams to use this approach for the improvement of severe malaria management. The clinical audits enabled the review of operational, logistical, financial, human resource, management and coordination aspects of a health facility, which impact the effective case management of malaria through either improved or reduced health facility functionality.

Through initial clinical audit reports as well as from evidence gathered by a HFA in 2011, SMP found that the majority of the facilities did not have triage arrangements in place, and as a result, critically ill patients could wait for a long time before being seen by a clinician. Also, basic physical examination of patients such as measuring height and weight, taking temperature and blood pressure was not being carried out because the facilities either lacked equipment or simply did not carry out physical examinations. This was leading to incorrect dosing of antimalarial medicine, especially in children where the doses are determined by the weight of the patient; some serious signs/symptoms such as extremely high temperatures were not recognized, and patients’ blood samples were not being fully investigated in the laboratory so some complications were not identified. Many of the facilities did not have inpatient forms so documentation and storage of patients’ information was a challenge. Monitoring and documentation of patient progress was not being done correctly or not on a regular basis if the facility actually had in-patient observation forms. Some health workers were giving multiple doses of intravenous quinine in a single bottle of 5% dextrose in the treatment of severe malaria, especially in children; this was partly due to lack of small volumes of 5% dextrose as well as lack of awareness of the potential risk of quinine overdose because of this practice.
To address these issues, health workers were oriented in the management of severe malaria and the clinical audit approach: clinical audit committees were formed both at the facilities and at districts; essential equipment like thermometers and glucometers (for measuring blood sugar level) were supplied to the facilities; inpatient observation forms were supplied; and lobbying was done to get the national medicine supply system to provide 250ml 5% dextrose bottles to the facilities. In addition, SMP regularly tracked and relayed information about stock levels of antimalarial drugs, namely ACTs to ensure redistribution of ACTs from health facilities with higher stocks to those with minimal or no stocks, and to inform timely requests to NMS. SMP shared its tracking data findings with NMCP to help them recognize the urgent need to improve availability of anti-malaria commodities.

“We got a glucometer through SMP, which we use daily for blood sugar tests. Without this equipment we would not be able to do these tests, which are important for diagnosing severe malaria. The glucometer requires little maintenance and has not needed any repairs in the two years I have worked here.”

Kinaalwa Nicholas, Lab Technician, Kojja Health Centre IV, Mukono District

To provide further support, SMP together with NMCP, developed severe malaria management reference manuals and severe malaria management charts (posters), and updated job aids on severe malaria, in line with the malaria treatment policy revised in 2011. The project helped finance printing of these materials and ensured that they were distributed to health facilities in all 34 SMP-supported districts.
In many of the SMP-supported hospitals and health facilities, clinical audit committees were established to guide and be accountable for conducting quarterly clinical audits.

“I have had the opportunity to be audited and be part of the clinical audit team. I can say that the audits have supported us very much, helping us identify our own problems, suggest solutions and come up with action points. These action points would keep us engaged after the audit exercise, and this led to performance improvement. It is really more of a mentoring exercise; identifying gaps within your operation and how to bridge them,” explained Edwige Namwanga, Senior Nursing Officer and In-Charge, Lwengo District (pictured to the right).

“When clinical audits started, I had no idea of what it was and what it would do for us. However, after the first audit, we always worked hard to keep all things in the desired order to ensure that our facility performs well. With my team, we religiously followed the action points from the audit exercise to ensure that next time, similar issues did not arise. We were able to set up a functional emergency ward, and we developed a triage system that helps clients to save time and we came to recognize the value of screening clients with fever using RDTs, which saved our antimalarial medication stock.

“Clients are now benefiting from the good services offered. They normally come in big numbers and this, of course, is an indication that they are happy with our services. We no longer have frequent drug stock-outs, as was the case when we would give out Coartem without doing any tests.

“In order to have a lasting impact, the clinic audit schedule should be drawn for everyone to know. People must be aware that it is a continuous exercise to encourage health workers and administrator. With such a schedule in place, even the politicians can follow it up, advocate for the budget allocation for this activity and monitor it to ensure that it is being done.”

Clinical audit reports indicate that the key outcomes of the approach have significantly contributed to clinical improvements in severe malaria case management, including:

- By 2013, 100% of the hospitals and HCIVs in the SMP-supported districts had established functional triage systems for timely recognition of severely ill patients followed by appropriate treatment.
- The poor practice of using multiple doses of injectable quinine in 500mls 5% Dextrose has been abandoned in all SMP-supported hospitals and HCIVs.
- Significant improvements in record keeping have been observed and noted by all clinical audit teams.

“SMP has introduced to us a mentoring process; the clinical audits. These have made a big difference. They are cheaper than doing ISS, and if we can maintain this clinical audit system, it will greatly influence case management of malaria in Uganda,” Dr. Albert Peter Okui, Ag. Program Manager and Case Management Technical Working Group Leader, MOH/NMCP.
 Eleven year old Vanessa from St Jude’s, Kakoge in Nakasongola, is from one of the 40 schools in the grand finale of the 2013 National Music, Dance and Drama (MDD) competition. SMP lobbied the Ministry of Education to make malaria one of the themes of this annual competition. Vanessa explains: “The performances are about how to prevent malaria. That you must sleep under a net. If children get malaria you must take them to hospital, to save their life. My neighbour died from malaria, she was two years old.” This photograph shows one of the dancers from Karamoja.
Creating Demand

JHU-CCP and CDFU took the lead in designing and implementing behavior change communication and community mobilization activities for SMP. SMP supported NMCP to implement innovative and effective IEC/BCC campaigns through a mix of approaches that included: mass media (radio/TV shows and adverts); community engagements through drama, village and group meetings; interpersonal communication training and job aids for health workers; and print materials for schools.

These approaches reinforced four key malaria messages through BCC and community mobilization efforts, promoting: proper and consistent use of LLINs; increased uptake of IPTp; early treatment seeking behavior within 24 hours of the onset of signs and symptoms of malaria; and male involvement in malaria prevention and treatment services.

SMP worked closely with the MOH health Promotion and Education Division, the BCC technical working group and NMCP to ensure that the project communication strategy was in line with the National Malaria Control Communication Strategy. At district level, SMP linked with the District Health Teams including District Health Educators (DHE), MFP, District Health Inspectors (DHI) and sub-county based Health Assistants (HA), as well as other USAID implementing partners in the SMP districts such as STRIDES, UHMG, SDS, World Vision and African Medical Research and Education Foundation (AMREF).

The overall goal of these communication campaigns and community mobilization outreaches was to create demand for malaria services by helping individuals, families and communities to better understand the impact of malaria and the need for malaria services; and to engage community members to become ‘agents of change’ by becoming more involved in promoting proven and effective malaria prevention activities in their communities.

Chapter 6

BUILDING MOMENTUM IN COMMUNITIES

Diagnose & treat malaria within 24 hours of fever symptoms.
Stop Malaria in Your Community

During the first two project years, SMP strengthened the quality of malaria information provided by health workers through provision of job aids, broadcasting radio talk shows about malaria in pregnancy and LLIN use and providing communication support during mass distribution of LLINs. SMP trained VHTs, provided VHTs with integrated malaria flipcharts and supported the mass LLIN dissemination through national and community radio, film vans, SMS messages and print materials. The project worked with popular musicians, Bobi Wine and Samalie Matovu, to produce a malaria song to support the behavioral change communication campaign. All activities were promoted using the theme of “Stop Malaria in Your Community.”

This campaign was designed to improve the self-efficacy of individuals, households and communities to reduce malaria deaths through the following simple actions: sleeping under insecticide treated nets, IPTp uptake and testing fevers before treatment within 24 hours. The campaign sought to position malaria as a pressing health issue that is everyone’s collective responsibility. It emphasized that families have the ability to increase their productivity if they prevent malaria.

Beginning in May 2011, the three-phase campaign took place over 12 months and aimed at reaching people between the ages of 15–55 years in 34 districts of Uganda. The multi-channel campaign included radio spots and talk shows, billboards, posters and community outreach activities in schools and with community-based groups.

“I remember the radio spot where the family chases the mosquito out of their house, and I have a vivid memory of the posters – they were so hilarious. It really brought out how dangerous this small animal can be, because it took a whole family to chase it away. It was very effective.”

Nanziri Milly,
Kyeziga sub-county, Masaka District

Key Results

In 2012, SMP participated in the Joint BCC survey, which assessed exposure to BCC messages across multiple health areas. Six SMP districts participated in the survey. Results showed that 69% of respondents reported exposure to the Stop Malaria in Your Community messages during the 12 months preceding the survey. 86.5% of respondents exposed to the campaign could correctly recall at least one message. ‘Sleep under the long lasting insecticide treated net every night’ (78.7%) and ‘Seek testing and treatment for malaria within 24 hours of onset of fever’ (39.4%) were the most commonly reported messages. After controlling for demographic factors, respondents exposed to the campaign were 91% more likely to seek treatment for malaria than those who were not exposed. They were also 32% more likely to report that blood was drawn from heal or finger for malaria testing.
The Biyinzika Credit and Savings Group in Masaka district embraced the challenge of stopping malaria by reaching every household in their community with malaria messages. Since 2006 the 16 women and 2 men in the group have been building joint savings in order to give loans to its members. In July 2011, Mr. Yiga (pictured to the right), a government employed Health Assistant working with SMP, approached the group about how they could help prevent malaria in their community.

He encouraged the members of Biyinzika Credit and Savings Group to listen to the monthly malaria-related radio talk shows aired on a local radio station. “The members were happy about the radio talk shows because it contained a lot of information about malaria prevention that we could pass on to community members,” explained Milly Nanziri (pictured on the left), the group’s chairperson, back in 2011.

After listening to and discussing the radio talk shows together, the group felt that they could reach out to the 154 households in their community if they divided themselves into teams, and split their communities into three zones of about 39 households each. When the members visited the households, they used educational materials printed in local languages on grain sacks that were provided by the SMP to help them deliver messages, such as: encouraging consistent net use, saving money to buy a LLIN, discouraging the use of local herbs for treating signs and symptoms of malaria and seeking treatment within 24 hours at a health facility.

Revisiting the group more than three years later – and six months after intervention activities stopped – this group of engaged and committed individuals share their experiences. “Before Mr. Yiga approached us, we had very little knowledge on malaria,” says Milly Nanziri – still the group chairperson. “As he showed us the positive effects, especially on prevention, we demonstrated these behaviors to our community, and it changed them.” The group’s treasurer, Mammugga Goretti, adds that the children used to be sick all the time, “but that has now changed. People now go for treatment within 24 hours, and malaria cases have drastically reduced. Even deaths in children are very few now.” Another member, Nassazi Gaude, adds that “seeing these changes and doing this work makes me very, very happy. People even call me ‘musavo’ (doctor) because my messages have reduced the number of children admitted to hospital for malaria.”

Mr. Yiga, who today is the Masaka District Health Inspector, says that the universal LLIN distribution coupled with this type of community intervention is the perfect combination. “People now have the knowledge about malaria prevention, and therefore the desire to sleep under a net, so the usage rate is very high. Also, the change in behavior of seeking treatment within 24 hours has reduced other diseases, not just malaria, because people now seek testing and are therefore getting the correct treatment.”

As a testament to the sustainability of working with existing community structures, Milly Nanziri says she didn’t even realize the project had ended six months previously. “We have continued the work and we will keep doing so, even if the project has stopped. It doesn’t make a difference to us. We have the materials and the knowledge – the information lives on, so the work continues!”

“People now have knowledge about malaria prevention,” Mr. Yiga, Masaka District Health Inspector.
The Net Care and Repair (NCR) BCC Pilot Campaign was implemented in Serere District between June 2013 and April 2014, in collaboration with NetWorks. Previous research had found that the condition of a net was the main factor affecting its use. Nets that were in poor condition were either unused, discarded or repurposed. The goal was to improve the effectiveness of household net care and repair in extending the life of nets therefore enabling them to use their nets longer.

The first ever net care and repair BCC multimedia campaign in Uganda included a mix of: mass media (radio spots, announcements and talk shows on the subject of net care and repair); school and community mobilization activities in 30 villages; and the development and placement of print materials such as posters and flyers in health facilities, market areas and schools.

Community engagement was promoted through VHTs, who conducted household visits and community mobilization events such as community dialogues and theater performances.

School activities included communal sewing sessions to demonstrate and teach net repair techniques, as well as a MDD competitions.

The key messages of the campaign focused on benefits of net care methods to take care of and repair nets including early repair of holes, tying up the net and good net washing practices.

**Key Results**

The NCR media campaign resulted in 3,230 radio spots, 2,188 DJ mentions and 19 radio talk shows were aired on two radio stations in the intervention district. The evaluation found that the campaign was successful in reaching a large proportion of households in the intervention district (81%). The number of channels heard and number of messages recalled were positively associated with respondents’ attitude towards net care and repair. Nets belonging to respondents who were exposed to the campaign were more likely to have nets in better condition.
The Test and Treat campaign supported and promoted the roll out of the 2012 Updated Uganda National Malaria Policy, which states that all cases suspected of malaria (which includes all fevers) should receive a test for malaria and receive the appropriate treatment. This is in line with the updated WHO guidelines for malaria case management from 2010 and WHO’s new initiative Test, Treat and Track, launched in 2012.

The campaign had two main components: a mass media campaign (radio, billboards and posters) targeting caregivers of children under five; and the training of health practitioners on interpersonal communication (IPC) across 18 districts in Uganda. Both components promoted the same two-part message: that all individuals exhibiting symptoms of malaria should receive a malaria test; and that those who test positive for malaria should receive treatment for malaria or, if negative, seek to identify and treat the actual source of the symptoms.

In total, providers were trained from 160 public and 160 private health facilities, and approximately 70-90 district health supervisors received two and a half days of training. The training was a short refresher course and addressed adherence to test results. The training focused on building interpersonal communications skills and orientating health care workers on a specially-developed job aid. The training and job aid supported the health care providers to improve their case management and differential diagnosis of malaria symptoms, improved their confidence in the reliability and effectiveness of parasite-based treatment, and enhanced their ability to explain the importance of adhering to the malaria tests to patients.

**Key Results**

According to the evaluation of the Test and Treat campaign, the campaign positively affected the attitudes and practices of the healthcare providers and increased the caregivers’ attitudes and trust in the malaria test results.
“I think the relationship between us, the staff, and the caretakers has improved because of the IPC training. We make sure to introduce ourselves properly now, and the caretakers feel more comfortable and free with us, and that way we get more information from them. It also means that I enjoy my job much more because of this improved interaction. **It makes the day easier because of the proper diagnosis and treatment. And the mothers are grateful too. It really has made my work easier.**”

“Before I would just ask the caretakers ‘what is the problem’ and then just listen to what they told me. It was one sided. **Now I dig for more information than what they just volunteer.** The caretaker will maybe say ‘the child has a cough’ and then stays quiet, and before I would have just left it at that. But now I ask for other complaints and maybe I realize the child also has diarrhea. So before I might have missed it, but now I will treat that too.”

“I always use the flip chart, it is always here on my desk, and I always refer to it. Before I used the Clinical Guide, but it focuses mostly on treatment. The flip chart is shorter, but is actually broader in the relevant information it gives me, because it helps you investigate and diagnose other illnesses. The caretakers really pay attention to it, for example when you discuss malaria treatment, they can see the pills and point and ask when to give them, so they understand better, and it helps them ask more questions to clarify any doubts.”

“Now, when the RDT comes out negative but there is no clear cause for the fever, I refer them to the nearby HCIII for lab testing, whereas before I would have just given them antibiotics, and told them to come back for review or if the child would get worse. **So these days we are more thorough.**”

Mirembe Kanganda, Midwife & In-Charge, Bulika Health Center II, Mukono District, shares her experiences.
Mirembe Kanganda, Midwife & In-Charge, Bulika Health Center II, Mukono District, shares her experiences.

"I shared the training with colleagues, so now they have also come to realize that not every fever is malaria. We all explain the importance of testing to the caretakers, and they understand and are happy. They say ‘you are right, even the radio tells us to test first, even this poster is so good because we didn’t know that not every fever is malaria.’ All this has reduced the use of Coartem. We used to have stock outs all the time, but since the training we haven’t had that problem.”

Pauline Ahikire, Nurse

“I came here today because Naggwa has been sick and I needed to know what she suffers from. Testing is important because it helps me to know what is the right treatment. I learnt this from my health worker and also from Radio Simba. It brought out the importance of testing. Naggwa’s malaria test was negative. She is going to give her antibiotics. I’m very happy I tested first to learn it wasn’t malaria and get the right treatment for the cough.”

Nanyonjo Shamimuh, Mother
Community Mobilization through Health Assistants

CDFU applied a number of community mobilization strategies to promote the adoption of the MOH malaria control interventions. A multiple-entry approach that targeted different stakeholders including local councils (LCs), civil society organizations and faith-based organizations was utilized in the first year of the project. During the second year, the VHT strategy was implemented and in the third to sixth year, health assistants (HA) were the main entry point to the communities.

An initial assessment done by the project learned that HAs had limited information on the three key SMP intervention areas. Hence, SMP held various planning and review meetings with DHTs and HAs from ten selected pilot districts to provide guidance on the implementation of community mobilization activities.

During these meetings it was emphasized that HAs should integrate malaria messages during their work at the health facilities and in their communities. Key community structures including primary schools, community leaders, community groups (VHTs, savings and credit groups as well as women’s groups) were identified as the most appropriate communication channels for the intervention.

SMP carried out a small qualitative study to solicit views from individuals and community members regarding the HAs activities under SMP from 2010-2012. Results showed that communities where the HAs were being supported by SMP were more knowledgeable on the three malaria prevention methods compared to control districts.

HEALTH ASSISTANTS: HELPING COMMUNITIES PREVENT MALARIA

“I didn’t know the importance of going for antenatal care and I didn’t even know that Fansidar can prevent malaria in pregnancy. That’s how I lost my first pregnancy,” explains Akello Sharifa, a 25 year old married woman who lives with her husband, Mr. Akello, in Acamuda village, Kaberamaido district.

But all that changed during her second pregnancy. A Health Assistant, Julius Edeku, visited Sharifa’s home during one of his weekly house-to-house visits as part of his work for SMP to reach deep into communities that are vulnerable to malaria. Julius explains, "I explained, using the grain sack from SMP, that malaria can cause anemia, which causes miscarriage, or even death of both the mother and the child. This is when Sharifa opened up and told me about the loss of her first child. At that time Sharifa was 2 months pregnant and had not yet attended antenatal care.

“I sensitized the couple on the dangers of malaria and how malaria in pregnancy can be prevented through sleeping under a net, attending antenatal care and taking preventive malaria treatment known as Fansidar. Sharifa thought 2 months is too early to go for antenatal care, but I emphasized to her that malaria can attack as early as 1 month and cause severe damage. And I informed the couple that they could get a second net for free at the ANC clinic during their visit."

Julius continued to check on Sharifa and a few months later confirmed that she had gone for 2 ANC visits. She also had received her mosquito net that she was sleeping under every night.
Working with Schools and Communities

The HAs were each assigned to identify five primary schools in which they could integrate malaria control interventions into routine school activities. The respective HAs sensitized various primary schools on the importance of malaria control and strived to develop partnerships for initiating and strengthening malaria control interventions among the students, focusing on integration of the key SMP intervention areas. The HAs collaborated with schools that showed keen interest in integrating the key SMP intervention areas. The HAs initially sought to integrate the interventions within existing health clubs, but the majority of the schools preferred to have a specific malaria club to ensure maximum advocacy for the key SMP intervention areas. The head teachers were the key contact persons, who subsequently, with the support of the HAs, also engaged the school staff in integrating messages in their lesson plans. Various channels of communication were used in the primary schools to promote the key SMP intervention areas among the school population, including formation of malaria clubs and ‘talking compounds’, where students made and placed signs around the school promoting the malaria messages. SMP also provided outdoor stickers that promote the role of the school children as the ‘key change agents’ in the households and communities.

The school malaria clubs engaged in child-friendly strategies including development of skits, poems, songs and board games. These effective communication channels were used to promote the SMP intervention areas. In addition, they also participated in health education at assemblies. The goal was that the students would be empowered with information and skills to promote and engage in malaria control activities in schools as well as at home and in their communities.

In addition, SMP trained HAs and other health workers (where SMP already trained VHTs) to: reach out and organize community meetings; work with existing community groups to listen to the SMP-supported radio programs; and form listenership groups to influence behavioral change for malaria control. A radio guide was developed that provided listenership clubs with clear description of what their role is in increasing knowledge, utilization and sustainability of the malaria prevention messages.

The project also provided these community-based workers with IEC materials and information to conduct home visits to promote net hang up, IPTp uptake, early treatment of under fives who have fevers and referral support.

Quarterly support supervision and annual review meetings were conducted to continuously provide technical support to the HAs during the implementation period. This activity would also offer opportunities to visit the HAs and to verify the monthly reports submitted on activities conducted in the primary schools, health facilities and households.

SMP worked with 610 schools to develop various avenues of disseminating malaria messages to pupils, parents and communities at large. The intervention reached 422,588 pupils and 244 community listenership groups through Health Assistants’ community mobilization and school activities.

“Radio programs on malaria and the listenership groups have made our work as community VHT members easy. We have got knowledge about malaria, which we can share with our community. We also learnt many of the preventive measures like filling in drainage pots, slashing our compounds, sleeping under treated mosquito nets and also indoor residual spraying. We also got to learn that not all mosquitoes spread malaria, but only the female anopheles mosquito spreads malaria and is active at night. We also learnt that prevention is better than treatment!”

VHT and Community Member, Soroti District
"When Mr. Kasozi taught us a poem on malaria and its effects, it touched me and I realized that back at home we weren't doing enough to prevent ourselves from malaria," explained Gorretti, a pupil from Primary 6 at Kyoga Huntingdon Primary School in Mukono, back in 2012. At the time, her family of eight owned only two mosquito nets, but after Gorretti shared her new knowledge with her mother, another three nets were purchased for the whole family to be protected from malaria every night.

Following Christopher Kasozi's (pictured right) work with the school, its Headmaster, Sewankambo Tom, encouraged weekly ‘Malaria Day’ activities, led by teacher Ramadan Kalyebi, who says he observed change, including fewer absences, after the formation of the school ‘Malaria Club’ and the weekly activities. "We saw a very positive change," agrees Mr. Sewankambo. "The parents got interested in nets, which was not the case before, and the number of children absent from school because of malaria – and other diseases – reduced greatly, because there was more prevention at the homes, and the general cleanliness of the households and the children themselves improved greatly. Now with the free nets, there is a very good use of nets, because the information has reached down to people in the communities."

With the education from their HA and the weekly malaria activities, not only are the pupils internalizing the messages about net use, early testing and effective treatment, they are learning to critically analyze the effects of malaria infection on school attendance and performance as well as household costs. "I think the impact of the school program is there," says Mr Kasozi. "You reach so many young children at the same time, and they share the messages with their families. We are creating a whole new generation who have proper knowledge of malaria."
One such ‘generational pioneer’ is 14 year old Hamza Ssekito (pictured below left). “When my mother was pregnant, she had a headache and lost her appetite,” Hamza explains. “My father bought her drugs from the clinic, but she didn’t get better. Because of what I had learned from school, I recognized the symptoms and told her ‘I think you have malaria’. I knew that malaria is very dangerous for pregnant women, so I told her to go to the health center. She went for testing and got treated for malaria and got better. The baby is now one year old, and is also fine.”

In a different school in a different part of the country, the pupils are equally informed. Students attending the St Lawrence Kkindu Primary School in Masaka district are eagerly raising their hands they volunteer preventative behavior messages: “You have to run to the health center for testing – before we would just go home and sleep it off … we know that vomiting and fever are symptoms … you can prevent malaria if you sleep under a net … malaria can cause miscarriages in pregnant women … we used to miss school all the time but now we sleep under nets we are rarely sick.”

One young boy, 14-year-old Matia (pictured below), is turning out to be a particular champion of health in his household. “Matia convinced me to buy him a net,” says his mother, Namanda Regina. “He is the one in charge of hygiene around the house, and when someone is sick he is the one to make sure we get treated and complete the dose of medicine.” Whilst taking some credit, stressing that Matia has had a good upbringing and good influence from home, Regina recognizes that, “he has this knowledge from school.”
“SMP has made huge strides in increasing access to nets and raising the testing rate. It exemplifies the effectiveness of linking BCC to commodity-driven programs.”

Matt Lynch,
Director of Global Malaria Programs, JHU-CCP
CHAPTER 7 CONCLUSIONS & RECOMMENDATIONS

In many ways SMP has laid the foundation for future malaria programming. It has introduced case management tools; developed and delivered tested and proven malaria messages; strengthened and re-energized districts and communities to take action to prevent malaria; and enhanced collaborations among government, implementing partners and the private sector to collectively carry out effective malaria control efforts across Uganda.

Long Lasting Influences

SMP was designed to help build systems and skills that will last long after project activities have ended. While it is perhaps too soon to verify the long lasting influences, the achievements and results recorded thus far, coupled with the views of various stakeholders as revealed in this report, suggest that SMP achievements have and will continue to have a positive impact on Uganda’s fight against malaria.

Policy and Coordination

Keep hosting quarterly coordination meetings at national and regional levels

SMP and partners were most effective when shared priorities were established and pursued. The national RBM meetings, the technical working group meetings and the regional quarterly review meetings increased partner and stakeholder participation and improved coordination. As a result, SMP was highly successful in effectively engaging partners and stakeholders.

Advocate for multi-sectoral involvement

Involving the Ministry of Education and Sports, the Ministry of Finance and the Office of the President put malaria prevention on national headlines in 2013 and 2014 and galvanized a highly successful UCC. Advocacy and outreach to other sectors could bring significant results and set a precedent for domestic involvement in malaria control across all sectors and at all levels.

Engage both technical and political leaders

Engage both administrative and technical leaders at the district and national levels, since they are both involved in planning, budgeting and supervision. The involvement of the Office of the President in the Universal Coverage Campaign placed malaria in the national spotlight helped improve the quality of campaign implementation. The involvement of the Minister of Finance in the development of the Malaria Reduction Strategy 2015-2020 ensured the prioritization of malaria on the national agenda. At the district level, Chief Administrative Officers and Local Council V Chairpersons should be kept up-to-date and invited to participate in malaria meetings and activities.

“In the 34 districts that SMP works in, I can clearly see that the leadership among those district staff has improved greatly. They have a real grasp of malaria issues and this is so, so important. Before SMP, MFPs had not felt so empowered to do their work, but where SMP is you see these MFPs are now very active, doing their work. I think that these district folks and health workers who have worked with SMP have seen the benefits of what they have been asked to do, and thus they will continue to be active.”

Dr. Albert Peter Okui,
Program Manager, MOH/NMCP

“In my opinion, the most effective weapon a leader should possess is having an informed point of view about the status of those you lead.”

Mariam Kaberuka,
Secretary of Health in Nakaseke District
Work closely with districts to implement programs

Districts have the most familiarity with implementers (facilities and community-based health workers) and have the authority and structures to support and supervise them. By working through existing district health offices, practitioners had greater ownership of program materials and the districts gained experience in responding to malaria-specific concerns in a timely manner. SMP intentionally utilized existing government structures and frameworks to create a more sustainable health program.

“The fact that there is now a trained malaria focal person in most districts that can stand and speak specifically about malaria in his/her area, and who can advocate for resources, this will ensure that the malaria agenda stays at the forefront after SMP has ended.”

Dr. Godfrey Magumba,
Country Director, Malaria Consortium Uganda

Capacity Building

Use blended learning approaches

A combination of distance learning approaches such as SMS quizzes and onsite support supervision can ensure knowledge retention and practice. SMP piloted the use of SMS for following up on laboratory trainees and the approach was very effective as a distance learning tool. This was later supplemented with onsite support for practical slide reading and to assess the quality of malaria diagnostic services at health facilities. Similarly, support supervision of clinicians has resulted in increased knowledge and confidence amongst health care practitioners. More work should be done to identify the blended learning approaches that are most effective for this context.

Train teams

Training and supervision models that focus on teamwork and accountability at the facility level would ensure that all providers are trained and well-versed in the day-to-day practicalities of implementing new guidelines.

Use continuous medical education (CME) approach

Rather than focusing capacity building exclusively amongst the leadership of facilities, SMP trained workers at every level. At lower level facilities, SMP supported the district officials to provide use the CME approach rather than pulling health workers away from the facility for training, all staff were trained. In addition, the CME approach reinforces the official MOH follow up and support mechanisms.

Consider certifying trainers

By certifying trainers, despite high attrition and turnover, organizations can maintain a cadre of trained practitioners and ensure program sustainability. SMP has helped build a training pool held by the ministry that all partners can utilize when they require training. A certification program for these trainers will further enable them to be a resource to colleagues during and outside sponsored trainings.

“We have definitely built capacity in lab diagnosis. We have trained hundreds of lab workers and, most importantly, we have been able to build the capacity of district level staff to continue to conduct these trainings. We have been monitoring their progress and seen improvements in terms of diagnosing malaria with accuracy. So even when SMP ends, we know they now have these skills and will not lose them!”

Dr. Ssekabira Umaru,
Training Manager, IDI

Monitor policy implementation at the facility level

Frequent changes to the policy landscape make it challenging for clinic-based practitioners to keep health care updated and practicing according to the most recent guidelines. Increased monitoring of policy implementation, by Ministry of Health and district health officers, especially at the health facility level, would continue to benefit future programs.

Involve high-level leadership

High-level leadership involvement by the Director General of Health Services from the MOH in the Universal Coverage Campaign for net distribution helped to keep the implementation focused and efficient as well as to foster teamwork by all malaria partners, donors and ministry officials.

“Capacity Building”

We have definitely built capacity in lab diagnosis. We have trained hundreds of lab workers and, most importantly, we have been able to build the capacity of district level staff to continue to conduct these trainings. We have been monitoring their progress and seen improvements in terms of diagnosing malaria with accuracy. So even when SMP ends, we know they now have these skills and will not lose them!”

Dr. Ssekabira Umaru,
Training Manager, IDI

“I have definitely built capacity in lab diagnosis. We have trained hundreds of lab workers and, most importantly, we have been able to build the capacity of district level staff to continue to conduct these trainings. We have been monitoring their progress and seen improvements in terms of diagnosing malaria with accuracy. So even when SMP ends, we know they now have these skills and will not lose them!”

Dr. Ssekabira Umaru,
Training Manager, IDI

“Work closely with districts to implement programs

Districts have the most familiarity with implementers (facilities and community-based health workers) and have the authority and structures to support and supervise them. By working through existing district health offices, practitioners had greater ownership of program materials and the districts gained experience in responding to malaria-specific concerns in a timely manner. SMP intentionally utilized existing government structures and frameworks to create a more sustainable health program.

“The fact that there is now a trained malaria focal person in most districts that can stand and speak specifically about malaria in his/her area, and who can advocate for resources, this will ensure that the malaria agenda stays at the forefront after SMP has ended.”

Dr. Godfrey Magumba,
Country Director, Malaria Consortium Uganda

Capacity Building

Use blended learning approaches

A combination of distance learning approaches such as SMS quizzes and onsite support supervision can ensure knowledge retention and practice. SMP piloted the use of SMS for following up on laboratory trainees and the approach was very effective as a distance learning tool. This was later supplemented with onsite support for practical slide reading and to assess the quality of malaria diagnostic services at health facilities. Similarly, support supervision of clinicians has resulted in increased knowledge and confidence amongst health care practitioners. More work should be done to identify the blended learning approaches that are most effective for this context.

Train teams

Training and supervision models that focus on teamwork and accountability at the facility level would ensure that all providers are trained and well-versed in the day-to-day practicalities of implementing new guidelines.

Use continuous medical education (CME) approach

Rather than focusing capacity building exclusively amongst the leadership of facilities, SMP trained workers at every level. At lower level facilities, SMP supported the district officials to provide use the CME approach rather than pulling health workers away from the facility for training, all staff were trained. In addition, the CME approach reinforces the official MOH follow up and support mechanisms.

Consider certifying trainers

By certifying trainers, despite high attrition and turnover, organizations can maintain a cadre of trained practitioners and ensure program sustainability. SMP has helped build a training pool held by the ministry that all partners can utilize when they require training. A certification program for these trainers will further enable them to be a resource to colleagues during and outside sponsored trainings.

“We have definitely built capacity in lab diagnosis. We have trained hundreds of lab workers and, most importantly, we have been able to build the capacity of district level staff to continue to conduct these trainings. We have been monitoring their progress and seen improvements in terms of diagnosing malaria with accuracy. So even when SMP ends, we know they now have these skills and will not lose them!”

Dr. Ssekabira Umaru,
Training Manager, IDI
Behavior Change Communication

Increase the focus on communities
Future programs would benefit from greater inclusion of community-based activities and actors. Volunteer health professionals and health assistants could play a greater role in malaria prevention activities. Interpersonal communication was extremely important in the successes of the program, but was under-emphasized in program planning and design. Mothers’ concerns surrounding malaria prevention medications were not always fully addressed; community-based programs could aid this.

Integrate behavior change approaches into provider-focused programs
Some of the most important behaviors, such as IPTp and testing and adherence to test results – are largely dependent on providers. Programs targeted to providers would do well to use behavior change approaches, not just training, to improve provider attitudes about these interventions as well as their attitudes about the clinician-patient encounter.

Entertainment + malaria = success
Some of the most successful approaches used by the project, such as the National Music, Dance and Drama Competition, the song contest and forum theater were successful because they involved a strong entertainment component. It was also more cost-effective because the media picked up these stories and provided free coverage. Schools are a great partner in these efforts because schoolchildren are effective at engaging families. Future programs should include entertainment in community and mass media approaches as they make messages memorable to audiences and extend the reach and effectiveness of the campaign.

“We looked for key existing structures to work with and guided them to facilitate community mobilization. Through our efforts, we have brought in and engaged more people in communities who may ordinarily not be engaged in malaria activities. In SMP districts, schools have come to recognize malaria prevention as a key activity for them. We have not just increased the message bearers, but we have provided them with knowledge and tools to communicate key malaria messages. We have built some real momentum in the communities.”

Basil Tushabe, Director, CDFU

“Malaria is caused by the anopheles mosquito, it is a killer disease. I remember an ad on the radio last year about Mrs. Anopheles, she wanted to spread malaria. But then she met someone who slept under a net and she tried and tried and tried, but she failed to spread it.”

Nora, 13 year old student at Buwenge Parents’ School, Jinja District
Monitoring and Evaluation

Take advantage of high testing rates
Record-high testing rates are creating an unprecedented opportunity to improve malaria programs. Surveillance data should be used to find efficiencies and target services to areas with the greatest burden.

Discuss and use the data
Rather than assuming that districts are using data, support districts and facilities to use data. The quarterly review meetings were very effective in bringing together partners—both technical and political—to review their progress. They created a precedent for using data to plan and monitor programs and for stakeholders to coordinate accordingly. District data use meetings reinforced quality of health facility reporting into the HMIS data system and use of data during planning and drug quantification.

Focused research for evidence-based programming
SMP conducted a number of research studies to ascertain the effectiveness of project activities on meeting the project objectives for the service providers and community beneficiaries. The findings provided useful information for focused implementation based on the gaps identified. Future projects should prioritize operations research for strong implementation and results.

“SMP’s approach in working with NMCP and directly with district leadership will really leave some improved capacity for us to continue our work. The capacity they have helped us build to monitor and evaluate and to collect and use data will remain in the country and the program. And the very good practice of using clinical audits to help in treatment of malaria at health facilities is something we have learned and we can now take over.”

Dr. Albert Peter Okui,
Ag. Program Manager, MOH/NMCP

Remember the basics
Modems provided to health teams increased connectivity and improved timely reporting of data. So did reminder calls to HMIS focal persons. Logistical support to the health facilities including the provision of record books for EQA and ANC LLIN distribution, microscopic slides and reagents. Material support—in the forms of basic supplies, reminders and airtime—not just the key malaria commodities—contributed to the success of the program, since facilities often suffered from stock-outs of these supplies. Future projects should work closely with donors, districts and the Ministry of Health to ensure that providers have everything they need to do their job to specifications.
<table>
<thead>
<tr>
<th>Acronyms</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>Artemisinin-based Therapy</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal Care</td>
</tr>
<tr>
<td>BCC</td>
<td>Behavior Change Communication</td>
</tr>
<tr>
<td>CDFU</td>
<td>Communication for Development Foundation Uganda</td>
</tr>
<tr>
<td>CPHL</td>
<td>Central Public Health Laboratories</td>
</tr>
<tr>
<td>DDU</td>
<td>Data Demand and Use</td>
</tr>
<tr>
<td>DFID</td>
<td>UK Department for International Development</td>
</tr>
<tr>
<td>DHE</td>
<td>District Education Officer</td>
</tr>
<tr>
<td>DHI</td>
<td>District Health Inspector</td>
</tr>
<tr>
<td>DHO</td>
<td>District Health Officer</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic and Health Survey</td>
</tr>
<tr>
<td>DHT</td>
<td>District Health Team</td>
</tr>
<tr>
<td>DLFP</td>
<td>District Laboratory Focal Person</td>
</tr>
<tr>
<td>DMC</td>
<td>District Management Committee</td>
</tr>
<tr>
<td>DOTS</td>
<td>Directly Observed Treatment Strategy</td>
</tr>
<tr>
<td>DQA</td>
<td>Data Quality Assessments</td>
</tr>
<tr>
<td>EQA</td>
<td>External Quality Assessment</td>
</tr>
<tr>
<td>GF</td>
<td>Global Fund for HIV/AIDS, Malaria and Tuberculosis</td>
</tr>
<tr>
<td>GOU</td>
<td>Government of Uganda</td>
</tr>
<tr>
<td>HA</td>
<td>Health Assistant</td>
</tr>
<tr>
<td>HC</td>
<td>Health Center (level II, III or IV)</td>
</tr>
<tr>
<td>HFA</td>
<td>Health Facility Assessment</td>
</tr>
<tr>
<td>HMIS</td>
<td>Health Management Information System</td>
</tr>
<tr>
<td>ICCM</td>
<td>Integrated Community Case Management</td>
</tr>
<tr>
<td>IDI</td>
<td>Infections Diseases Institute</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education and Communication</td>
</tr>
<tr>
<td>IMM</td>
<td>Integrated Management of Malaria</td>
</tr>
<tr>
<td>IPC</td>
<td>Interpersonal Communication</td>
</tr>
<tr>
<td>IPTp</td>
<td>Intermittent Presumptive Treatment during Pregnancy</td>
</tr>
<tr>
<td>IR</td>
<td>Intermediate Result</td>
</tr>
<tr>
<td>ISS</td>
<td>Integrated Supportive Supervision</td>
</tr>
<tr>
<td>ITN</td>
<td>Insecticide Treated Nets</td>
</tr>
<tr>
<td>JHUCCP</td>
<td>Johns Hopkins Bloomberg School of Public Health Center for Communication Programs</td>
</tr>
<tr>
<td>LLIN</td>
<td>Long-lasting Insecticide-treated Nets</td>
</tr>
<tr>
<td>LQAS</td>
<td>Lot Quality Assurance Survey</td>
</tr>
<tr>
<td>MC</td>
<td>Malaria Consortium</td>
</tr>
<tr>
<td>MCH</td>
<td>Maternal and Child Health</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MDD</td>
<td>Music, Dance and Drama</td>
</tr>
<tr>
<td>MFP</td>
<td>Malaria Focal Person</td>
</tr>
<tr>
<td>MIS</td>
<td>Malaria Indicator Survey</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MPR</td>
<td>Malaria Program Review</td>
</tr>
<tr>
<td>MRS</td>
<td>Malaria Reduction Strategy</td>
</tr>
<tr>
<td>NCR</td>
<td>Net Care and Repair</td>
</tr>
<tr>
<td>NMCP</td>
<td>National Malaria Control Program</td>
</tr>
<tr>
<td>NMS</td>
<td>National Medical Stores</td>
</tr>
<tr>
<td>OPD</td>
<td>Out patient Department</td>
</tr>
<tr>
<td>PMI</td>
<td>U.S President’s Malaria Initiative</td>
</tr>
<tr>
<td>PMP</td>
<td>Performance Monitoring Plan</td>
</tr>
<tr>
<td>QA</td>
<td>Quality Assurance</td>
</tr>
<tr>
<td>RBM</td>
<td>Roll Back Malaria</td>
</tr>
<tr>
<td>RC</td>
<td>Resource Center of the MOH</td>
</tr>
<tr>
<td>RDT</td>
<td>Rapid Diagnostic Test</td>
</tr>
<tr>
<td>SDS</td>
<td>Strengthening Decentralization for Sustainability</td>
</tr>
<tr>
<td>SMP</td>
<td>Stop Malaria Project</td>
</tr>
<tr>
<td>SP</td>
<td>Sulfadoxine-pyrimethamine</td>
</tr>
<tr>
<td>STAR-E</td>
<td>Strengthening TB AIDS Response in Eastern Uganda</td>
</tr>
<tr>
<td>SURE</td>
<td>Securing Ugandan’s Right to Essential Medicine</td>
</tr>
<tr>
<td>UCC</td>
<td>Universal Coverage Campaign</td>
</tr>
<tr>
<td>UDHS</td>
<td>Uganda Demographic and Health Survey</td>
</tr>
<tr>
<td>UHMG</td>
<td>Uganda Health Marketing Group</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>USG</td>
<td>US Government</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
<tr>
<td>VHT</td>
<td>Village Health Team</td>
</tr>
</tbody>
</table>
Stop Malaria Project (SMP)
Plot 30B Impala Avenue, Kololo
(adjacent to Nanjing Restaurant and Saracen)
P.O Box 37718,
Kampala, Uganda
Tel: +256-312-600600/1 Fax: +256-312-600609

Johns Hopkins Bloomberg School of Public Health
Center for Communication Programs
29 B Luthuli Drive
Bugolobi
Kampala, Uganda
Tel: +256-312-266700; +256-312-263969; +256-414-237222

To access resources and materials developed by SMP, please visit the
Stop Malaria Project eToolkit
www.k4health.org/toolkits/uganda-stop-malaria
www.ccp.jhu.edu