

PRESIDENT'S MALARIA INITIATIVE





# USAID'S MALARIA ACTION PROGRAM FOR DISTRICTS

### YOUTH ANALYSIS NOVEMBER 2017

Contract No.: AID-617-C-160001



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#### DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government.

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### ACRONYMS

ANC	Antenatal Care
CHEW	Community Health Extension Worker
DEO	District Education Officer
DHS	Demographic and Health Survey
DHT	District Health Team
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
HSDP	Health Sector Development Plan
IPTp	Intermittent Preventive Treatment (for malaria) in Pregnancy
IRS	Indoor Residual Spraying
ITN	Insecticide-treated Net
KII	Key Informant Interview
LLIN	Long-lasting Insecticide-treated Net
MAAM	Mass Action Against Malaria
MAPD	Malaria Action Program for Districts
M&E	Monitoring and Evaluation
MIP	Malaria in Pregnancy
MSF	Medecins Sans Frontieres (Doctors Without Borders)
NGO	Non-governmental Organization
NMCP	National Malaria Control Program
PYD	Positive Youth Development
SBCC	Social and Behavior Change Communication
SRH	Sexual and Reproductive Health
STI	Sexually Transmitted Infection
UDHS	Uganda Demographic and Health Survey
UHMG	Uganda Health Marketing Group
UMIS	Uganda Malaria Indicator Survey
UMRSP	Uganda Malaria Reduction Strategic Plan
TASO	The AIDS Support Organization
USAID	United States Agency for International Development
VHT	Village Health Worker

### EXECUTIVE SUMMARY

The United States Agency for International Development's (USAID's) Malaria Action Program for Districts (MAPD), herein referred to as "the project", aims to improve the health status of the Ugandan population by reducing childhood and maternal morbidity and mortality due to malaria. The project supports the Government of Uganda to reduce deaths from malaria among the general population, especially children under five years of age. It works with the Ministry of Health's National Malaria Control Program (NMCP) and the district health teams (DHTs) in 47 districts in Uganda to implement results-oriented and field-tested strategies to contribute to the reduction of malaria and its social and economic effects for around 13 million Ugandans.

As part of USAID's commitment to youth in development,<sup>1</sup> the project conducted an analysis to examine youth<sup>2</sup> considerations, challenges and opportunities regarding malaria prevention and treatment in Uganda. The study was composed of a desk review and four-week field mission (February-March 2017) to collect qualitative data in the West Nile, Central, and Mid-Western regions. The positive youth development framework was to structure the study's design, implementation and analysis. The study's results and recommendations will be used to inform project implementation throughout the project life cycle.

Uganda has the third highest number of *P. falciparum* malaria infections in sub-Saharan Africa, and some of the highest reported malaria transmission rates in the world. Clinically diagnosed malaria is the leading cause of morbidity and mortality in Uganda. Malaria is estimated to account for 30-50 percent of health facility outpatient visits, 15-20 percent of hospital admissions, and 20 percent of hospital deaths. Malaria transmission has a stable, perennial transmission pattern in 90-95 percent of the country. Sixty-nine percent of the Ugandan population is less than 25 years of age.

#### **Findings**<sup>3</sup>

Globally, there are few studies exploring malaria prevention and treatment among adolescents, with the exception of pregnant adolescents. This is despite the fact that malaria is the cause of 50 percent of deaths in sub-Saharan African school children. Data collections regarding adolescents' malaria prevention and treatment practices is scant, especially for boys. Key national health surveys, including the Malaria Indicator Survey and the Demographic and Health Survey, collect data from adolescent girls aged 15-19 years old, but do not collect data for the same age group in adolescent boys. While the Ugandan health information system collects data on all ages, there is no systematic effort to analyse data for the 10- to 19-year-old age group. There is some evidence from previous studies that younger adolescents are at greater risk than older adolescents due to immunological and hormonal factors, and that malaria has a negative impact on school performance. To the author's knowledge, this study is one of the first to undertake a

<sup>&</sup>lt;sup>1</sup> USAID, "Youth in Development: Realizing the Demographic Opportunity," (Washington, D.C.: USAID, 2012).

<sup>&</sup>lt;sup>2</sup> The World Health Organization defines youth as 10-24 years, and adolescents as 10-19 years. For the purposes of this study, we use the term youth; however, the primary focus of the study is adolescents aged 10-19 years. <sup>3</sup> Please see Section 4.0 of this report for all relevant data source references.

comprehensive examination of youths' malaria-related knowledge, behaviors and practices, and the ability of the health system to respond to them.

#### Preventing malaria in pregnancy

One quarter of Ugandan girls between the ages of 15 and 19 years have begun childbearing. The provision of three or more doses of intermittent preventive treatment for malaria in pregnancy (IPTp) through antenatal care is part of the Government of Uganda's comprehensive approach to preventing malaria in pregnancy. Only 15.3 percent of Ugandan girls aged 15 to 19 years old are aware of a treatment that can prevent malaria in pregnancy. Data are not available for girls 10 to 14 years old. Data regarding access to IPTp through antenatal care for 10- to 19-year-olds is also not available, but existing data show that mothers less than 20 years of age attend antenatal care at the same frequency as older age groups in which IPTp uptake is estimated at 45 percent. While there are numerous reasons why adolescent girls may delay antenatal care, stigma and discrimination towards unmarried adolescent girls who become pregnant is the largest barrier to antenatal care and IPTp that was identified by study respondents. Adolescent girls report verbal abuse by health workers and parents for becoming pregnant at an early age. The situation is exacerbated by national policies that require adolescent girls to attend antenatal care with their partners, who will often refuse for fear of arrest and imprisonment under the national defilement law that prohibits sexual relations with a girl who is under 18 years of age. Adolescent girls' limited access to and control over financial resources further restricts their access to antenatal care and IPTp by limiting their ability to pay for transportation to reach the health facility or for drugs and other medical supplies as health facilities were reported to be often out of stock. Adolescent girls also report health workers demanding payment for treatment (publicly provided primary health care is free in Uganda), which they often cannot afford.

#### Increasing access to and use of long-lasting insecticide-treated nets

The Government of Uganda's policy is to achieve universal coverage (one net for every two persons) with long-lasting insecticide-treated nets (LLINs). As of 2016, 79 percent of households have at least one insecticide-treated net (ITN), and 51 percent of households report universal coverage. Data on youth access to, and use of, ITNs are limited. Available data show that individuals between the ages of 5 and 34 years are significantly less likely to sleep under an ITN than all other age groups. Data also show that 93 percent of adolescent girls aged 15 to 19 years identify sleeping under an ITN as a way of avoiding getting malaria, but similar data are not available for boys.

Adults and youth reported that youth are not prioritized in the household for ITN use due to a series of related factors. A shortage of ITNs in households requires that scarce resources be allocated carefully. Consequently, pregnant women and children under five are prioritized for ITNs over other household members. It is standard practice for youth to sleep in groups of two or more with siblings of the same sex, making ITN use sub-optimal, since they are designed for only two people. Adults reported it is more difficult to enforce ITN use in the home or in school among youth compared to younger children given their growing independence.

Pregnant adolescents may have better access to ITNs than others because nets are distributed as part of antenatal care. However, this practice is not universal. In one instance, it was discovered that a health facility only provided antenatal care attendees with an ITN in their third trimester as an award for regular antenatal care attendance. Despite having a higher likelihood of obtaining an ITN, less than half of young mothers who were interviewed reported sleeping under an ITN. One-third reported not having enough nets for their families.

#### Improving malaria awareness and education

Ugandan youths' knowledge of the causes and prevention methods for malaria is high, but misconceptions exist. Many youth who were interviewed confused water and sanitation and personal hygiene practices, such has hand-washing and drinking clean water, as ways to prevent getting malaria. The most common sources of information on malaria according to youth are school and teachers, parents, and health workers or health facilities. For young mothers, health workers or health facilities were the most common source of information, compared to in- and out-of-school youth, who most often reported schools and teachers as their primary malaria information source. Malaria education in schools is provided as part of the primary school curriculum. District health authorities are not systematically involved in malaria education in schools, though some schools and health facilities establish partnerships whereby health workers provide health education as mass media-based, including posters, roadside advertisements, and radio and television, as well as health facilities, parents, and peers.

#### Improving health-seeking behavior

The quality of health services, including the availability of medicines, wait times, and negative health worker attitudes, appears to play a pivotal role in youth decisions to access treatment. For pregnant adolescents, fear of stigma and discrimination play a significant role in their decision-making process, but for youth in general, the lack of availability of drugs at health facilities greatly influences their decision to seek treatment. Instead, under the guidance of their parents or other influential adults in their lives, adolescents will self-medicate with leftover medication in the home or with traditional medicines, or purchase drugs at drug shops. Girls were more likely to report using herbs and traditional medicines to self-treat, while boys reported using illicit drugs. Boys displayed a further reluctance to go to health facilities for treatment because of a fear of being perceived as weak. Gendered cultural norms equate illness to weakness and instill in men and boys the misguided belief that they should be strong enough to fight off the infection themselves. Both adolescent boys and girls reported receiving support from their parents when they are ill, both in terms of financial support and care when they are sick, but this support can be limited by the resources available in the household.

#### Strengthening youth-friendly services

The Government of Uganda has a robust policy framework to support the establishment of youth-friendly services in the public health care system. However, there are significant challenges facing their implementation, including a shortage of dedicated and trained personnel and financial resources. Youth-friendly services currently rely heavily on volunteers, and do not have operating budgets to provide dedicated infrastructure or activities to attract youth. District health teams and health workers recognize the need for services provided in a manner that engages youth, especially in relation to sexual and reproductive health and HIV, but there is no consistent effort to provide training in youth-friendly service provision – likely due to resource constraints. Without training and resources, health facilities will continue to struggle to attract youth. Health facilities partnering with local councils, youth councils, and youth leaders to reach youth is a

promising strategy, but it is likely limited in effectiveness if there are no financial resources available to organize youth events or to provide youth-friendly services.

Youth-targeted malaria programming is uncommon, unless it is one small component of other youth services. However, existing efforts to provide youth-friendly services, including those provided by non-governmental organizations (NGOs), present an opportunity for the more systematic integration of malaria prevention and treatment education as part of youth-focused programs. Many different community-based youth programs – not all of which are health-related – exist, which can be leveraged for malaria education and outreach purposes. Again, the challenge is obtaining the necessary financial and human resources to facilitate partnership-building between the health sector, NGOs, and community youth programs.

#### **Recommendations**

#### Preventing malaria in pregnancy

- 1. Support district health authorities to equip health workers with skills to provide youthfriendly services, through improved understanding of youth issues surrounding malaria and improved interpersonal communication to reduce instances of discrimination and abuse. Engage youth, particularly those who sit on the District Committees on Adolescent Health, in the design and delivery of the training sessions to encourage dialogue between health workers and youth.
- 2. Establish separate youth-friendly spaces or different days for the provision of youth-friendly services.
- 3. Work with community leaders and influencers, including youth council members, to raise awareness in the community of the challenges faced by pregnant adolescents in accessing health care, and the importance of IPTp to prevent malaria in pregnancy.
- 4. Support female youth, especially young mothers and pregnant adolescents, and working with district health authorities, to design a social and behavior change communication (SBCC) campaign<sup>4</sup> to increase antenatal care (ANC) attendance and IPTp uptake among their peers.
- 5. Raise awareness with the NMCP and Reproductive Health Unit at the Ministry of Health of the unintended, negative consequences of the policies to prevent teenage pregnancy and encourage men's participation in ANC, and support ministry efforts at policy revision or adjustments to implementation.
- 6. Support district health authorities to sensitize health workers on the potentially negative repercussions of policies to prevent teenage pregnancy and encourage men's participation in ANC, and support district efforts to adjust policy implementation in a manner that does not obstruct access for female youth. For example, health workers can be sensitized to provide services to pregnant adolescents when their husband or partner does not accompany them.
- 7. Explore options for creating an incentives program to encourage ANC attendance by female youth and their partners

<sup>&</sup>lt;sup>4</sup> For SBCC activities, youth should be encouraged to identify the mediums most effective in reaching their peers, which may include mass media (radio, televisions, billboards, posters), community dramas, school clubs, and sports events. Debate clubs can be a useful forum for addressing myths and misconceptions.

#### Increasing access to and use of long-lasting insecticide-treated nets

- 1. Support district health authorities to implement an SBCC campaign on the importance of all household members sleeping under an LLIN, including youth.
- 2. Extend school net distribution programs to include secondary school levels (S1 to S5).
- 3. Support the NMCP to conduct a review of LLIN distribution practices, including the recent mass distribution campaign, to understand how youth access to LLINs is addressed, and to identify lessons for future distribution campaigns and the implementation of the universal coverage policy.
- 4. Use the planned MAPD LLIN use, care and repair initiatives to include and engage youth and children (through community and school club activities).
- 5. Ensure that special consideration is given to adolescent girls' needs when promoting or discussing the net user ratio.
- 6. Support district health authorities to improve the availability of LLINs at health facilities for ANC attendees.
- 7. Support district health authorities to provide on-the-job coaching of health workers that includes instructions to provide an LLIN to all women and youth attending ANC at their first appointment. Supervision and performance reviews should support the coaching.
- 8. Organize a youth-led (and adult-guided) assessment of youth attitudes and practices regarding LLIN use. Provide a stipend for youth involved in the study.
- 9. Support male and female youth, working with district health authorities, to design an SBCC campaign to increase LLIN use among their peers.
- 10. Support youth leaders to bring together youth in their schools and communities to discuss the challenges they face in protecting themselves from malaria, including LLIN use, and to develop strategies to overcome them.

#### Malaria knowledge, education and outreach

- 1. Support male and female youth, working with district health authorities, to design an SBCC campaign to educate youth on malaria causes and prevention methods, and to dispel common misconceptions.
- 2. Support district health authorities to work with education authorities to identify ways to improve coordination for improved malaria education in schools. Planned school LLIN distribution activities can be leveraged.
- 3. Support schools to incorporate malaria education into school clubs to promote youth dialogue and engender youth leadership on malaria prevention and treatment in schools and at home.
- 4. Support district health authorities to work with existing organizations conducting youth outreach, including public health facilities, NGOs and youth organizations, to integrate malaria prevention and treatment messages and services.
- 5. Create youth leagues with the MAPD village health clubs and link them to the youth councils so they can oversee and give support to these clubs in order to develop malaria skills among youth.
- 6. Engage youth in SBCC activities to select key influencers, promote youth dialogue, and to identify youth priorities in all health promotion activities.
- 7. Create youth leagues with the MAPD village health clubs and link them to the youth councils so they can oversee and give support to these clubs in order to develop malaria skills among youth.

8. Engage youth in SBCC activities to select key influencers, promote youth dialogue, and to identify youth priorities in all health promotion activities.

#### Treatment-seeking behaviors

- 1. Support male youth, working with district health authorities, to develop an SBCC campaign to challenge gender norms that result in delayed treatment-seeking by men and boys.
- 2. Support male youth in schools and communities to establish and lead peer support groups where they can discuss and challenge local concepts of masculinity and its impact on their health.
- 3. Support youth, working with district health authorities, to develop an SBCC campaign to promote the "test and treat" strategy among youth. Emphasize the importance of early treatment and adherence to treatment/medication in a youth-friendly manner.
- 4. Link with and share field-based information with Uganda Health Marketing Group (UHMG) which is responsible for supply chain so as to identify and address bottlenecks in the delivery of essential medicines, including anti-malarial drugs, to public health facilities.
- 5. Build capacity at the local level for ordering and managing drug stocks, and enhance supervision. Monitor stock levels and build the capacity of health workers to manage quantification and requisition of anti-malarial medication.
- 6. Advocate increase of essential medicines and commodities budgets and investments by the government and donors.
- 7. Support the NMCP to integrate malaria in the next iteration of the Adolescent Health Policy Guidelines and Service Standards.
- 8. Support NMCP and district health authorities to disseminate the revised guidelines, and to provide training to health workers on its implementation, working in partnership with the Ministry of Labour, Gender and Social Development and district community development officers.

#### Youth-friendly services

- 1. Support the establishment of dedicated national and district budgets for the operation of youth-friendly corners in health facilities, and youth outreach in communities.
- 2. Increase the numbers of youth who are trained as community health extension workers (CHEWs)/village health teams (VHTs)<sup>5</sup>.
- 3. Support district health authorities to deliver a malaria package in youth-friendly services, as per the revised Adolescent Health Policy Guidelines and Service Standards.
- 4. Support district health authorities to build the capacity of district staff and health workers for the provision of youth-friendly services. Engage youth in the design and delivery of

<sup>&</sup>lt;sup>5</sup>Under Government of Uganda policy, current VHTs remain employed but no new VHTs will be recruited. Their replacements, CHEWs, have not yet been recruited; when they are recruited, they will be working at the parish level and slowly taking on the work that is currently being done by VHTs. When VHTs relocate or leave their positions, they are not replaced. After about five years, it is anticipated that all VHTs will have been replaced by CHEWs.

capacity-building initiatives to encourage dialogue and collaboration between district health authorities and youth.

- 5. Involve youth at all levels of advocacy, including in district health management teams.
- 6. Support district health authorities to analyse existing malaria data disaggregated by age (10-14 years, 15-19 years) and by sex, and to incorporate the findings into district malaria programs.
- 7. Support youth to work with district health authorities to identify data gaps for malaria trends in youth, and to collect and analyse data among their peers to inform district malaria programs.

## 1. INTRODUCTION

The United States Agency for International Development's (USAID's) Malaria Action Program for Districts (MAPD), herein referred to as "the project", aims to improve the health status of the Ugandan population by reducing childhood and maternal morbidity and mortality due to malaria. The project supports the Government of Uganda to reduce deaths from malaria among the general population, especially children under five years of age. It works with the National Malaria Control Program (NMCP) at the Ministry of Health and the district health teams (DHTs) in 47 districts in Uganda to implement results-oriented and field-tested strategies to contribute to the reduction of malaria and its social and economic effects in about a third of the country, reaching around 13 million Ugandans. The project has three objectives:

- I. Implement effective malaria prevention programs in support of the Uganda Malaria Reduction Strategic Plan;
- 2. Implement effective malaria diagnosis and treatment activities in support of the Uganda Malaria Reduction Strategic Plan; and
- 3. Build capacity of the National Malaria Control Program and district health teams to manage and sustain efficient malaria activities in focus districts.

As part of USAID's commitment to youth in development,<sup>6</sup> the project conducted an analysis to examine youth<sup>7</sup> considerations, challenges and opportunities across all project components: 1) Effective malaria prevention programs implemented in support of the Uganda Malaria Reduction Strategic Plan;<sup>8</sup> 2) Effective malaria diagnosis and treatment activities implemented in support of the Uganda Malaria Reduction Strategic Plan; and, 3) Capacity building of the NMCP and DHTs to manage and sustain efficient malaria activities in focus districts.

The study included a desk review and a four-week field mission (February-March 2017) to collect qualitative data in the West Nile, Central, and Mid-Western regions. After describing the country context and the study methodology, this report discusses key findings, broadly categorized by malaria prevention and malaria diagnosis and treatment. It then draws conclusions and provides recommendations to strengthen youth programming, participation and partnership in support of the project's objectives.

<sup>&</sup>lt;sup>6</sup> USAID, "Youth in Development: Realizing the Demographic Opportunity."

<sup>&</sup>lt;sup>7</sup> The World Health Organization defines youth as 10-24 years, and adolescents as 10-19 years. For the purposes of this study, we use the term youth; however, the primary focus of the study is adolescents aged 10-19 years. <sup>8</sup> National Malaria Control Programme (NMCP), "Uganda Malaria Reduction Strategic Plan 2014-2020," (Kampala, Uganda2014).

### 2. BACKGROUND

#### 2.1 Country context

Uganda is located in the East African region of sub-Saharan Africa, and lies across the equator, about 800 kilometers inland from the Indian Ocean. The country is landlocked, bordered by Kenya in the east; South Sudan in the north; Democratic Republic of Congo in the west; Tanzania in the south; and Rwanda in the southwest. Uganda has a total population of 34.9 million people with an annual increase rate of 3 percent. Uganda has one of the youngest populations in the world with 68.5 percent (70.1 percent male, 67 percent female) less than 25 years of age.<sup>9</sup> Adolescents (10-19 years) compose 25.6 percent (26.2 percent male, 25.1 percent female) of the population.<sup>10</sup>



#### Figure I. Map of Uganda<sup>11</sup>

<sup>&</sup>lt;sup>9</sup> Uganda Bureau of Statistics (UBOS), "National Population and Housing Census 2014," (Kampala, Uganda: UBOS, 2016).

<sup>&</sup>lt;sup>10</sup> Ibid.

<sup>&</sup>lt;sup>11</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15," (Kampala, Uganda, and Rockville, Maryland, USA: UBOS and ICF International, 2015).

Uganda has the third highest number of *P. falciparum* malaria infections in sub-Saharan Africa, and accounts for four percent of the total cases of malaria globally (behind Nigeria (29 percent), Democratic Republic of Congo (9 percent), and India (6 percent)). <sup>12</sup> Clinically-diagnosed malaria is the leading cause of morbidity and mortality in Uganda.<sup>13,14</sup> Despite the country's moderate population size, Uganda has some of the highest estimated numbers of malaria-related cases and deaths in sub-Saharan Africa.<sup>15</sup> Malaria is estimated to account for 30-50 percent of health facility outpatient visits, 15-20 percent of hospital admissions, and 20 percent of hospital deaths.<sup>16</sup> Malaria transmission has a stable, perennial transmission pattern in 90 to 95 percent of the country.<sup>17</sup> The most common malaria vectors are *Anopheles gambiae* s.*l.* and *Anopheles funestus*, both of which feed and rest indoors, with peak biting times in the late evening and early morning. Insecticide-treated nets (ITNs) and indoor residual spraying (IRS) are the primary vector control strategies in this context.<sup>18</sup>

The national malaria prevalence is 20.5 percent, with significant variation among regions, ranging from 15 percent in Central 2 region to 27 percent in West Nile region (Chart 1).<sup>19</sup> The malaria prevalence for women and men is 21.2 and 19.8 percent, respectively.<sup>20</sup>





<sup>14</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>19</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>&</sup>lt;sup>12</sup> WHO, "World Malaria Report 2016," (Geneva: World Health Organization, 2016).

<sup>&</sup>lt;sup>13</sup> Uganda Bureau of Statistics (UBOS) and ICF, "Uganda Demographic and Health Survey 2016: Key Indicators Report," (Kampala, Uganda: UBOS, and Rockville Maryland: UBOS and ICF2017).

<sup>15</sup> Ibid.

<sup>&</sup>lt;sup>16</sup> National Malaria Control Programme (NMCP), "Uganda Malaria Reduction Strategic Plan 2014-2020."

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

Uganda has made significant progress on malaria indicators in the last decade (Table I). The percentage of households with at least one ITN increased from 16 to 78 percent between 2006 and 2016.<sup>22</sup> Over the same period, the proportion of pregnant women and children under five sleeping under an ITN grew from 10 percent to 64 percent and 62 percent, respectively.<sup>23</sup>

Indicator	2006	2009	2011	2014-15	2016
	UDHS	UMIS	UDHS	UMIS	UDHS
Percentage of households that own at least one ITN	16%	47%	60%	90%	78%
Proportion of children under five years of age sleeping under an ITN the previous night	10%	33%	43%	74%	62%
Proportion of pregnant women sleeping under an ITN the previous night	10%	44%	47%	75%	64%
Proportion of pregnant women who received at least two doses of IPTp, at least one during ANC	16%	32%	25%	45%	45%
Prevalence of parasitemia (by microscopy) in children 0-59 months	NA	42%	NA	19%	NA
Prevalence of severe anemia in children 6- 59 months (Hb<8 g/dL)	NA	10%	5%	5%	6%
ITN = Insecticide-treated net IPTp = Intermittent preventive treatment (of ANC = Antenatal care	malaria) in p	oregnancy			

Table I. I Togi C33 on malaria mulcator 3 to dat	Table I.	<b>Progress</b>	on	malaria	indicators	to	date
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NA = Not applicable

However, challenges remain. Uganda has one of the highest global fertility rates (6.2 births per woman), making preventing malaria in pregnancy (MIP) a high priority.<sup>24</sup> While the percentage of women receiving antenatal care from a skilled provider for their last birth in the last five years is high (95 percent), only 45 percent of pregnant women received two or more doses (out of the recommended three) of intermittent preventive treatment for malaria in pregnancy (IPTp).<sup>25</sup> The population is also very young, with 51 percent below the age of 15, yet just 62 percent of children aged 5 to 14 years sleep under an ITN. Only 62 percent of households meet the definition of universal ITN coverage.<sup>26,27</sup>

The most recent Uganda Malaria Indicator Survey (UMIS) and Uganda Demographic and Health Survey (UDHS) do not disaggregate malaria data by age or sex in a manner that allows an analysis

<sup>&</sup>lt;sup>22</sup> Uganda Bureau of Statistics (UBOS) and ICF, "Uganda Demographic and Health Survey 2016: Key Indicators Report."

<sup>&</sup>lt;sup>23</sup> İbid.

<sup>&</sup>lt;sup>24</sup> Uganda Bureau of Statistics (UBOS), "National Population and Housing Census 2014."

<sup>&</sup>lt;sup>25</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>&</sup>lt;sup>26</sup> Defined as at least one net for every two persons.

<sup>&</sup>lt;sup>27</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

of youth trends.<sup>28</sup> However, some inferences can be made, such as individuals between the ages of 5 and 34 years are significantly less likely to sleep under an ITN than all other age groups (Table 2).

Age (in years)	Percentage who slept under any net last night	Percentage who slept under an ITN last night	Percentage who slept under an LLIN last night
<5	77.5	74.3	74.2
5-14	64.9	62.4	62.2
15-34	70.I	66.5	66.4
35-49	80.9	77.9	77.8
50+	77.3	74.1	74.1

#### Table 2. Use of mosquito nets by persons in the household<sup>29</sup>

Available statistics on IPTp uptake in women are similarly not broken down by age.<sup>30</sup> However, according to the UMIS (2014-2015), 25 percent of adolescents aged 15-19 years in Uganda have begun childbearing and 19 percent have given birth.<sup>31</sup> Adolescent childbearing is more common in rural than in urban areas in Uganda (27 versus 19 percent, respectively).<sup>32</sup> The proportion of teenagers who have started childbearing decreases with increasing level of education, and teenagers in the lowest wealth quintile tend to begin childbearing earlier than those in the highest quintile (34 versus 15 percent, respectively).<sup>33</sup>

Globally, there are few studies exploring the risk factors and burden of malaria in adolescents, with the exception of pregnant adolescents. This is despite the fact that malaria is the cause of 50 percent of deaths in sub-Saharan African school children.<sup>34,35</sup> There is some evidence from previous studies that younger adolescents are at greater risk than older adolescents due to

<sup>&</sup>lt;sup>28</sup> The age breakdowns available for malaria indicators representing male and female respondents are: less than 5 years, 5-14, 5-34, 35-49, and 50 and above. For data on women only, 15-19 years and 20-24 years are analyzed separately.

<sup>&</sup>lt;sup>29</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>&</sup>lt;sup>30</sup> Ibid.

<sup>&</sup>lt;sup>31</sup> Ibid.

<sup>&</sup>lt;sup>32</sup> Ibid.

<sup>&</sup>lt;sup>33</sup> Uganda Bureau of Statistics (UBOS) and ICF, "Uganda Demographic and Health Survey 2016: Key Indicators Report."

<sup>&</sup>lt;sup>34</sup> D. G. Lalloo, P. Olukoya, and P. Olliaro, "Malaria in Adolescence: Burden of Disease, Consequences, and Opportunities for Intervention," *Lancet Infectious Diseases* 6, no. 12 (2006).

<sup>&</sup>lt;sup>35</sup> V. N. Orish et al., "Adolescent Pregnancy and the Risk of Plasmodium Falciparum Malaria and Anaemia-a Pilot Study from Sekondi-Takoradi Metropolis, Ghana," *Acta Tropica* 123, no. 3 (2012).

immunological and hormonal factors,<sup>36</sup> and that malaria has a negative impact on school performance.<sup>37,38,39</sup>

Existing government frameworks include strong references to youth engagement in health policies and programs. The Uganda Malaria Reduction Strategic Plan (UMRSP, 2014-2020) proposes to mobilize youth by engaging them in activities that seek to reduce malaria morbidity and related mortality and bring about sustainable social and individual behavior change.<sup>40</sup> Through the strategic engagement of school pupils, the UMRSP proposes to build champions that promote malaria intervention messages and act as change agents at home and among peers.<sup>41</sup> The Health Sector Development Plan (HSDP, 2016-2020) supports the engagement and mobilization of youth by promoting good nutrition and sexual and reproductive health education in schools and communities.<sup>42</sup> By linking the community to the formal health service and through community outreach, which includes hosting radio programs and family activities, the HSDP aims to successfully engage youth.<sup>43</sup> The National Strategy to End Child Marriage and Teen Pregnancy focuses on community mobilization, sensitization and raising awareness about the rights of women and children.<sup>44</sup> Proposed program interventions have taken the form of mass media campaigns (print and electronic media); music, dance and drama; provision of sexual reproductive health information; support of girl's education; equipping girls with vocational training skills; increased access to micro finance;, and capacity building in financial literacy, which have not been assessed at this juncture. Lastly, the recently renewed Uganda National Youth Policy 2016, and the National Youth Council Act, Cap 319, establish youth council structures from village to national level to provide channels through which youth can consolidate their role in national development in the economic, social, cultural and educational fields.<sup>45</sup> Youth councils are meant to promote and provide a unified and integrated system through which youth can communicate and consolidate their ideas and activities.<sup>46</sup>

#### 2.2 Study description

From February to March 2017, the project conducted a youth analysis to identify the age-related challenges and constraints that may hinder the project's goals and activities, and to identify the

<sup>&</sup>lt;sup>36</sup> Lalloo, Olukoya, and Olliaro, "Malaria in Adolescence: Burden of Disease, Consequences, and Opportunities for Intervention."

<sup>&</sup>lt;sup>37</sup> N. King, C. Dewey, and D. Borish, "Determinants of Primary School Non-Enrollment and Absenteeism: Results from a Retrospective, Convergent Mixed Methods, Cohort Study in Rural Western Kenya," *Plos One* 10, no. 9 (2015).

<sup>&</sup>lt;sup>38</sup> D. A. P. Bundy et al., "What Should Schools Do About Malaria?," *Parasitology Today* 16, no. 5 (2000).

<sup>&</sup>lt;sup>39</sup> A. W. Al Serouri et al., "Impact of Asymptomatic Malaria Parasitaemia on Cognitive Function and School Achievement of Schoolchildren in the Yemen Republic," *Parasitology* 121 (2000).

 <sup>&</sup>lt;sup>40</sup> National Malaria Control Programme (NMCP), "Uganda Malaria Reduction Strategic Plan 2014-2020."
 <sup>41</sup> Ibid.

<sup>&</sup>lt;sup>42</sup> Ministry of Health (Uganda), "Health Sector Development Plan 2014/15-2019/20," (Kampala, Uganda: Ministry of Health, 2014).

<sup>&</sup>lt;sup>43</sup> Ibid.

<sup>&</sup>lt;sup>44</sup> Ministry of Gender Labour and Social Development (MoGLSD) (Uganda), "The National Strategy to End Child Marriage and Teenage Pregnancy 2014/15-2019/2020," (Kampala, Uganda: MoGLSD, 2015).

<sup>&</sup>lt;sup>45</sup> "Uganda National Youth Policy," (Kampala, Uganda: MoGLSD, 2016).

possible differential effects of the project on male and female youth with an emphasis on those aged 10-19 years. The youth analysis sought to answer the following questions:

- 1. Are there any laws, policies and institutional practices with implicit or explicit age biases that could potentially affect youths' ability to participate in the project or access affordable high-quality malaria prevention, diagnosis and treatment services?
- 2. How do existing age-related norms and cultural beliefs affect malaria prevention-, diagnosis-, and treatment-related behaviors of youth?
- 3. How does the relative status of youth, including decision-making patterns, in families, communities, and the country influence the ability of youth to access resources related to malaria prevention, diagnosis and treatment?

The analysis was conducted in six districts across three regions using a purposive sampling strategy. In each of the study regions, two districts were selected, representing one urban and one rural population group. Among the study districts, Arua had the largest population at 782,077, while Koboko had the smallest population at 206,495 (Table 3).

Region	District	Rural/Urban	Male	Female	Total population	Estimated no. of young people (10- 19 y)
West Nile	Koboko	Rural	102,529	103,966	206,495	52,863
	Arua	Urban	376,953	405,124	782,077	200,212
Central	Mukono	Urban	297,154	299,650	596,804	152,782
	Buikwe	Rural	212,827	209,944	422,771	108,229
Mid-West	Kasese	Urban	339455	355537	694,992	177,918
	Bundibugyo	Rural	108,766	115,621	224,387	57,443

#### Table 3. Total population by sex in youth analysis study districts<sup>47</sup>

<sup>&</sup>lt;sup>47</sup> Uganda Bureau of Statistics (UBOS), "National Population and Housing Census 2014."

### 3. METHODOLOGY

#### 3.1 Analytic framework

The Positive Youth Development (PYD) measurement framework<sup>48</sup> was used to structure the study's design, implementation and analysis. The PYD framework recognizes youth as resources to their communities when they are actively engaged; empowered with the necessary knowledge, skills and tools; and given a safe space to contribute their ideas and energy. It identifies four domains that are integral to achieving healthy, productive and engaged youth: Agency, Contribution, Assets, and Enabling Environment (Figure 2). Hinson et al.<sup>49</sup> define the domains as follows:

- Assets: Youth have the necessary resources, skills and competencies to achieve desired outcomes.
- Agency: Youth perceive and have the ability to employ their assets and aspirations to make or influence their own decisions about their lives and set their own goals, as well as to act upon those decisions in order to achieve desired outcomes.
- Contribution: Youth are engaged as a source of change for their own and for their communities' positive development.
- Enabling environment: Youth are surrounded by an environment that develops and supports their assets, agency, access to services, and opportunities, and strengthens their ability to avoid risks and to stay safe, secure, and be protected and live without fear of violence or retribution. An enabling environment encourages and recognizes youth, while promoting their social and emotional competence to thrive. The term "environment" should be interpreted broadly and includes: social (e.g., relationships with peers and adults), normative (e.g., attitudes, norms and beliefs), structural (e.g., laws, policies, programs, services, and systems) and physical (e.g., safe, supportive spaces).

 <sup>&</sup>lt;sup>48</sup> Hinson et al., "Measuring Positive Youth Development Toolkit: A Guide for Implementers of Youth Programs," (Washington, DC: YouthPower Learning, Making Cents International, 2016).
 <sup>49</sup> Ibid.



#### Figure 2. Positive Youth Development Measurement Framework<sup>50</sup>

#### 3.2 Study process

#### 3.2.1 Desk review

A rapid desk review was conducted to identify key issues related to youth vulnerability to malaria, and barriers to malaria prevention, diagnosis and treatment. A targeted literature search in Medline (OVID interface) and Web of Science was conducted to identify peer-reviewed articles with an emphasis placed on identifying studies conducted in Uganda or the East African region. The results from USAID's Malaria Action Program for Districts Gender Analysis Report<sup>51</sup> and a series of workshops on positive youth development conducted in Uganda with project partners in September 2017 were also used to inform the youth analysis.

Quantitative data concerning the patterns of malaria infection and control in Uganda by sex and age were summarized from existing resources, including the 2014-15 Uganda Malaria Indicator

<sup>50</sup> Ibid.

<sup>&</sup>lt;sup>51</sup> USAID, "Usaid's Malaria Action Program for Districts: Gender Analysis Report," (Washington, DC: USAID, 2017).

Survey, the 2011 Uganda Demographic and Health Survey, and the Uganda Demographic and Health Indicator Survey 2016: Key Indicators Report. <sup>52,53,54</sup>

#### 3.2.2 Fieldwork

The youth analysis was conducted using qualitative methods that included key informant interviews (KIIs) and focus group discussions (FGDs) in six districts in the West Nile (Arua and Koboko), Mid-western (Kasese and Bundibugyo), and Central (Mukono and Buikwe) regions. A semi-structured interview guide was used in all KIIs and FGDs (see Annex A). The primary target population was female and male youth aged 10-19 years. To capture youth input, 42 FGDs were planned at the community level (seven per district):

- I. In-school girls, 10-14 years
- 2. In-school girls, 15-19 years
- 3. Out-of-school girls, 12-17 years
- 4. Young mothers and pregnant adolescents, 15-19 years
- 5. In-school boys, 10-14 years
- 6. In-school boys, 15-19 years
- 7. Out-of-school boys, 12-17 years

Further, KIIs and FGDs were held with district health teams, district-level political representatives, health center staff and management, sub-county officials, local councils, village health teams, teachers, and parents of youth. At the national level, key informant interviews were conducted with project staff, representatives from the national government, international and national non-governmental organizations, and United Nations organizations (see Annex B for a full list of interviewees at national and district levels).

The research team consisted of one international youth specialist, the project gender and youth specialist, one national researcher, and two national youth researchers (one male and one female). The inclusion of two youth researchers ensured that youth perspectives were incorporated in the study's design, implementation and analysis, and strengthened the team's ability to engage with youth stakeholders. By doing so, the team also modeled for stakeholders how youth can be involved in the development of programs. The research protocol required two research team members to be present during each KII and FGD. One member was responsible for conducting the interview or focus group, and the other was responsible for note-taking. In the few instances where only one team member was present, the session was audio-recorded to ensure key observations were not lost.

#### 3.2.3 Data analysis

Team members prepared detailed, typed summaries for all KIIs/FGDs. An international consultant reviewed all KII and FGD records to identify common themes and patterns, as well as any significant outliers, and prepared a narrative summary of the findings. The research team members

<sup>&</sup>lt;sup>52</sup> UBOS, Uganda Malaria Indicator Survey, 2015.

<sup>&</sup>lt;sup>53</sup> UBOS, Uganda Demographic and Health Survey, 2017.

<sup>&</sup>lt;sup>54</sup> UBOS, Uganda Demographic and Health Survey, 2012.

provided additional input on common themes, patterns and outliers, identified illustrative examples and case studies, and identified program opportunities, constraints and recommendations.

#### 3.2.4 Strengths and limitations

The research team worked closely with the project's regional offices and district health teams to effectively mobilize study participants at the community level. The use of standardized interview guides and data collection tools helped to ensure consistency across interviews and focus groups. Interviews were conducted until data saturation<sup>55</sup> was reached. Study findings were highly consistent across geographic regions, and aligned with the findings of the project's gender analysis that was conducted in six separate districts in January-February 2017.

The main challenges encountered were mobilizing a sufficient cross-section of youth to participate in focus group discussions and securing interviews with selected key informants, but this occurred in only a few instances. To overcome such challenges, the research team worked with local authorities to reach out to targeted key informants and to engage youth. Field work also began at the same time as the launch of the universal coverage campaign for LLINs which limited the availability of NMCP staff for interviews. In the end, the research team conducted 39 of the planned 42 youth FGDs, and 47 of the planned 50 KIIs. Finally, while the data analysis was disaggregated by sex, the level of effort required to conduct a systematic age-disaggregated analysis (10-14 years vs 15-19 years) was beyond the scope of the current report.

<sup>&</sup>lt;sup>55</sup> Theoretical saturation of data in qualitative research means that researchers reach a point in their analysis of data that sampling more data will not lead to more information related to their research questions.

### 4. RESULTS

#### 4.1 Malaria prevention

#### 4.1.1 Intermittent preventive treatment in pregnancy

One-quarter of Ugandan girls between the ages of 15 and 19 years have begun childbearing.<sup>56</sup> Pregnant women and girls are more susceptible to malaria due to their weaker immune status.<sup>57</sup> Malaria in pregnancy is associated with adverse outcomes including miscarriage, low birth weight, and maternal anaemia.<sup>58</sup> The Government of Uganda has adopted a three-pronged approach to preventing and treating malaria in pregnancy: (1) increasing ITN use, (2) providing three or more doses of IPTp through ANC, and (3) effective clinical case management for malaria infection.<sup>59</sup>

Statistics on the uptake of IPTp by adolescent girls are not available. According to the UMIS (2014-2015), only 15.3 percent of women aged 15-19 years are aware of SP/Fansidar as a medicine that can be given to pregnant women to avoid getting malaria.<sup>60</sup> This is significantly lower than other age groups (e.g., 41.5 percent for women aged 20-24 years, and 56.8 percent for women aged 25-29 years).<sup>61</sup> In comparison, mothers less than 20 years of age have comparable rates of receiving antenatal care from a skilled provider as mothers aged 20-34 years (97.3 and 97.6 percent, respectively).<sup>62</sup> Yet, statistics show that only 45 percent of women who attend ANC received two or more doses (out of the recommended three) of IPTp to prevent malaria in pregnancy.<sup>63</sup> It may be assumed that this rate is even lower in adolescent girls given their decreased awareness of SP/Fansidar as a method for preventing malaria in pregnancy.

The consequences of malaria in adolescent pregnancies are especially severe. For example, in Tanzania, pregnant adolescents were found to have higher levels of parasite prevalence, and a 1.4-fold increased risk of low birth weight compared to adult women.<sup>64</sup> These findings point to the critical need to prioritize preventing malaria in adolescent pregnancies for the successful control of malaria in pregnancy in Uganda.

#### Stigma and discrimination

The current study explored the reasons adolescent girls may skip or delay consistent ANC attendance, affecting their access to, and uptake of, three or more doses of IPTp. Approximately

<sup>&</sup>lt;sup>56</sup> Uganda Bureau of Statistics (UBOS) and ICF, "Uganda Demographic and Health Survey 2016: Key Indicators Report."

<sup>&</sup>lt;sup>57</sup> National Malaria Control Programme (NMCP), "Uganda Malaria Reduction Strategic Plan 2014-2020."

<sup>&</sup>lt;sup>58</sup> World Health Organization and Roll Back Malaria Partnership, "Gender, Health, and Malaria," (Geneva: WHO, 2007).

<sup>&</sup>lt;sup>59</sup> National Malaria Control Programme (NMCP), "Uganda Malaria Reduction Strategic Plan 2014-2020."

<sup>&</sup>lt;sup>60</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>61</sup> Ibid.

<sup>&</sup>lt;sup>62</sup> Uganda Bureau of Statistics (UBOS) and ICF, "Uganda Demographic and Health Survey 2016: Key Indicators Report."

<sup>&</sup>lt;sup>63</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>&</sup>lt;sup>64</sup> U. U. Wort, M. Warsame, and B. J. Brabin, "Birth Outcomes in Adolescent Pregnancy in an Area with Intense Malaria Transmission in Tanzania," *Acta Obstetricia Et Gynecologica Scandinavica* 85, no. 8 (2006).

half of young mothers who were interviewed reported challenges in accessing antenatal care, with the most challenges reported in Koboko district. The most prominent barrier to ANC reported by young mothers was the fear of stigma and discrimination by health workers, parents and community members. Pregnancy at a young age is considered taboo in Ugandan culture.<sup>65</sup> Pregnant adolescents can face discriminatory attitudes and treatment by health workers, which several adolescents expressed in focus group discussions:

"[Pregnant] girls go for ANC but late because of fear to be seen. They fear nurses because some nurses are harsh. They may say 'You stupid lady, why did you conceive?' and may not attend to [the girl] because they are perceived as useless, and adding on to the already [heavy workload] of the health workers."

~ Out-of-school adolescent girl, Koboko district

"It's an abomination to get pregnant young. Because of fear for a youth to do something wrong about herself, you discipline a bit e.g. by beating, some give them to men who have impregnated them. Such youth may fear and fail to get access to malaria treatment. We sensitize parents of pregnant adolescents to forgive them." ~ Health workers, Mukono district

Pregnant adolescents can also face discriminatory behavior, and even abuse, from parents or other community members. Because of this, they will often delay attending ANC to keep their pregnancy a secret as long as possible.

"An adolescent who gets pregnant can be punished by a mother and may not be helped to access services because access is determined by the parents. Such delays in seeking treatment can lead to miscarriages."

~ District health team, Buikwe district

The project's gender analysis that preceded the youth analysis found that Ugandan women and girls are restricted in their access to ANC and IPTp for many of the same reasons.<sup>66</sup> A study of the experiences of pregnant adolescents in Uganda found that girls face domestic physical violence and psychological abuse from parents, partners and the community.<sup>67</sup> Health workers were also found to be rude and unsympathetic, which contributed to delayed health-seeking.<sup>68</sup> Similarly, another Ugandan study found that pregnant adolescent girls were the group least likely to use ANC due to stigma and the negative attitudes of health workers.<sup>69</sup>

<sup>&</sup>lt;sup>65</sup> Guttmacher Institute, "Unintended Pregnancy and Abortion in Uganda," in *Series 2013* (Washington, DC: Guttmacher Institute, 2013).

<sup>&</sup>lt;sup>66</sup> USAID, "Usaid's Malaria Action Program for Districts: Gender Analysis Report."

<sup>&</sup>lt;sup>67</sup> L. Atuyambe et al., "Experiences of Pregnant Adolescents--Voices from Wakiso District, Uganda," *African Health Sciences* 5, no. 4 (2005).

<sup>&</sup>lt;sup>68</sup> Atuyambe L, Mirembe F, Johansson A, Kirumira EK, Faxelid E. Experiences of pregnant adolescents--voices from Wakiso district, Uganda. *African Health Sciences* 2005; **5**(4): 304-9.

<sup>&</sup>lt;sup>69</sup> Mbonye AK, Neema S, Magnussen P. Preventing malaria in pregnancy: a study of perceptions and policy implications in Mukono district, Uganda. *Health Policy and Planning* 2006; **21**(1): 17-26.

#### National policies

Further, adolescent girls reported delays in attending and receiving antenatal care if they did not have a husband or partner to accompany them to the health facility. To encourage men's engagement in ANC, the Ministry of Health implemented a national policy requiring men to accompany women to their first ANC visit. As an incentive, couples who attend together are prioritized for service. While well-intentioned, the policy's implementation has led to some unintended negative consequences, including acting as a barrier to ANC and IPTp uptake for some women and girls. Adolescent girls reported health workers denying or delaying care because they were not accompanied by their partners.

"When you have just gotten pregnant you may fear to go to the hospital. You may go and they ask for your husband so it's hard especially when someone impregnated you and they ran away. Or even denied the pregnancy. You may fear to go to the hospital." ~ Young mothers, Bundibugyo district

In Koboko district, young mothers reported that they were required to obtain letters from the local council to access antenatal care without their partners.

"Some husbands deny [the pregnancy], and it is hard going for ANC. Some men run away after impregnating girls yet both are needed at health facilities. After delivering, we get challenges of finding clothes for the child. [Health workers] refuse to work on us at health facilities without our husbands, unless we get letters from the local council chairman."

~ Young mothers, Koboko district

A group of young mothers who were interviewed in Kasese district reported that they do not need to ask permission from their husbands to attend the health clinic. However, problems arise for them because health workers expect their husbands to accompany them.

"We think the problem is because health facilities ask us to go with our husbands whom we have to convince, otherwise permission is not required."

~ Young mothers, Kasese district

A national law prohibiting sex with a person under the age of 18 years acts as a further deterrent to ANC attendance by adolescent girls. The defilement law,<sup>70</sup> as it is commonly called, is intended to prevent child marriage and teenage pregnancy, but it can also discourage underage girls from attending ANC if they fear their partners will be arrested.

One-quarter of district-level officials who were interviewed acknowledged that requiring male partner attendance at the first ANC visit discourages pregnant adolescents from seeking care. Evidence from a recent gender analysis conducted by the project found that some men with

<sup>&</sup>lt;sup>70</sup> "Acts Supplement No. 4," The Uganda Gazette No. 43 C (2007).

underage partners will avoid attending ANC, or actively discourage their partners' attendance, to avoid questions from health workers.<sup>71</sup>

#### Limited access to and control of resources

Respondents reported that financial constraints restrict ANC attendance by limiting adolescent girls' ability to purchase drugs and maternity ware. While publicly-funded health care is free in Uganda, drug and supplies shortages in public health facilities often require Ugandans to pay for medical supplies, drugs or services in private clinics and drug shops.<sup>72</sup> Previous research has found that adult women in Uganda often face difficulties in accessing health care due to their limited access to and control over resources.<sup>73</sup> However, the situation is likely worse for adolescent girls who are less likely to have their own sources of income compared to adult women, and are more likely to be without a husband as a source of financial assistance.<sup>74</sup> While 20 percent of girls aged 15-19 years are either married or cohabitating, 25 percent have begun childbearing.<sup>75</sup> Thus, more adolescent girls are pregnant than married, and likely face difficulties in obtaining sufficient financial resources to access health care.

Further compounding the problem is parents reported reluctance to support pregnant adolescents because they expect her partner or husband to take financial responsibility for the pregnancy. When he does not do so, either due to poverty or neglect, an adolescent girl has few other options to obtain the resources necessary to attend ANC.

"Parents don't support pregnant adolescents because they expect their husbands to support them, but the husband may be poor. Some husbands just run away to avoid responsibility."

~ Health workers, Koboko district

Adolescent girls can also face financial challenges when health workers demand payment for services, despite such requests being illegal. In Kasese district, young mothers reported health workers asking for payment before providing services. They also reported health workers denying services to clients who they believe do not have the resources to pay.

"Sometimes nurses make us wait at a health facility and some ask us for money before working on us. After giving birth, we are asked to buy detergent, and they ask us to add 10,000/= for health workers. Some nurses say, 'Maybe this one has no money,' and they may not attend to you."

~ Young mothers, Kasese district

<sup>&</sup>lt;sup>71</sup> USAID, "USAID's Malaria Action Program for Districts: Gender Analysis Report."

<sup>&</sup>lt;sup>72</sup> Ibid.

<sup>&</sup>lt;sup>73</sup> Ibid.

 <sup>&</sup>lt;sup>74</sup> N. M. Nour, "Health Consequences of Child Marriage in Africa," *Emerging Infectious Diseases* 12, no. 11 (2006).
 <sup>75</sup> Uganda Bureau of Statistics (UBOS) and ICF, "Uganda Demographic and Health Survey 2016: Key Indicators Report."

#### 4.1.2 Improving access to and use of long-lasting insecticide treated nets

The Government of Uganda's policy is to achieve universal coverage<sup>76</sup> with LLINs<sup>77</sup> for the whole population.<sup>78</sup> The main distribution channels are mass distribution campaigns, and antenatal care and routine immunization programs that target pregnant women and children under five years of age. The latest mass distribution campaign was launched in January 2017. As of 2016, 78.4 percent of households have at least one ITN, and 51.1 percent of households have at least one ITN for every two persons.<sup>79</sup>

Data on youth access to, and use of, ITNs are limited beyond what is collected as part of the Demographic and Health Survey (DHS) Program, which is focused primarily on women of reproductive age (15-49 years) and children under five. The data that are available largely relate to levels of knowledge and awareness rather than access and use of ITNs. For example, according to the UMIS (2014-2015), the percentage of adolescent girls (15-19 years) who are aware that sleeping under a mosquito net can protect against malaria is high (93.4 percent)<sup>80</sup> (Table 4),<sup>81</sup> but ITN use by adolescent girls does not necessarily reflect this high level of knowledge, illustrating that knowledge alone is insufficient to influence behavior. The same report details that individuals between the ages of 5 and 34 years are significantly less likely to sleep under an ITN than all other age groups.<sup>82</sup> The Government of Uganda's policy of universal coverage of ITNs aims to improve these rates, but this study's findings suggest that more specific strategies are needed to improve access and use for youth.

Age (in years)	Percentage who say there are ways to avoid getting malaria	Percentage who report sleeping under a mosquito net or ITN as a specific way to avoid getting malaria <sup>84</sup>
15-19	95.1	93.4
20-24	94.6	96.5
25-29	95.6	95.1
30-34	94.6	94.7
35-39	95.2	92.4
40-44	94.8	91.7

Table 7. Knowieuge of ways to avoid maiaria among women i j-17 years	Table 4. Knowledge of	ways to avoid	malaria among	women 15-49	years <sup>83</sup>
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<sup>76</sup> Universal coverage is defined as one net for every two persons.

<sup>77</sup> Long-last insecticide treated nets (LLINs) are a type of insecticide treated bed net (ITN). For the purposes of this report, we use the term ITN to encompass LLINs and ITNs.

<sup>78</sup> National Malaria Control Programme (NMCP), "Uganda Malaria Reduction Strategic Plan 2014-2020."

<sup>79</sup>Most recent data available is Uganda Bureau of Statistics (UBOS) and ICF, "Uganda Demographic and Health Survey 2016: Key Indicators Report."

<sup>80</sup> Similar data are not available for boys, nor for younger age groups.

<sup>81</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>&</sup>lt;sup>82</sup> Ibid.

<sup>&</sup>lt;sup>83</sup> Ibid.

<sup>&</sup>lt;sup>84</sup> Among women aged 15-49 years who say there are ways to avoid getting malaria.

Lack of prioritization for limited numbers of ITNs

Study respondents reported that youth are not prioritized for ITN use in the household because the priority is placed on protecting pregnant women and children under five years of age. Ministry of Health policies prioritize these two populations for malaria prevention, diagnosis and treatment given their greater susceptibility to infection and greater risk of serious health consequences. Hence, the majority of malaria awareness-raising efforts to date have emphasized this point. Study respondents shared their views that younger children benefit more from government ITN programs than youth.

"It is good for young ones with the government program now, but it is a big problem for youths. It is a big problem [for them] to get nets."

~ Parents of youth, Koboko district

Respondents further reported that youth are less likely to be allocated an ITN when the household has insufficient numbers, which was often the case.

"Parents are responsible for getting nets except for child- or youth-headed homes. In a home with limited nets, youth will tend to be neglected."

~ Sub-county officials, Arua district

Sharing ITNs among siblings is common, according to youth respondents. Female youth who were interviewed reported sharing with their sisters, mothers or younger male siblings. Similarly, male youth reported sharing nets with their brothers. Young mothers reported sharing with their husbands, if married, and their children. Youth explained that sharing is necessary because there are not enough nets or beds for all household members, requiring people to share. In some cases, multiple children can sleep under one net.

"VHTs<sup>85</sup> give nets for households and for us we sleep in groups and bed nets are not enough. They normally give like two nets for a household. They give one to all of us (youth) and then take one for dad and mum and baby."

~ Adolescent girls, out-of-school, Koboko district

"Even in villages, children can sleep four or five in one mosquito net." ~ Adolescent girls, in-school, Kasese district

"Yes, all of us sleep under bed nets. Not everyone has their own net. I share with my brother."

~ Adolescent boy, in-school, Kasese district

<sup>&</sup>lt;sup>85</sup> Village health teams (VHTs) are volunteer community health extension workers who are given basic training on major health programs so that they can in turn mobilise and sensitize communities to actively participate in utilizing the available health services.

Literature shows that co-sleeping<sup>86</sup> among adolescents in sub-Sahara Africa is common. A study of bed-net use in Central Kenya found that large, rectangular nets which could cover more people were preferred by survey participants because co-sleeping is common.<sup>87</sup> A 2014 study on intrahousehold allocation of bed nets in Uganda found that households prioritized pregnant women and infants, as they were the most susceptible to malaria, and that they were less concerned about older children, stating, "They are also young but can resist malaria, unlike the young one who is very vulnerable to malaria."<sup>88</sup> In the 17 households interviewed, children between the ages of 5 and 14 were the population with the smallest percent of net usage.<sup>89</sup>

#### Youth resistance to ITN use

Approximately half of the parents interviewed said that they encourage all family members to use ITNs. However, parents reported difficulties in convincing adolescents to sleep under an ITN.

"Some who have children ensure they always [use a] net. Adolescents sleep in their own way without a net."

~ Parents of youth, Arua district

Teachers reported facing similar problems when trying to promote ITN use in schools. They reported children refusing to use nets, or failing to bring them to school, as required by school policy.

"We spray dormitories and encourage the use of bed nets. Though it is mandatory to come with a net, some fail to buy, others keep them, and others claim it makes them hot."

~ Teachers, Mukono district

"The issue of bed net use is very hard. You can talk about them but ensuring that [youth] access them is not possible."

 $\sim$  Teachers, Buikwe district

The challenges faced by parents and teachers in convincing youth to use ITNs may be due to adolescents' increased tolerance for risk-taking,<sup>90</sup> but further study is needed. Rational decision-making only begins to develop in mid to late adolescence (15-17 years), making it difficult for youth to consider long-term implications of immediate actions.<sup>91</sup>

Pregnant adolescents' access to and use of ITNs

<sup>&</sup>lt;sup>86</sup> Co-sleeping refers to either sleeping in the same bed as another, or in the same room.

<sup>&</sup>lt;sup>87</sup> P. N. Ng'ang'a et al., "Bed Net Use and Associated Factors in a Rice Farming Community in Central Kenya," *Malaria Journal* 8 (2009).

<sup>&</sup>lt;sup>88</sup> Y. Lam et al., "Decision-Making on Intra-Household Allocation of Bed Nets in Uganda: Do Households Prioritize the Most Vulnerable Members?," Ibid.13.

<sup>&</sup>lt;sup>89</sup> Ibid.

<sup>&</sup>lt;sup>90</sup> R. R. Kipping et al., "Multiple Risk Behaviour in Adolescence," *Journal of Public Health* 34 (2012).

<sup>&</sup>lt;sup>91</sup> Global Early Adolescent Study. Publication forthcoming (Oct. 2017) in the Journal of Adolescent Health.

Pregnant adolescents were reported to have better access to ITNs through antenatal care compared to boys who have fewer interactions with the health system. The requirement at all health facilities (as per government policy) is to provide ITNs to all pregnant women and adolescents as part of antenatal care.

"Since malaria mostly affects pregnant women and under five-year-olds, these have been the targeted categories. As soon as any pregnant woman visits a health facility for the first time, she is given IPTp and a bed net."

~ District health team, Buikwe district

However, access to ITNs by pregnant women and adolescents is often limited by supply shortages at health facilities. At some health facilities, such as in Koboko District, it was noted that health workers in the antenatal care units only give ITNs to women and girls who are able to attend at least three ANC visits.

"Pregnant adolescents are given IPTp, and for those who finish their third trimester, we give them a bed net."

~ Health workers, Koboko district<sup>92</sup>

While this is done as a way of encouraging antenatal care uptake, those who cannot attend at least three times are denied ITNs, denying them a critical malaria prevention tool. There are many reasons that women and adolescent girls cannot regularly attend ANC that are out of their control, and instituting attendance requirements to receive ITNs is disempowering and increases the risk of infection as protection is only provided late in the pregnancy.

Access to ITNs may be higher for pregnant adolescents, but this does not necessarily translate into increased use. About half of young mothers who were interviewed reported having access to ITNs, though less than half reported using them. Young mothers also reported regularly sharing ITNs with their children, husband or sister. One third of young mothers said they do not have enough ITNs for all family members.

Previous research has found that the views of adults and youth may differ on youth ITN use preferences. The project's gender analysis found that while parents and other adults view youth as "difficult" and "lazy" when it comes to protecting themselves from malaria, the majority of male and female adolescents who were interviewed said they would sleep under an ITN if one was available.<sup>93</sup> In Malawi, a study of school-aged children (5-15 years) found that they were significantly less likely than the rest of the population to use a net when households have an insufficient number to meet universal coverage criteria, and that children aged 11-15 years were

<sup>&</sup>lt;sup>92</sup> MAPD has taken these barriers into consideration in the design of work plans, and these changes are reflected in ongoing activities. For example, in Year 3, MAPD plans to provide targeted technical assistance for the provision of youth-friendly services and outreach in health facilities.

<sup>&</sup>lt;sup>93</sup> USAID, "Usaid's Malaria Action Program for Districts: Gender Analysis Report."

significantly less like to use nets than children aged 5-10 years.<sup>94</sup> In addition, youth may be perceived by adults to be more capable of protecting themselves, and therefore be expected to obtain and maintain their own ITNs without adult support.<sup>95</sup> These findings point to the nuances behind ITN access and use by youth that need to be further explored given the paucity of studies conducted on the subject to date.

There is an urgent need for more research into youth attitudes and practices regarding ITN access and use, especially for boys. The data available through the DHS suggest that individuals aged 5-34 years are less likely to sleep under an ITN, with only 29 percent of youth between the ages of 5-14 and 35 percent of youth aged 15-34 sleeping under an ITN. More research is needed to understand why. Existing data show that a high proportion of girls aged 15-19 years are aware of ITN use as an effective malaria prevention method, but this study suggests that this high level of awareness does not translate into a similarly high prevalence of ITN use. Adolescent girls may have greater access to ITNs than boys through ANC, but efforts are needed to ensure that adolescent girls receive ITNs at the beginning of antenatal care, and not as a reward for regular ANC attendance. Adolescent girls may also benefit from current SBCC campaigns that prioritize women and children for ITN use, especially when supplies are limited. With the switch to a policy of universal coverage, SBCC campaigns need to adapt their messaging to promote ITN use for all household members.

#### 4.1.3 Malaria knowledge and education

Globally, data about youth malaria knowledge and education are sparse.<sup>96</sup> Data from the 2015 Malaria Indicator Survey show that a common source of malaria messaging in Uganda is mass media. Among women aged 15-19 years who had seen or heard any malaria messaging in the six months preceding the survey, 82.5 percent had done so through radio, 18.8 percent through television, and 20.5 percent through posters or billboards.<sup>97</sup> Community health workers and community events were a source for 29.4 percent and 14.9 percent, respectively. The rates were similar across all age groups (Table 5). Data are not available for men and boys, representing a significant information gap. Previous studies point to schools as a valuable source of knowledge on malaria prevention and treatment for school-aged children<sup>98</sup>. The Uganda Malaria Reduction Strategic Plan identifies the strategic engagement of school pupils to champion malaria intervention messages and act as change agents at home and among peers.<sup>97</sup>

<sup>&</sup>lt;sup>94</sup> A. G. Buchwald et al., "Bed Net Use among School-Aged Children after a Universal Bed Net Campaign in Malawi," *Malaria Journal* 15 (2016).

<sup>&</sup>lt;sup>95</sup> Y. Lam et al., "Decision-Making on Intra-Household Allocation of Bed Nets in Uganda: Do Households Prioritize the Most Vulnerable Members?," Ibid.13.

<sup>&</sup>lt;sup>96</sup> J. Nankabirwa et al., "Malaria in School-Age Children in Africa: An Increasingly Important Challenge," *Tropical Medicine & International Health* 19, no. 11 (2014).

<sup>&</sup>lt;sup>97</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

<sup>&</sup>lt;sup>98</sup> Nankabirwa et al., "Malaria in School-Age Children in Africa: An Increasingly Important Challenge."

<sup>&</sup>lt;sup>99</sup> National Malaria Control Programme (NMCP), "Uganda Malaria Reduction Strategic Plan 2014-2020."

Age (in years)	Percentage who have seen or heard a message about malaria in the past 6 months	Number of women	Radio	Television	Poster or billboard	Community health worker	Community event	Any other source
15-19	60.1	1,228	82.5	18.8	20.5	29.4	14.9	29.5
20-24	65.1	1,132	83.5	21.9	26.5	32.4	15.4	22.6
25-29	66.5	957	77.5	20.6	21.1	34.6	15.7	26.5
30-34	64.4	741	81.0	17.2	20.3	35.6	19.0	24.6
35-39	63.4	547	82.0	19.6	20.4	37.0	22.6	20.4
40-44	66.4	425	85.0	13.4	16.8	36.1	16.8	21.8
45-49	60.7	292	87.2	9.5	15.8	40.2	18.9	20.5

#### Table 5. Exposure to malaria messages, women aged 15-49<sup>100</sup>

#### Levels of knowledge and awareness

This study found that youth have a good knowledge level of causes and prevention methods of malaria, though common misconceptions within the age group do exist. Most youth respondents identified mosquitos, lack of ITN use, and the presence of stagnant water and overgrown bushes as causes of malaria. However, incorrect causes related to water and sanitation and personal hygiene practices, such as drinking unclean water, leaving food uncovered, and not handwashing, were also often cited as causes of malaria. The most common prevention methods mentioned were: sleeping under an ITN, draining stagnant water, clearing bushes, removing broken bottles, drinking boiled water, maintaining daily personal hygiene, washing hands after using the latrine, treating illness early, spraying insecticide, not eating contaminated food, washing dishes/utensils, cleaning latrines, and taking medications. This shows there is some confusion between water and sanitation concerns and malaria prevention methods. A few respondents mentioned closing doors and windows early, and burning mosquito coils as useful preventive measures. In Kasese district, girls in- and out-of-school identified playing in the rain, exposure to wind, and eating raw mangoes as ways of contracting malaria. These myths may exist because mango season corresponds to higher levels of precipitation, and a higher incidence of malaria.

"Mosquitoes bite if you don't sleep in a bed net and may transmit malaria. Not boiled water causes malaria. Staying outside for long hours when there is a cold wind can cause malaria. Playing in stagnant water and the wind can bring the flu leading to malaria. If you go to the garden and the rain falls on you a lot, you may get [malaria]. Eating raw mangoes causes malaria."

~ Adolescent girls, out-of-school, Kasese district

<sup>&</sup>lt;sup>100</sup> Uganda Bureau of Statistics and ICF International, "Uganda Malaria Indicator Survey 2014-15."

Behavior change communication messaging should place an emphasis on dispelling myths related to malaria prevention, such as mangoes and rain as causes of malaria, and to address confusion between personal hygiene practices and malaria prevention methods.<sup>101</sup>

#### Information sources

The most common sources of information on malaria identified by youth were school or teachers (78 percent of FGDs), parents (63 percent of FGDs), and health workers or health facilities (63 percent of FGDs) (Table 6). When participants are sub-divided into in-school youth, out-of-school youth, and young mothers, teachers or schools remain the most common source of knowledge for in- and out-of-school youth, while health workers / health facilities are the most common for young mothers (80 percent of young mother FGDs). Mass media, including radio, television, posters and advertisements were the fourth highest cited information source (28 percent of FGDs).

"Those working in health centers give us information. At times, they do some sensitization and mobilization and provide information. We also get information from VHTs, from adverts on radios, from posters about malaria, from chairpersons of local councils, and in school during studies."

~ Adolescent girls, out-of-school, Koboko district

Out-of-school youth identified school as their most common source of malaria information despite no longer being in regular attendance. Thus, malaria education before adolescence (and before children leave school) may play a critical role in malaria education and awareness-raising. Further research is needed to explore the apparent contradiction between pregnant adolescents' reluctance to attend health facilities for antenatal care, and the prominent role health facilities play as information sources for young mothers. A possible explanation is that young mothers eventually increase their interactions with the health system to seek care for their children once they are born. Young mothers were the only group to not identify VHTs as a source of knowledge on malaria, despite the VHT mandate to provide integrated malaria services for children under five. Most young mother focus groups (80 percent) identified health facilities, antenatal care, and hospitals as their main sources of information. Young mothers in Kasese district reported that they have people in their communities that monitor personal hygiene, which may be a reference to VHTs. It may be that VHTs are present in communities, but are not providing malaria education as part of their services. Young mothers in Buikwe district said they do not have VHTs in their communities.

"[You can prevent malaria by] sleeping under a bed net, taking boiled water, draining stagnant water, covering food, clearing bushes around homes. We learnt them from schools, by World Vision workers, our parents, and at health facilities they teach us about these things. We don't see VHTs in communities and we don't know them." ~ Young mothers, Buikwe district

<sup>&</sup>lt;sup>101</sup> This finding has influenced MAPD's gender and youth work, specifically the development of gender and youth talking points to dispel malaria-related myths among girls and boys as well as among men and women.

Given the challenges to health facility attendance described earlier in the section regarding the prevention of malaria in pregnancy, more effort is needed to provide malaria education and awareness to young mothers through VHTs and other channels such as radio and community outreach.

Source	In-school	Out-of-school	Young	Total
	youth	youth	mothers	(N = 40)
	(N = 24)	(N = 11)	(N = 5)	No. of
	No. of groups	No. of groups	No. of groups	groups
	(%)	(%)	(%)	(%)
School/teachers	19 (79%)	10 (91%)	2 (40%)	31 (78%)
Parents	18 (75%)	5 (45%)	2 (40%)	25 (63%)
Health workers/health	15 (63%)	6 (55%)	4 (80%)	25 (63%)
center/hospital/clinic				
Radio/TV/poster	4 (17%)	7 (64%)	0	11 (28%)
VHTs	4 (17%)	3 (27%)	0	7 (18%)
Siblings	4 (17%)	2 (18%)	0	6 (15%)
Health workers who visit the	2 (8%)	2 (18%)	0	4 (10%)
school				
Local leaders	3 (13%)	l (9%)	0	4 (10%)
ITN mass distribution campaign	l (4%)	0	I (20%)	2 (5%)
NGO / "visitors" to the community	l (4%)	0	I (20%)	2 (5%)
Community counsellor	l (4%)	l (9%)	0	2 (5%)
Friends	l (4%)	0	0	l (3%)
Drug shop	l (4%)	0	0	l (3%)
Other relative	l (4%)	0	0	I (3%)
Neighbor	0	l (9%)	0	I (3%)
Youth club	0	l (9%)	0	l (3%)

Table 6. Number a	Ind percentage	of focus grou	p discussions	that mentione	ed a
specific source of k	nowledge				

In contrast, mass media was the most often sited preferred source of information by youth. Youth gave the examples of posters with friendly pictures, road side advertisements, and radio and televisions spots as preferred mass media sources. Youth also identified health facilities, their parents, and peers.

"The best way to reach youth with information is to sensitize through radio, and through posters when we have enough time to stop and look at them. They should have pictures to attract our attention."

~ Adolescent girls, out-of-school, Koboko district

#### In-school malaria education

Uganda's current education system structure is a four-tier model, and it has been in existence since 1963. It consists of seven years of primary education, followed by a four-year cycle of lower secondary and a two-year cycle of upper secondary, after which there are two to five years of tertiary education. There is also a two-year pre-primary stage of education attended by 3-5 year-olds before joining primary school. Malaria education is taught in primary school, but not in

secondary school. According to the Ministry of Education and Sports, 60 percent of boys and 63 percent of girls complete primary school in Uganda.<sup>102</sup>

Table 7. Sex-disaggregated primary school survival rate for Ogandan students						
Level of education	Survival rate (%) - Boys	Survival rate (%) - Girls				
Up to grade 5	59.9	63.3				
Up to grade 7	31.7	32.3				
Completion of grade 7	59.7	63.4				

Table 7. Sex-disaggregated primary school survival rate for Ugandan students<sup>103</sup>

Identified sources of information on malaria in schools included science teachers, school clubs, visiting health workers, the school nurse, and the school curriculum.

"Clubs teach us how to talk without fear, and how to give good guidance. We discuss about malaria in the anti-AIDS club and the debate club." ~ Adolescent girls, in-school, Buikwe district<sup>104</sup>

The health sector provides some support to schools for the provision of malaria education. Health workers reported providing malaria prevention information and other support at schools, but the frequency is ad-hoc and not consistent across districts. Only 10 percent of adolescent focus groups mentioned health worker visits to schools as a source of malaria information. District health teams reported they do not oversee health services provided by health workers in schools, nor any other in-school health-related education activities.

"At times, we do school health programs when we are informed by a school. For those out of school, we usually provide them with condoms. VHTs inform us on what youth want."

~ Health workers, Mukono district

"All in all, health education in schools is very weak and barely supported. We don't coordinate with schools, but maybe some schools partner with [nearby] medical facilities."

~ District Health Team, Buikwe district

"There is no connection between the school, the [District Health Officer's] office and the health workers in the health centers."

~ District Health Team, Kasese district<sup>105</sup>

<sup>103</sup> Ibid.

<sup>&</sup>lt;sup>102</sup> Ministry of Education and Sports, "Education and Sports Sector Fact Sheet 2002-2016," http://www.education.go.ug/files/downloads/FACT%20%20%20SHEET%202016.pdf.

<sup>&</sup>lt;sup>104</sup> MAPD is supporting and enhancing the existing clubs, including school-based clubs, to implement malaria-related activities, specifically those under school-based net distribution and accompanying SBCC activities.

<sup>&</sup>lt;sup>105</sup> This finding has influenced MAPD's recommendations, including #7.
Strengthening collaboration between national and district health and education authorities offers an opportunity to reach youth with malaria prevention messaging. Greater involvement by health authorities in the provision of health education activities in schools will help to ensure accurate and consistent messaging on malaria prevention, as well as help to strengthen the relationship between youth and the health system by providing opportunities for youth and health workers to interact. This may encourage youth attendance at health facilities if they have already established trusting relationships with health workers in their communities.

Other studies in Tanzania and Ethiopia have similarly found that school children's knowledge of the causes of malaria is high,<sup>106,107</sup> even though comprehensive malaria messaging is often not included in school texts.<sup>108</sup> The most recent UMIS (2014-2015) found that the most common sources of malaria messages for women aged 15-19 years were radio (82.5 percent) followed by community health workers (29.4 percent), and posters (20.5 percent). Similarly, a study of school children in Tanzania identified mass media, such as radio and television, as primary malaria information sources.<sup>109</sup> Ugandan youth in this study articulated a preference for messaging via mass media, but a majority did not identify a relevant mass media message as a current information source. 55 percent of Ugandan households report radio as their main source of information (not malaria-specific), followed by word of mouth (20 percent), according to the 2014 National Population and Housing Census.<sup>110</sup> This may indicate an absence of malaria messaging via radio, and a potential opportunity to scale up malaria prevention and treatment messaging via radio, family members and peers in Ugandan youth.

### 4.2 Malaria diagnosis and treatment

### 4.2.1 Treatment-seeking behavior

### Self-medicating behaviors

Youth respondents all expressed a clear understanding of the seriousness of malaria infection, and the importance of obtaining treatment in a timely manner. However, their decision to seek treatment at a health facility is influenced by various factors, notwithstanding parental guidance/permission. Youth's expectations regarding the availability and affordability of anti-malarial treatment at public health facilities affects their decision to obtain health care. Most youth reported drug stock-outs as a significant barrier to health care. Consequently, the behavioral pattern that was consistently expressed by male and female youth was to first self-medicate with

<sup>&</sup>lt;sup>106</sup> F. Edson and E. J. Kayombo, "Knowledge on Malaria Transmission and Its Prevention among Schoolchildren in Kyela District, South-Western Tanzania," *Tanzania Health Research Bulletin* 9, no. 3 (2007).

<sup>&</sup>lt;sup>107</sup> Y Debela, Z Birhanu, and Y Kebede, "Malaria Related Knowledge and Child to Parent Communication Regarding Prevention and Control of Malaria among Primary School Students in Jimma Zone, South West Ethiopia," *American Journal of Health Research* 2, no. 5 (2014).

<sup>&</sup>lt;sup>108</sup>D. Nonaka et al., "Content Analysis of Primary and Secondary School Textbooks Regarding Malaria Control: A Multi-Country Study," *Plos One* 7, no. 5 (2012).

<sup>&</sup>lt;sup>109</sup> D Sumari et al., "Knowledge, Attitudes and Practices on Malaria in Relation to Its Transmission among Primary School Children lin Bagamoyo District, Tanzania," *Malaria World Journal* 7, no. 2 (2016).

<sup>&</sup>lt;sup>110</sup> Uganda Bureau of Statistics (UBOS), "National Population and Housing Census 2014."

medications available at home, such as Panadol,<sup>111</sup> Coartem,<sup>112</sup> and herbal medicines. If their condition does not improve, they then attend a health facility or hospital.

"Some parents give drugs kept in the house first. Some give us herbs and they are helpful."

~ Adolescent girls, in-school, Buikwe district

"Like at our home, when any of us get sick, we first take medicine like Coartem that is in the house. At times things are brought from the nearby clinic or that would have remained from someone's previous treatment."

~ Adolescent girl, in-school, Bundibugyo district<sup>113</sup>

"If my parents were not at home and I felt sick with malaria I would go to a drug store. I would borrow money to pay for drugs."

~ Adolescent boy, in-school, Kasese district

The reasons behind this approach are rooted in poverty and the poor quality of health services in public health facilities. Youth repeatedly reported being forced to purchase medications at drug shops or private clinics because public health facilities had no supplies. Many also reported long queues for services, or health workers prioritizing patients who can pay for services despite government policy that stipulates the free provision of health care in public facilities. Thus, to youth, it makes more sense to first attempt self-treatment or to buy medication from local drug shops or herbalists before making the effort to go to a health facility, which often requires additional time and resources for transport, where they may not receive the treatment they need.

"You may not be able to afford the bills at a health facility, and [health workers] will not attend to you. Public health facilities may test your blood, check your pressure, give you Panadol, and [recommend] other drugs to buy, yet [you have] no money." ~ Adolescent girls, out-of-school, Kasese district

"No, we are not able to get malaria prevention and treatment services in our community. Many times, we go to the health center and we are told there are no drugs. So, we use herbs."

~ Adolescent boys, out-of-school, Arua district

"VHTs have to advise youth when drugs are to be bought. However, youth lack the money to buy them."

~ Local council members and VHTs, Koboko district

<sup>&</sup>lt;sup>111</sup> Panadol, a brand name for paracetamol (also known as acetaminophen), is a medication used to treat pain and fever. It is typically used for mild to moderate pain.

<sup>&</sup>lt;sup>112</sup> Coartem is a prescription medication used to treat acute uncomplicated malaria infections due to Plasmodium falciparum in adults and children who weigh at least 11 pounds (5 kg).

<sup>&</sup>lt;sup>113</sup> MAPD is hoping to address self-medicating behaviors through SBCC interventions; this is reflected in recommendations #6, 8, 10.

Youth also reported concerns about the services they receive in the private sector, including receiving expired medications, incorrect prescriptions, and insufficient doses. Youth attributed the receipt of expired or incorrect medications to poor training of health workers in private clinics. They reported that the receipt of insufficient doses is due to private clinics only providing enough medication based on a patient's ability to pay instead of their medical need.

"Drugs are expired so they can't cure malaria, especially in private drug shops." ~ Adolescent boys, out-of-school, Buikwe district

"You can get medicine expired already... You may fail to find drugs or there is a lack of enough medicine. You may get medicine which you are not supposed to take due to poorly skilled nurses in [private] clinics and lack of blood testing."

~ Adolescent girls, in-school, Kasese district

### Traditional medicines and drug abuse

The use of traditional medicines to treat malaria symptoms was repeatedly raised by youth. Female youth were more likely to say they would use herbal treatments before attending a health facility. Out of the 22 female youth focus groups that were held, 16 FGDs (73 percent) mentioned herbal treatments as a first step. In comparison, only seven of 17 male FGDs (41 percent) identified herbs as a form of treatment. A systematic review of the use of traditional medicines among African women found traditional medicines are widely used by African women for maternal and reproductive health issues due to lack of access to the mainstream maternity care.<sup>114</sup> A similar lack of access to malaria care may explain women's and girls' reliance on traditional medicine to treat malaria as well. Similarly, a study of adolescent health-seeking during pregnancy and early motherhood in Uganda found that adolescent girls mostly utilize the traditional sector for health care because it is most accessible in terms of distance, cost and cultural context.<sup>115</sup>

On the other hand, boys reported the use of illicit drugs to treat malaria. Out-of-school boys in Arua district identified using mairungi<sup>116</sup> as helpful in relieving malaria symptoms. According to youth respondents, the drug is readily accessible in the district, compared to anti-malarial treatments.

"Many times, we go to the health center and we are told there are not drugs. So, we use herbs. When you use mairungi, malaria goes away. When you are feeling cold and you take mairungi, the fever goes away and when you stop, malaria comes back so you have to take more. Mairungi will make malaria hide but it will come back." ~ Adolescent boys, out-of-school, Arua district

 <sup>&</sup>lt;sup>114</sup> Z. Shewamene, T. Dune, and C. A. Smith, "The Use of Traditional Medicine in Maternity Care among African Women in Africa and the Diaspora: A Systematic Review," *Bmc Complementary and Alternative Medicine* 17 (2017).
 <sup>115</sup> L. Atuyambe et al., "Seeking Safety and Empathy: Adolescent Health Seeking Behavior During Pregnancy and Early Motherhood in Central Uganda," *Journal of Adolescence* 32, no. 4 (2009).

<sup>&</sup>lt;sup>116</sup> Mairungi, or khat, is a flowering plant native to the Horn of Africa and the Arabian Peninsula. It is used as a stimulant and it is a controlled substance in many countries. The World Health Organization (WHO) has classified it as a drug of abuse.

Health workers in Arua and Koboko districts both reported drug abuse as a serious issue facing youth, especially boys, with implications for malaria treatment. They reported that youth will use illicit drugs to self-medicate either due to their addiction which causes them to buy illicit drugs instead of seeking treatment, or because it is the only option available when anti-malarial drugs are out of stock.

"Drug addiction [is a problem] because all the money [youth] get they use to buy drugs instead of buying drugs for malaria."

~ Local council members and VHTs, Arua district

"Youth are more into drug abuse... They even say that their drugs will cure them."  $\sim$  Health workers, Koboko district

The reliance on self-treatment by male youth may be explained by gender norms that equate illness with personal weakness in men and boys. Youth, health workers and local leaders reported that male youth only visit a health facility for treatment as a last resort because to be seen at a health facility is believed to be a sign of weakness. Similar findings concerning poor treatment-seeking among men and boys were reported in the project's gender analysis report.<sup>117</sup> Cultural definitions of masculinity delay men and boys from seeking health care because they fear being perceived as weak.

"When you get sick, it is assumed that it is your responsibility as a male. As a result, boys feel they have to show they are strong, translating to poor health-seeking behavior."

~ Local official, Arua district

Adults reported that youth do not complete treatment regimens because they do not like to take medications, but youth rarely reported this to be an issue. The reasons for this discrepancy are unclear and further research is needed to determine whether the problem is due to a dislike of medications or an inability to complete a treatment regimen because of insufficient drug supplies, an inability to afford the necessary quantity of medication, or a desire to save unused medications for future bouts of illness.

"As far as Coartem is concerned, you know that children don't like taking drugs. There is poor adherence sometimes, and parents send children back to school without taking them back to health facilities. Some children just refuse drugs; some take herbs." ~ Teachers, Mukono district

"We health workers are supposed to provide full doses, but youth do not complete them. When they come to a health facility, they may say that they have [already] swallowed the medicine, or they got lost last time, when they return for treatment." ~ Health workers, Koboko district

<sup>&</sup>lt;sup>117</sup> USAID, "Usaid's Malaria Action Program for Districts: Gender Analysis Report."

### Parental support

Youth reported that they commonly sought and received financial and other forms of support from their parents, neighbors and relatives when they are ill. Further, they reported that they can borrow money from neighbors or relatives if their parents are away, and that they can also rely on friends and neighbors to help them get to a hospital when they are sick. Thus, there is evidence of a support network that is available to youth.

"When my parents are not at home, I can call for help from neighbors to take me for treatment."

~ Adolescent boys, in-school, Bundibugyo district

"I go to the neighbor to ask her to lend me some money and I buy some drugs from the clinic and when [my mother] comes back, we can refund the money." ~Adolescent girl, in-school, Kasese district

Most youth reported that boys and girls receive the same level of care at home, though a minority did report that they believed girls receive preferential treatment. Two reasons for this were given. The first was because of the unfounded cultural perception that girls are biologically weaker than boys and in more need of care. The second was because girls are perceived to be more valuable to the household because they assist with chores, care for the sick, etc. Parents of adolescents reported they do not treat boys and girls differently when it comes to health care. The extent to which care and treatment are provided along gender lines requires further study.

"Yes, boys and girls are cared for differently because they are not the same sex. Girls get more care because girls are not as strong as boys."

~ Adolescent boys, in-school, Bundibugyo district

"My brother is stronger than me so he is more likely not to receive enough [care], but girls are weak. They would get enough care."

~ Adolescent girl, in-school, Arua district

"I am given first priority because I can easily help my parents [compared to] my brother, especially when it comes to house chores."

~ Adolescent girl, in-school, Kasese district

These results demonstrate the challenges of instilling health-promoting behaviors in youth, given they are neither "old children" nor "young adults."<sup>118</sup> Youth propensity for risk-taking, their desire to assert their independence from adults, and their inability to consider the long-term consequences of their actions all point to the importance of designing malaria prevention programs that emphasis shorter-term planning and the use of peer role models to encourage positive behavior change. Equally important is the adults' (including parents and service providers)

<sup>&</sup>lt;sup>118</sup> "Global Accelerated Action for the Health of Adolescents (Aa-Ha!): Guidance to Support Country Implementation," (Geneva: World Health Organization, 2017).

understanding of youth, their practices, and the reasons behind these practices so as to inform their strategies to meaningfully engage youth.

### 4.2.2 Youth-friendly services

According to the Government of Uganda's Adolescent Health Policy Guidelines and Service Standards,<sup>119</sup> adolescent-friendly services shall be:

- I. affordable, accessible, available, appropriate, attractive and welcoming to young people;
- 2. should observe the needs and rights of the young people; and
- 3. offered in facilities which observe confidentiality and infection prevention.

The guidelines list the components of adolescent-friendly health services as including:

- Clinical care for sexual and gender-based violence
- Prenatal care and maternity care for pregnant adolescents
- Human papilloma virus (HPV) immunization
- HIV counseling and testing
- Breast examination and information on cervical cancer
- Information and counselling on health, especially growth and development
- Information on adolescents' rights and responsibilities
- Referral and follow-up

The guidelines do not explicitly mention malaria as a component of adolescent-friendly services.

#### Service availability

Most district health teams and health centers reported that they provide youth-friendly services at health facilities, but not for malaria specifically. Identified services include immunization for meningitis, HPV, and hepatitis B; HIV counselling and testing; sexual and reproductive health (SRH) services; and prevention and treatment of sexually-transmitted infections (STIs). Malaria services were reported to be targeted at the general population, with an emphasis on pregnant women and children under five due to their increased vulnerability. However, where youthfriendly services are available, youth can access care for malaria, but the priority is placed on SRH services. This is likely due to both the demand by youth for SRH services, and a focus on addressing the sexual and reproductive health and rights of adolescents in the Adolescent Health Policy Guidelines and Service Standards.

"For the youth, there are no [malaria services] unless they are pregnant. But we target them with SRH, youth-friendly services such as youth clubs at the health facility level, and we equip them with skills."

~ District health team, Buikwe district

<sup>&</sup>lt;sup>119</sup> Ministry of Health (Uganda), "Adolescent Health Policy Guidelines and Service Standards," (Kampala, Uganda: Ministry of Health, 2012).

"Where there are [youth-]friendly services here, you find [youth] going. Health workers are also not trained in segregation of services; they are trained to offer general services."

~ District health team, Kasese district

Respondents reported that youth-friendly corners, designed to protect patient privacy, largely target female youth whom they perceive to be more hesitant to use health services without the provision of a safe space separate from men and boys. These findings suggest that boys' desire for privacy, given their tendency to delay health care to avoid being perceived as weak, may be overlooked.

"Youth-friendly corners mainly focus on girls who may not easily open up to men. This has been a gap, but trainings are being done for service providers to provide segregated services for male and female youth."

~ District health team, Bundibugyo district

#### Resource challenges

The greatest barrier to implementing youth-friendly services in public health facilities identified by district health teams and health workers was a lack of resources, including the number and training of personnel, and infrastructure. Most health worker respondents recognized the need for youth corners to protect youth privacy, but they reported a lack of resources for their effective establishment and staffing. It was very common for volunteers to oversee youth programs, and for district health teams and health workers to report a lack of resources to implement activities that will attract youth, such as television, games and sports activities.

"Youth are accessing services... We are thinking of creating youth-friendly services in facilities so that they can access easily services, though this calls for more resources in terms of infrastructure, and personnel wages and skills."

~ District health team, Koboko district

"Youth need entertainment, e.g. ball games, Scrabble, Ludo, which we don't have. Sometimes they watch TV in the ANC clinic."

~ Health workers, Arua district

District health teams frequently reported that they did once have successful youth-friendly programs that were externally-funded by donors and non-governmental organizations, but the programs were forced to close once external funding ended, indicating that sustainability is an important consideration for future youth programming.

"Sometime back we had a project that included youth-friendly services which was attracting more youth. When the project closed, youth [stopped coming]." ~ District health team, Koboko district

#### District-level youth-friendly training and capacity

Few district health teams and health workers reported receiving training in the provision of youth-friendly services. The exceptions were Arua and Mukono districts. The district health team

in Arua district reported training health workers to provide youth-friendly services, and included exit interviews for youth who attended youth-friendly corners at health facilities to improve service provision. Health workers in Mukono district reported that two staff members had received training, but one had since been transferred to another facility. Health workers who were interviewed in Bundibugyo district expressed a desire to receive youth-friendly service training.

Some health workers expressed disparaging views of youth, such as labelling them 'lazy,' to explain their poor treatment-seeking behavior. Such views may reflect a lack of sensitivity on the part of health workers to the complexity behind youth behaviors, needs and motivations when it comes to accessing health care.

"Cases of late coming among youth are common. Youth are the laziest people. They are degenerated in their minds. [They] always say that, 'I will make it,' and they never do it. Even during meningitis infections, they were coming late."

~ Health workers, Koboko district

"[Male youth] are impatient and may not want to go through a long procedure at a public health facility."

~ Health workers, Arua district

Health workers reported that their medical training included strategies for targeting women of reproductive age and children under five, but not for youth. Health workers expressed frustration with the Ministry of Health and implementing partners, who they reported often speak about the importance of youth-friendly corners and the provision of youth-friendly services, but provide little guidance on how to implement the relevant policies. The MAPD Gender and Youth team has designed a series of activities to launch in Year 3 to address this gap. These include youth community dialogues, targeted technical assistance to health facilities, and the revitalization of a youth corner in the West Nile or Rwenzori region.

District health teams reported being aware of, but not having copies of, the revised 2016 National Youth Policy. Youth leaders who were interviewed were also unaware of the revised guidelines. Further, none of the district health teams who were interviewed referenced the Adolescent Health Policy Guidelines and Service Standards as a guidance document for their youth-related programming.

### NGO-led initiatives

Most district health teams and health workers pointed to youth-friendly health services provided by NGOs in their districts, including Médécins Sans Frontières (MSF) (Kasese district), World Vision (Buikwe district), The AIDS Support Organization (TASO) (Bundibugyo and Mukono districts), and the Uganda Health Marketing Group (UHMG) (Koboko district). These services are primarily focused on SRH and HIV.

"Young pregnant women are attended to and sent to the youth-friendly center supported by TASO. We encourage them to visit ANC; deliver [at] a facility." ~ Health workers. Mukono district "Now [tuberculosis] is becoming rampant, so we are targeting youth in outreaches as well. We partner with MSF which provides youth-friendly services like [tuberculosis] and HIV."

~ Health workers, Kasese district

Youth also spoke favorably about the youth-friendly services provided by NGOs because of the youth activities offered and the high quality of services. They reported that even though the youth program may not focus on malaria, they can access treatment if they are sick.

"We have a health center called [Médécins Sans Frontières] which is an NGO. They have different games for youth. They even paint our nails. Even if you are not sick they give you Albendazole.<sup>120</sup> But if you are sick, they give you free drugs. But they mainly don't talk about malaria, but sexual reproductive health and rights. But if you go there when you have malaria they treat you."

~ Adolescent girl, out-of-school, Kasese district

### Youth engagement and outreach

District health teams and health workers who were interviewed reported it was difficult to attract youth to health facilities. In addition to the lack of personnel, poor infrastructure, and entertainment facilities needed to provide youth-friendly services, the hours of operation of health facilities were identified as a challenge. Facilities were often reported to be closed on weekends or in the evenings, when it is more convenient for youth to attend.

"Young people access services late, on certain weekends and in the evening. They prefer using technology."

~District health team, Arua district

It was rare for district health teams and health workers to report including youth in program planning or implementation. An exception was Arua district. One form of youth engagement that they have adopted is the conducting of exit interviews with youth who attend youth corners at health facilities. Youth are also engaged as peer educators.

"The youth are engaged. Their concerns are taken into consideration even at the health facility. Though some concerns tend to be ambitious [compared to] what we can provide. Youth receive training and talks from people who are trained in youth-friendly services. We conduct exit interviews for youth who visit the health center." ~ District health team, Arua district

In Buikwe district, youth champions are engaged to encourage their peers to visit health facilities. The champions are elected by their peers and they participate in most of the youth-friendly services and programmes organized by the district, including outreach.

<sup>&</sup>lt;sup>120</sup> Albendazole is a medication used for the treatment of a variety of parasitic worm infestations, and is commonly used in low- and middle-income countries as part of mass deworming campaigns in children and youth.

Some health facilities described innovations they employ to engage youth, such as organizing ball games and card games, and engaging peer educators to give health talks. By attracting youth for social purposes, they can then engage them in a dialogue on health issues that are important to them. Where possible, health facilities engage youth volunteers to lead these activities. In addition, some district health officials reported working through local councils and the youth chairperson to encourage youth attendance at health facilities. Local council members and VHTs who were interviewed were often able to identify existing youth leaders and youth-focused programs that are present in their communities, though none were focused on malaria. However, the existence of youth programs in many communities presents an opportunity to engage youth and encourage their attendance at health facilities for malaria services.

"We try to target [youth] but we don't find it easy. We try to involve local leaders to mobilize youth to come. We use VHTs and Local Council I members. We have started some games which attract youth to the health facility. They play here and we talk to them to not fear health services. It is staff-initiated and is led by a youth chairperson in the sub-county."

~ Health workers, Koboko district

### Health care access in schools

As with malaria prevention, youth in school likely have better access to malaria treatment compared to out-of-school youth. Most in-school youth who were interviewed reported the ability to see a school nurse or visit a sick bay at school where they receive care, including antimalarial medication when it is available. If the illness is serious, youth are sent to a health facility for treatment and then home to recover.

"At school, they check and give you treatment. In the sick bay, they treat you for two days. When you don't get cured they call your parents. If you're too sick, they take you to the health facility and your parents pay."

~ Adolescent girl, in-school, Mukono district

However, shortages of drugs and qualified staff also plague the health services provided through schools. School nurses often fill multiple roles, and may not have proper medical training.

"We get treatment services at school, but the medicine is not enough. While at school, we go to the school nurse to get medicine. She has three roles: she is a teacher, nurse and school canteen attendant at the same time."

~ Adolescent boys, in-school, Bundibugyo district

District health teams reported that they do not provide oversight of the medical care that is provided by school nurses. The only links that exist between the public health system and school health services occur when schools partner with nearby health facilities, but this is dependent on the individual school or health facility to make an effort to forge a partnership. In Kasese district, the district health team reported that health facilities are responsible for supervising schools within their catchment area, but the DHT does not provide oversight.

"Some of the schools around partner with nearby health facilities for treatment. Those with school nurses or teachers in charge of treatment are not monitored by the DHT." ~ District health team, Buikwe district

Some youth reported receiving treatment quickly when they attend health facilities wearing their school uniform. District health authorities confirmed this practice.

"At the health center, they serve old people first and attend to young people last, even when they are the first in the queue. However, when you are wearing a school uniform, they will serve you first."

~ In-school boys, 15-19 years, Arua district

"Youth in uniform are prioritized, or those with a referral letter from matrons or the senior woman teacher. We plan to have age-segregated consultation rooms to allow young ones to open up."

~ District health team, Kasese district

Other research confirms the finding that Uganda has a strong youth-friendly policy framework, but that implementation and dissemination remain the primary challenges.<sup>121</sup> Research by the International Youth Foundation identified barriers to youth-friendly services for Ugandan youth, including: requiring partner approval for services for married youth, and prohibitive costs of services and transportation.<sup>122</sup>

 <sup>&</sup>lt;sup>121</sup> International Youth Foundation (IYF), "Navigating Challenges. charting Hope. A Cross-Sector Situation Analysis of Youth in Uganda," (Baltimore, Maryland: IYF, 2011).
 <sup>122</sup> Ibid.

# 5. CONCLUSION

There is a growing body of evidence that malaria during adolescence can have many negative repercussions, including decreased school performance and cognitive development, and poorer birth outcomes compared to women in other age groups. USAID's Malaria Action Program for Districts can help to minimize these impacts in Uganda by adopting a youth empowerment approach that acknowledges youth as a population with unique needs and capabilities, and partners with them in the design and implementation of youth-friendly malaria programming in their communities and schools.

While knowledge of malaria causes and prevention methods is high among Ugandan youth, misconceptions remain. Youth behavior and practices do not reflect these high levels of awareness as youth regularly self-medicate and delay obtaining health care because their needs are not met by the health system. Poverty plays a critical role in curtailing youth efforts to prevent and treat malaria. ITN use is limited by insufficient numbers of nets in households, and youth not being considered as a priority population for their use. In-school youth may have better access than out-of-school youth to prevention and treatment, but both require strengthened youthfriendly services in public health facilities to improve health outcomes, including improved monitoring of in-school health services by district health authorities. The youth-friendly services that are provided in public health facilities or through community outreach do not include malaria as a program area, and face severe resource restrictions. Providing gender- and youth-sensitive training to health workers may begin to address some of the supply-related barriers that deter youth from obtaining health care, but the larger challenge of drug shortages in public health facilities dominates the reasons why youth do not seek treatment in a timely manner. Pregnant adolescents have specific needs when it comes to malaria prevention and treatment. Stigma and discrimination by health workers, their families, and community members deter pregnant adolescents from attending antenatal care. Government policies meant to protect adolescent girls act as a further barrier to malaria prevention and treatment services.

Despite these challenges, there is a robust policy framework in place, and examples of successful youth interventions that are already in place for sexual and reproductive health interventions that can be leveraged to provide youth-friendly malaria programs. Most importantly, youth need to be empowered to contribute to the malaria response in their schools, health facilities, and communities. Youth should be leveraged as community change agents by supporting them to lead the design and implementation of malaria prevention and treatment awareness-raising in their schools and communities, and to lead their communities in identifying local needs and responses to reduce the malaria burden. District health teams, health workers, and community leaders and influencers will need to be sensitized to the importance of youth engagement in malaria response, and encouraged to support youth empowerment in this manner.

# 6. RECOMMENDATIONS FOR MAPD

	Gaps	Recommended Actions
	IPTp	
Ι	Stigma, discrimination and, at times, abuse by health workers, parents, and community members deter pregnant adolescents from attending antenatal care, and reduce access to IPTp.	Support district health authorities to equip health workers with skills to provide youth- friendly services, through improved understanding of youth issues surrounding malaria and improved interpersonal communication to reduce instances of discrimination and abuse. Engage youth, particularly those who sit on the District Committees on Adolescent Health, in the design and delivery of the training sessions to encourage dialogue between health workers and youth ( <b>Capacity Building Team</b> ).
		<ul> <li>Integrate youth-friendly skills into existing on-the-job coaching and supportive supervision programs to reduce budget requirements (Capacity Building Team).</li> </ul>
		Work with community leaders and influencers, including youth council members, to raise awareness in the community of the challenges faced by pregnant adolescents in accessing health care, and the importance of IPTp to prevent malaria in pregnancy ( <b>SBCC Team</b> ).
		• Support youth council members to design awareness campaigns under the guidance of health workers. Offer support to cover the costs of materials, equipment, transport and meals.
		Support female youth, especially young mothers and pregnant adolescents, and working with district health authorities, to design an SBCC campaign <sup>123</sup> to increase ANC attendance and IPTp uptake among their peers ( <b>SBCC Team</b> ).

<sup>&</sup>lt;sup>123</sup> For SBCC activities, youth should be encouraged to identify the mediums most effective in reaching their peers, which may include mass media (radio, televisions, billboards, posters), community dramas, school clubs, and sports events. Debate clubs can be a useful forum for addressing myths and misconceptions.

		<ul> <li>Meaningfully engage female youth in the design and delivery of awareness raising campaigns.</li> <li>Create a peer support network of female youth to guide, mentor or support other female youth in their communities. Provide training to peer support network leaders and promote the network at the community level. <sup>124</sup></li> </ul>
2	Government policies to increase male attendance at ANC and to reduce teenage pregnancy and child marriage are barriers to antenatal care for pregnant adolescents.	Raise awareness with the NMCP and Reproductive Health Unit at the Ministry of Health of the unintended, negative consequences of the policies, and support ministry efforts at policy revision or adjustments to implementation ( <b>MIP Team</b> ).
		<ul> <li>Organize a review of the results of the implementation of the policies with health officials. If results are not available, propose to conduct a simple survey or focus group discussions and key informant interviews with health workers at health facilities. Ensure youth through youth councils are part of the process.</li> <li>Document concerns as well as recommendations from health workers at health facilities. Their perspective will be important to improving health worker attitudes and health service quality.</li> </ul>
		Support district health authorities to educate health workers on the negative repercussions of the policies, and support district efforts to adjust policy implementation in a manner that does not obstruct access for female youth. For example, health workers can be sensitized to provide services to pregnant adolescents when their husband or partner does not accompany them. ( <b>MIP Team</b> ).
	LLINs	
3	Households do not have sufficient numbers of LLINs for all household members, and youth are not prioritized for the limited number of nets that are available.	<ul> <li>Support district health authorities to implement an SBCC campaign on the importance of all household members sleeping under an LLIN, including youth (SBCC Team).</li> <li>Build on existing campaigns and ensure youth participation in all aspects of the campaign design, delivery and evaluation. Allow for innovation and diversity based on messaging that youth consider interesting and useful to them.</li> </ul>

<sup>&</sup>lt;sup>124</sup> For peer group activities, skilled youth facilitators will need to be trained to ensure discussions are productive and do not serve to inadvertently promulgate inaccurate or unhelpful information, beliefs, and norms.

	<ul> <li>Ensure that LLINs will be available to meet increased demand created by the campaign (Malarial Technical Team).</li> <li>Involve rural communities to ensure different dialects and community-specific messaging are employed.</li> </ul>
	Explore the possibilities of extending LLINs to secondary school levels ( <b>Malaria Technical Team</b> ).
	Advocate to NMCP to pay particular attention to youth in its future LLIN distribution- related reviews, including the mass distribution campaigns, to understand how youth access to LLINs is addressed, and to identify lessons for future distribution campaigns and the implementation of the universal coverage policy (Monitoring and Evaluation ( <b>M&amp;E) Team</b> ).
	• Organize a youth-led (and adult-guided) assessment of how LLINs are accessed and distributed to youth. Provide a stipend for youth involved in the study.
	Use the planned MAPD LLIN use, care and repair initiatives through community dialogues to include and engage youth and children (through school club activities) ( <b>SBCC and Malaria Technical Teams</b> ).
	Ensure that special consideration is given to adolescent girls' needs when promoting or discussing the net user ratio ( <b>Malaria Technical Team</b> ).
4 LLINs are not consistently available through ANC, or they are given to patients at their last ANC	Support district health authorities to improve the availability of LLINs at health facilities for ANC attendees ( <b>MIP Team</b> ).
appointment.	• Examine the procurement, storage and distribution system at the district level, and identify opportunities for improvement.
	Support district health authorities to provide on-the-job coaching of health workers that includes instructions to provide an LLIN to all women and youth attending ANC at their first appointment. Supervision and performance reviews should support the coaching ( <b>MIP Team</b> ).
	• Examine the distribution system at health centers to determine why (or why not) LLINs are distributed to adolescent girls through ANC and identify opportunities for improvement.

5	There are significant data gaps concerning youth decision-making to use LLINs, especially for boys.	Organize a youth-led (and adult-guided) assessment of youth attitudes and practices regarding LLIN use. Provide a stipend for youth involved in the study ( <b>M&amp;E Team –</b> could be input for forthcoming UMIS).	
		Support male and female youth, working with district health authorities, to design an SBCC campaign to increase LLIN use among their peers ( <b>SBCC Team</b> ).	
		• Organize youth group discussions, panels, and community activities where they can engage in a discussion in a systematic manner. Obtain leadership support from district health teams and local leaders, and publicize the events to grow interest and participation.	
		Support youth leaders to bring together youth in their schools and communities to discuss the challenges they face in protecting themselves from malaria, including LLIN use, and to develop strategies to overcome them ( <b>SBCC Team</b> ).	
		• Organize youth groups, discussions, panels, and school activities in partnership with school leadership. Bring schools together for recreational activities, such as debates, theatre, sports competitions, and video production/competitions, and use these opportunities to organize educational talks, videos, and roundtable discussions within the Mass Action against Malaria (MAAM) framework.	
	Knowledge, education, and outreach		
6	Some youth have misconceptions about malaria's causes and prevention methods.	Support male and female youth, working with district health authorities, to design an SBCC campaign to educate youth on malaria causes and prevention methods, and to dispel common misconceptions. The targeted SBCC activities should go beyond malaria management and consider messaging about fever management. Much as malaria will remain the focus, starting with fevers rather than malaria will make the youth appreciate the fact that not all fevers are malaria, and they could be more willing not to use anti-malarials for all fever episodes ( <b>SBCC Team</b> ).	
7	Malaria education in schools is inconsistent, and not overseen by district health authorities	Support DHMTs to work with District Education Officers (DEOs) to identify ways to improve coordination for improved malaria education in schools. Planned school LLIN distribution activities can be leveraged to also include improvement of both individual and institutional capacity to educate pupils on fevers and malaria.	

		Support schools to incorporate malaria education into school clubs to promote youth dialogue and engender youth leadership on malaria prevention and treatment in schools and at home ( <b>SBCC and Malaria Technical Teams</b> ).
8	Malaria-related community outreach activities do not have specific strategies to engage youth. Youth outreach activities do not consistently include malaria messaging.	Support district health authorities to work with existing organizations conducting youth outreach, including public health facilities, NGOs and youth organizations, to integrate malaria prevention and treatment messages and services ( <b>SBCC Team</b> ).
		Create youth leagues with the MAPD village health clubs and link them to the youth councils so they can oversee and give support to these clubs in order to develop malaria skills among youth.
		Engage youth in SBCC activities to select key influencers, promote youth dialogue, and to identify youth priorities in all health promotion activities.

#### Support male youth, working with district health authorities, to develop an SBCC Gender norms perpetuate the belief among male 9 youth that they can cure themselves through illicit campaign to challenge gender norms that result in delayed treatment-seeking by men drug use or other methods of self-treatment. and boys (SBCC Team). Support male youth in schools and communities to establish and lead peer support groups where they can discuss and challenge local concepts of masculinity and its impact on their health (SBCC Team). 10 Youth will self-medicate through drug shops, use Support youth, working with district health authorities, to develop an SBCC campaign of herbal medicines, illicit drugs, or leftover to promote the "test and treat" strategy among youth. Emphasize the importance of medications in the household before seeking early treatment and adherence to treatment/medication in a youth-friendly manner (SBCC Team). treatment at a health facility. II Adults' disparaging views of youth treatment-See Recommendation #1 seeking habits deter youth from attending health facilities, or affect the quality of care they receive when they do visit. 12 Youths' lack of funds to purchase medication or See Recommendation #3 to pay for transport to health facilities can affect their health care access.

13	Drug shortages in public health facilities deter youth from seeking treatment, and increase their risk of taking expired or incorrect medications, or receiving incomplete treatment regimens through private sector drug shops and clinics.	Link with and share field based information with UHMG, which is responsible for supply chain, so as to identify and address bottlenecks in the delivery of essential medicines, including anti-malarial drugs, to public health facilities ( <b>MIP and Malaria Technical Teams</b> ).
		Build capacity at the local level for ordering and managing drug stocks, and enhance supervision. Monitor stock levels and build the capacity of health workers to manage quantification and requisition of anti-malarial medication.
		Advocate increase of essential medicines and commodities budgets and investments by the government and donors ( <b>MIP and Malaria Technical Teams</b> ).

### Youth-friendly services

14	Strong youth-friendly policies exist, but dissemination and implementation are inconsistent. Malaria is not currently included in the Government of Uganda's Adolescent Health Policy Guidelines and Service Standards.	Support the NMCP to integrate malaria in the next iteration of the Adolescent Health Policy Guidelines and Service Standards. Support NMCP and district health authorities to disseminate the revised guidelines, and to provide training to health workers on its implementation, working in partnership with the Ministry of Labour, Gender and Social Development and district community development officers ( <b>MIP and SBCC Teams</b> ).
15	The delivery of youth-friendly services is severely hampered by a lack of dedicated personnel and financial resources at the district and health facility levels.	Support the establishment of dedicated national and district budgets for the operation of youth-friendly corners in health facilities, and youth outreach in communities.
16	Malaria prevention and treatment are not consistently integrated in existing youth-friendly services.	Support district health authorities to deliver a malaria package in youth-friendly services, as per the revised Adolescent Health Policy Guidelines and Service Standards ( <b>SBCC and Malaria Technical Teams</b> ).
17	In-school treatment services vary by school, and are not monitored by district health authorities.	See Recommendation #7
18	District health authorities and health workers are not trained to design and implement youth- friendly services.	Support district health authorities to build the capacity of district staff and health workers for the provision of youth-friendly services. Engage youth in the design and delivery of capacity building initiatives to encourage dialogue and collaboration between district health authorities and youth ( <b>SBCC Team</b> ).

		Involve youth at all levels of advocacy, including in district health management teams (MIP, SBCC and Malaria Technical Teams).
19	District-level malaria programs do not include youth-specific strategies for social and behavior change communication, or community outreach.	See Recommendations #1, 2, 7-10
20	Malaria data available through routine data Supp systems include data on the youth demographic, but are not analysed separately. There is limited data available on malaria trends in youth. Supp trend mala	Support district health authorities to analyse existing malaria data disaggregated by age (10-14y, 15-19y) and by sex, and to incorporate the findings into district malaria programs ( <b>M&amp;E Team</b> ).
		• Engage women and youth from universities or other learning centers to work in partnership with the Ministry of Health, district health authorities, community-based organizations, and NGOs to generate joint reports using routine data and with strong youth participation.
		Support youth to work with district health authorities to identify data gaps for malaria trends in youth, and to collect and analyse data among their peers to inform district malaria programs ( <b>M&amp;E Team</b> ).
		• Organize internships, study tours to districts, and field visits/surveys with youth participation. Ensure youth have clear roles and responsibilities, and are given equal standing with adults during studies and other activities. Collaboration between adults and youth should be emphasized throughout.

# 7. ADDITIONAL RECOMMENDATIONS

Note, the following recommendations were generated during the youth trainings but are beyond the scope of the MAPD project.

Gaps	Recommended Actions
ІРТр	
Stigma, discrimination, and at times, abuse, by health workers, parents, and community members deter pregnant adolescents from	Involve members of the local youth council, as relevant and appropriate, in the health service provider hiring and training process, including developing interview questions, serving on orientation panels, and organizing youth day events with newly-hired health workers.
attending antenatal care, and reduce access to IPTp.	Establish separate youth-friendly spaces or different days for the provision of youth-friendly services.
	• Support youth council members to design awareness campaigns under the guidance of health workers. Offer support to cover the costs of materials, equipment, transport and meals.
	• Support female youth, especially young mothers and pregnant adolescents, and working with district health authorities, to design an SBCC campaign <sup>125</sup> to increase ANC attendance and IPTp uptake among their peers.
	<ul> <li>Meaningfully engage female youth in the design and delivery of awareness-raising campaigns.</li> </ul>
	• Create a peer support network of female youth to guide, mentor or support other female youth in their communities. Provide training to peer support network leaders and promote the network at the community level. <sup>126</sup>
Government policies to increase male attendance at ANC and to reduce teenage	<ul> <li>Adopt a participatory approach that engages young women through dialogues, workshops, or field trips to identify local solutions to overcome the most common</li> </ul>

<sup>&</sup>lt;sup>125</sup> For SBCC activities, youth should be encouraged to identify the mediums most effective in reaching their peers, which may include mass media (radio, televisions, billboards, posters), community dramas, school clubs, and sports events. Debate clubs can be a useful forum for addressing myths and misconceptions.

<sup>&</sup>lt;sup>126</sup> For peer group activities, skilled youth facilitators will need to be trained to ensure discussions are productive and do not serve to inadvertently promulgate inaccurate or unhelpful information, beliefs, and norms.

pregnancy and child marriage are barriers to antenatal care for pregnant adolescents.	<ul> <li>barriers to health service access. Encourage sharing of experiences and best practices between health facilities.<sup>127</sup></li> <li>Document how the most effective health facilities are implementing government policies regarding pregnant youth.</li> <li>Bring together district health officers to discuss results, share best practices, and visit other districts.</li> </ul>
Pregnant adolescents do not have access to or control over financial resources needed	Explore options for creating an incentives program to encourage ANC attendance by female youth and their partners.
to access ANC.	<ul> <li>Consider providing a small reward or incentive for female youth and their partners when they access ANC. Engage youth in determining the form of the incentive via youth councils or other groups that are representative of young women.</li> <li>Explore establishing an incentive program for youth who participate in family planning services.</li> <li>Consider establishing a matched savings program for young mothers who are involved in an economic activity.</li> </ul>
The delivery of youth-friendly services is severely hampered by a lack of dedicated	Assess the feasibility of creating a youth volunteer network to support current and future CHEWs/VHTs.
personnel and financial resources at the district and health facility levels.	Develop and implement a pilot program to provide targeted technical assistance for the provision of youth-friendly services and outreach in health facilities. Monitor and evaluate the pilot program to measure impact (using MAPD indicators) and implementation/process factors (e.g., feasibility, cost, applicability) to inform scale up and experience sharing.

<sup>&</sup>lt;sup>127</sup> MAPD is launching a series of communications platforms for health facilities to share experiences and best practices.

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# ANNEX A: Work Plan and Interview Guides





## YOUTH ANALYSIS FOR MALARIA ACTION PROGRAM FOR DISTRICTS UGANDA

WORKPLAN

USAID's Malaria Action Program for Districts 42 Youth Analysis

# Introduction

The United States Agency for International Development (USAID) Malaria Action Program for Districts (MAPD) in Uganda, led by London-based non-governmental organization (NGO) Malaria Consortium, will lead support to the Government of Uganda's National Malaria Reduction Strategic Plan, working in partnership with the National Malaria Control Program and District Health Management Teams in 43 focus districts. MAPD will support the implementation of results-driven, field-tested strategies to foster an enabling environment for this district-led program, to further consolidate gains to reduce the prevalence of malaria in Uganda. Banyan Global's role is to examine issues and constraints surrounding malaria treatment and prevention in Uganda for youth and women, and integrate related considerations across all program components.

This document presents a detailed workplan developed by the International Youth Consultant engaged by Banyan Global to carry out a youth analysis and to develop a draft youth action plan with MAPD. The youth analysis will identify barriers that hinder youth from accessing malaria treatment and prevention services in Uganda, and propose solutions to determine how and where action can be taken to remove such obstacles.

# Objective

The overall objective of the youth analysis is to identify age-related challenges and constraints that may hinder MAPD goals and activities, and to identify the possible differential effects of the project on male and female youth.

### **Research Questions**

The research questions are as follows:

- 1) Are there any laws, policies and institutional practices with implicit or explicit age biases that could potentially affect youth's<sup>128</sup> ability to participate in the project or access affordable high-quality malaria prevention, diagnosis and treatment services?
- 2) How do existing age-related norms and cultural beliefs affect malaria prevention-, diagnosis-, and treatment-related behaviors of youth?
- 3) How does the relative status of youth, including decision-making patterns, in families, communities, and the country influence the ability of youth to access resources related to malaria prevention, diagnosis and treatment?

# Application of Positive Youth Development to this Analysis

<sup>&</sup>lt;sup>128</sup> Effects on male and female youth will be considered in the research questions.

This analysis is grounded in "positive youth development" (PYD), a philosophy and an approach that recognizes youth as resources to their communities when actively engaged; empowered with the necessary knowledge, skills, and tools; and given a safe space to contribute their ideas and energy. The framework<sup>129</sup> below captures this vision of healthy, productive and engaged youth, and cuts across all sectors.



To achieve this vision, programs, practices and policies need to engage with youth to strengthen their:

- Assets: Youth have the necessary resources, skills and competencies to achieve desired outcomes.
- Agency: Youth perceive and have the ability to apply their assets and aspirations to make or influence their decisions about their lives and set their own goals; they can also act upon their decisions to achieve desired outcomes.
- **Contribution:** Youth are engaged as a source of change for themselves and their community's positive development.
- **Enabling environment:** Youth are surrounded by an environment that fosters and supports their assets, agency, access to services, opportunities, and strengthens their ability to avoid risks and stay safe, secure, be protected, and live without fear of violence or retribution. Such an environment encourages and recognizes youth, while promoting their social and emotional competence to thrive. The term "environment" is used broadly and includes: social (e.g.,

<sup>&</sup>lt;sup>129</sup> Hinson, L., Kapungu, C., Jessee, C., Skinner, M., Bardini, M. & Evans-Whipp, T. (2016). *Measuring Positive Youth Development Toolkit: A Guide for Implementers of Youth Programs.* Washington, DC: YouthPower Learning, Making Cents International.

relationships with peers and adults), normative (e.g., attitudes, norms and beliefs), structural (e.g., laws, policies, programs, services, and systems) and physical (e.g., safe, supportive spaces).

USAID is increasingly interested in applying this approach and lessons learned, largely based on highincome countries, to its programs in lower- and middle-income countries. Given this interest, PYD will be integrated in this analysis in two ways:

- By involving two national youth (one male and one female) on the research team to ensure youth perspectives are incorporated in the study and strengthen the team's ability to engage with youth stakeholders. By doing so, the team will also model how youth can be involved in development of programs to stakeholders.
- 2. PYD domains relevant to the research will be incorporated into the tool in close consultation with the national team to ensure appropriateness in their adaptation to the study settings and Uganda. Research questions will be tagged with the PYD domains addressed, and analyzed and discussed in the study findings. It should be noted that USAID YouthPower is currently developing and testing tools for conducting youth analysis, and were not available for use by this study. Therefore, what is proposed is based on the International Youth Specialist and Team Lead's experience incorporating the PYD approach in various international settings, including with USAID YouthNet, a global youth reproductive health and HIV prevention project, and consultations with USAID YouthPower.

	National	District/ Sub- county	Community/ household	<b>PYD</b> domains
Are there any laws, policies and institutional practices with implicit or explicit age biases that could potentially affect youth's <sup>130</sup> ability to participate in the project or access affordable high- quality malaria prevention, diagnosis and treatment services?				Enabling environment
How do existing age-related norms and cultural beliefs affect malaria prevention-, diagnosis-, and treatment-related behaviors of youth?				Enabling environment
How does the relative status of youth, including decision-making patterns, in families, communities, and the country influence the ability of youth to access resources related to malaria prevention, diagnosis and treatment?				Enabling environment

### **Research Analysis Tool**

<sup>&</sup>lt;sup>130</sup> Effects on male and female youth will be considered in the research questions.

# Methodology

### Phase I: Desk review

Phase I is comprised of a desk review of key literature to set a solid foundation regarding:

- Main patterns of malaria infection and control in Uganda;
- Factors associated with youth vulnerability to infection and barriers to prevention, diagnosis and treatment services;
- Ugandan policies and frameworks related to youth and malaria;
- USAID and other donors' and multilateral organizations' approaches to malaria, and youth; and
- MAPD project components, implementation strategy, and youth strategy.

The desk review will seek to answer the research questions laid out above, and will be used to inform the development of the interview guides and other related data collection tools. A list of key references to be reviewed is provided in Appendix A.

#### **Phase 2: Key informant interviews**

This phase will include interviews with key stakeholders in Kampala (see draft itinerary in Appendix B), including relevant government officials (political and bureaucratic at the national and district/sub-country levels), UN agencies and multilateral organizations, bilateral donors, youth-serving organizations, academia, civil society organizations, and health sector staff. A preliminary list of stakeholders is provided in Appendix C, which will be finalized in collaboration with MAPD staff.

#### Phase 3: Participatory field assessment

A technical assistance team, including two youth as described above, will conduct the fieldwork for about three weeks in select MAPD regions for their diverse regional characteristics: West Nile, Mid-western, and Central (see draft itinerary in Appendix B). Table I outlines the districts to be visited by region. Two districts per region will be targeted, with select villages to be visited, representing both urban and rural areas. The final selection of districts, sub-counties, and villages to be visited will be made during the first week of key informant interviews in Kampala in coordination with MAPD. Project staff in the regions will facilitate access to communities, and negotiate with community leaders to mobilize community members and youth to participate in focus group discussions.

Region	Regional Office	Districts
	Location	
West Nile	Arua	Arua
		Koboko
Mid-western	Kabarole	Kasese
		Bundibugyo
Central	Kampala	Buikwe
		Mukono

8.1.1.1	Table 1.	Regions	and	implementation	districts to	o be	visited
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Key Informant Interviews. Key informant interviews will be held with district and sub-country health center in-charges, health center management committees, health workers, village health teams, community

development officers responsible for youth, selected political representatives (including the district secretary for health, youth, and women's council representatives), teachers, and community leaders.

Focus Group Discussions. Separate sessions will be held for parents/guardians and youth (segmented by age and sex, between ages 10-19). Each session will include 6-10 participants, and run one to two hours. Participants will be mobilized to participate by MAPD regional offices' connections with district and subcounty representatives.

These exercises will assist in identifying how youth's status in their family and community affect their access to the different roles, responsibilities, and time use, with a focus on tasks related to malaria prevention and treatment, and who has access to and control over the resources needed for and produced by these activities. Community focus groups will promote inclusive facilitation techniques and safe-spaces approaches to ensure youth, and persons with disabilities or representatives of other vulnerable groups, are able to actively engage in discussions. We will employ experienced Ugandan facilitators who are sensitive to cultural norms and the need to create a safe-space where participants have sufficient time and space to gather their thoughts and contribute to discussions. Interviews will be conducted in spaces for youth to freely share their ideas in single sex peer groups, including young mothers and pregnant adolescents. Settings will be selected to prevent others from the community from listening to or participating in their discussions. Expectations and the purpose of the session will be clarified with participants, and informed consent obtained for taking notes, audio recording, or photography of the sessions.

#### **Phase 4: Analysis and recommendations**

#### Data Collection

Interviews and focus groups will be documented by team members. Individual key informant interview and focus group records will be created, and will include details concerning the date, time and location of the meeting; names, titles, affiliations, and sex of participants; and other demographic data, as appropriate. Community focus group data collection will employ a standardized attendance sheet that will collect data on participants' age, sex, and group in which the person was interviewed.

All interviews and focus groups will employ standardized interview guides (see Appendix D). Semistructured questions for key informant interviews will be used in Kampala, and a computer will be used to take notes when feasible. Dedicated notebooks will be used for taking notes in the field. The team will be given clear directions on expected note-taking techniques and level of detail. Translation services will be engaged, as needed, for community focus group discussions to assist with facilitation and note-taking. Note-takers will have access to digital recordings of the discussions for reference.

#### Data Analysis and Recommendations

Data will be organized and analyzed based on the research questions and methodology outlined in this plan. Every effort will be made to link study findings to existing data and literature to ensure conclusions are evidence-based.

A summary of findings and recommendations will be presented according to the MAPD project components:

- I. Effective malaria prevention programs implemented in support of the National Malaria Control Strategy;
- 2. Effective malaria diagnosis and treatment activities implemented in support of the National Malaria Strategy; and

3. Capacity building of the National Malaria Control Program (NMCP) and district health teams (DHMTs), to manage and sustain efficient malaria activities in focus districts.

The following information will be provided specifically as it relates to the project and its implementation based on the data analyzed:

- I. Opportunities for interventions
- 2. Challenges to interventions
- 3. Recommendations for project action

Opportunities, constraints and recommendations to inform behavior change communication strategies will be identified.

The final report will include an executive summary with key findings and recommendations, and sections on methodology with limitations encountered, key findings, and recommendations. Supplemental information in the annex will include the analysis tools, a bibliography, and persons interviewed, including focus groups.

#### **Phase 5: Youth Action Plan**

A youth action plan will be developed that includes practical and highly-actionable activities across the project as a whole for each project component and for all behavior change communication activities. It will include proposed timing, needed resources, and intended impacts.

### Team member roles and responsibilities

The team is composed of five members. The International Youth Specialist will assume the role of team leader and be responsible for the workplan, methodology, tool development, desk review, final report, and youth action plan documentation. She will be supported by the MAPD Project Gender and Youth Advisor, and a short-term Researcher, who will both provide local advice and expertise to inform the methodology, tool development, and data analysis; assist with the facilitation of key informant interviews and focus groups; and assist with note-taking, including the provision of detailed summary notes after each interview/focus group. Two youth (ages 20-24) - one male and one female - will be recruited to participate in this analysis, incorporating PYD philosophy and approach as discussed earlier, and facilitating youth focus group discussions; they will be guided, trained, and supported by adult members who will share and review guides, clarify questions, and model methods to be used with different stakeholders. Training will build on youth experience and skills. Both youth and adults will be trained and guided in how to work together as partners on the team based on youth-adult partnership training tools developed by USAID/YouthNet.

Team members will be trained on the data collection tools and interview guides, providing them with the opportunity to practice using them, as well as provide input to their content and design.

	LoE	January		February			March			April		
Activity		25 <sup>th</sup>	30 <sup>th</sup>	6 <sup>th</sup>	13 <sup>th</sup>	20 <sup>th</sup>	27 <sup>th</sup>	<b>6</b> <sup>th</sup>	13 <sup>th</sup>	20 <sup>th</sup>	27 <sup>th</sup>	3 <sup>rd</sup>
Workplan and tool												
development	I											
Desk review	2											
Youth team member												
recruitment	1											
Travel to Uganda	2											

Key informant interviews (Kampala)	6									
Participatory field assessment	17									
Data analysis, draft Youth Action Plan with MAPD COP/staff; debrief with project	3									
Travel to US										
Data analysis and report writing	6									
Submission of 1st draft report	n/a									
Submission of 2nd draft report	2	Within one week of receiving comments from Banyan Global								
Revision and submission of final deliverables	I	Within one week of receiving comments from USAID and no later than April 30, 2017					later			
Total	42									

# Appendix A: Desk Review Reference List

### **Peer-reviewed literature**

CDC, NIH, HIV Medicine Association. (2017). Panel on Opportunistic Infections in HIV-Infected Adults and Adolescents. Guidelines for the prevention and treatment of opportunistic infections in HIV-infected adults and adolescents: recommendations from the Centers for Disease Control and Prevention, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. Available at http://aidsinfo.nih.gov/contentfiles/lvguidelines/adult\_oi.pdf. Accessed (February 3, 2017) [T-2-T8]

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# Appendix B: Fieldwork Itinerary

Date	Activity	Location	Contact	Notes
Sat II <sup>th</sup> Feb, 2017	Consultant's arrival in Kampala	n/a	Emmanuel and Transport Officer	
Sun I 2 <sup>th</sup> , Feb	Rest	Kampala	Local phone number	
Mon I 3th Feb	<ul> <li>Briefing from the COP</li> <li>Going through the itinerary</li> <li>Security briefing</li> <li>Discussing research methodology, tools and team roles with local research assistant and the Gender and Youth Specialist</li> </ul>	Kampala	n/a	
Tue I4 <sup>th</sup> – Fri I7 <sup>th</sup>	Literature review and meet Kampala-based stakeholders	Kampala	Emmanuel /MAPD Kampala Region Coordinator	Details of who to meet and when will be agreed next week when the appointments are being sought
Sat 18 <sup>th</sup> Feb	Data review	Kampala	Local phone number	
Sun 19 <sup>th</sup> Feb	Rest			
Mon 20 <sup>th</sup> Feb	Travel to West Nile	Arua District	Transport Officer	Stay in Arua town
Tue 21 <sup>st</sup> Feb	Travel to Koboko and Conduct interviews with district and sub-county stakeholders Travel back and sleep in Arua	District HQs and selected sub-counties	MAPD Arua Region Coordinator	Will be based on final list of stakeholders
Wed 22 <sup>nd</sup> Feb	Travel back to Koboko district and conduct interviews and FGDs with community members	Selected villages in Koboko	MAPD Arua Region Coordinator	

Date	Activity	Location	Contact	Notes
	Travel back and sleep in Arua			
Thur. 23 <sup>rd</sup> Feb	Conduct interviews with Arua district and sub- county stakeholders	District HQs and selected sub-counties	MAPD Arua Region Coordinator	
Fri 24 <sup>th</sup> Feb	Conduct interviews and FGDs with community members	Selected villages in Arua.	MAPD Arua Region Coordinator	
Sat 25 <sup>th</sup> Feb	Travel back to Kampala	n/a	Transport Officer	
Sun 26 <sup>th</sup>	Rest	Kampala		
Mon 27 <sup>th</sup> Feb	Travel to Kasese	n/a	Transport Officer	Stay in Kasese town
Tue 28 <sup>st</sup> Feb	Conduct interviews with district and sub-county stakeholders in Kasese	District HQs and selected sub-counties	MAPD Kabarole Region Coordinator	
Wed I <sup>st</sup> March, 2017	Conduct community interviews and FGDs	Selected villages in Kasese.	MAPD Kabarole Region Coordinator	
Thur. 2 <sup>nd</sup> March	Travel to Bundibugyo and conduct interviews with Bundibugyo district and sub-county stakeholders	District HQs and selected sub-counties	MAPD Kabarole Region Coordinator	
Fri 3 <sup>rd</sup> March	Conduct community interviews and FGDs	Selected villages in Bundibugyo.	MAPD Kabarole Region Coordinator	
Sat 4 <sup>th</sup> March	Travel back to Kampala	n/a	Transport Officer	
Sun 5 <sup>th</sup> March	Rest	Kampala	Local phone number	
Mon 6 <sup>th</sup> March	Travel to Buikwe District and conduct interviews with district and sub-county stakeholders	District HQs and selected sub-counties	MAPD Kampala Region Coordinator	Stay in Mukono town
Date	Activity	Location	Contact	Notes
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	Travel back and sleep in Mukono Town			
Tue 7 <sup>th</sup> March	Travel to Buikwe District and conduct community interviews and FGDs	Selected villages in Buikwe.	MAPD Kampala Region Coordinator	
Wed 8 <sup>th</sup> March	Travel to Mukono District and conduct interviews with Mukono district and sub-county stakeholders Travel back to Kampala	District HQs and selected sub-counties	MAPD Kampala Region Coordinator	
Thur. 9 <sup>th</sup> March	Travel back to Mukono and conduct community interviews and FGDs	Selected villages in Mukono.	MAPD Kampala Region Coordinator	
Fri 10 <sup>th</sup>	Organize information and make it ready for data analysis with project staff	Kampala	Gender and Youth Specialist	The research team will do this after completing all field work
Mon 13 <sup>th</sup> March	Data analysis with the project staff, including the USAID project rep, in a workshop format.	Kampala	Gender and Youth Specialist	Staff will work with the analysis team to formulate recommendations for the youth action plan
Tue 14 <sup>th</sup> March	Finalize youth action plan	Kampala	Local phone number	
Wed 15 <sup>th</sup>	Debrief with MAPD COP and other MAPD staff	MAPD Office- Kampala	Gender and Youth Specialist	Debrief participants to be agreed with COP
	Travel back to home country		Transport Officer	

# Appendix C: List of Key Stakeholders

Category	Organization	Contact details	Methodology
National level			
Government	Ministry of Health representatives, particularly the National Malaria Control Program (NMCP)		Semi-structured interviews
	National Youth Council Chairperson		
	Ministry of Gender, Labor and Social Development (Senior Youth Officer/Commissioner in charge of youth)		
Donors and	WHO Malaria Lead, Youth Lead		Semi-structured
multilateral	UNICEF Malaria Lead, Youth Lead		interviews
organizations	UN Women, Youth Lead		
	UNFPA, Malaria lead, Youth Lead		
	USAID PMI Team, Youth Advisor, others to be determined by the project		
MAPD Project	USAID Youth Advisor		Semi-structured
	Project Chief of Party		interviews
	Project Youth Advisor		
	Project staff, partners		
	Other Malaria Consortium staff		
Civil society	Centre for Domestic Violence Prevention		Semi-structured
	Uganda National Health Consumers/Users Organization		interviews
	Uganda Youth Network		
	Uganda Youth and Adolescents Health Forum		
	Reach a Hand Uganda		
	Reproductive Health Uganda		
	Restless Development		
Implementing partners	Jhpiego, others to be determined		Semi-structured interviews
Other youth-	Save the Children		Semi-structured
serving actors	Marie Stopes		interviews
	Mercy Corps		

District level		
Health services	Hospital Superintendents	Semi-structured
	Extended District Health Management Teams	interview
		Focus group
Political	Senior Community Development Officers in Charge of Gender, Youth and Culture	Semi-structured interviews
	Secretary for health, education and sanitation	
	District Youth Council	
	District Education Officer (in-school youth)	
	Prominent religious leaders	
	District Women's Council	
	Police's Family Protection Unit	
Youth & Gender	Senior Community Development Officers in Charge of Gender, Youth and Culture	Semi-structured interview
Sub-county level		
Health Services	Health Center In-Charge	Semi-structured
	Health Center Management Committees	interviews
	Health workers	Focus groups
Youth & Gender	Community Development Officers (in charge of gender, youth and other vulnerable people)	Semi-structured interviews
	Head teachers of selected schools (to be assisted by the Community Development Officer in determining these)	
Political	Secretary for health (from the political side)	Semi-structured
	Sub-county Youth Council (will advise who to meet at village-level)	interviews
	Women's council	
	Vice chairperson	
Community/househo	ld level	
Health services	Village health teams	Focus groups
Leadership	Chairperson, village local council (community gate keeper)	Semi-structured interviews
	Local leaders/opinion leaders (will be identified with the help of the Community Development Officers at sub-county level)	
Health	Village Health Team members	Semi-structured interviews

Education	Head teachers of selected schools	Semi-structured interviews
Households	Parents/Caretakers of Youth – (6 people) Youth aged 10-19 years divided by age and sex (6 people) – will segment younger youth further where practical, i.e., 10- 14, 15-19, etc.)	Focus groups

# Appendix D: Interview Guides131

# Interview Guide A: Key Informant Interviews at National Level

#### Introduction

Hello and thank you for meeting with us. My name is \_\_\_\_\_\_ and these are my colleagues: \_\_\_\_\_\_ and \_\_\_\_\_\_. We work with the Malaria Action Program for Districts, or MAPD, implemented by the Malaria Consortium. We are conducting a study of the different ways that malaria affects youth (ages 10-29) to identify how MAPD can best work with the Ministry of Health and districts to address their respective needs for malaria prevention, diagnosis and treatment. This information will be used to inform MAPD support to the National Malaria Control Program to strengthen malaria prevention, diagnosis, and treatment in Uganda. We would like your opinion on these issues because we value your knowledge and experience.

We would like to ask a series of questions we developed for key informant interviews, and will be taking notes on our discussion. We will also record the discussion because we don't want to miss any of your comments. We will keep a record of your names but specific comments will not be attributed to any individuals in our reporting. Knowing this information, are you willing to participate in this interview?

Can we first please begin with introductions of everyone here? Each participant can give their name and title, and how many years they have been working in malaria.

#### GoU officials, UN agencies, bilateral donors, youth-serving organizations, civil society:

- 1. What donor/government/multilateral programs and approaches are in place to assess and address youth barriers to malaria prevention, diagnosis, treatment and control programs?
- 2. How are youth considerations currently integrated in the national malaria control program?
- 3. Do you have a BCC strategy for the (country, region, or organization)? Does it include malaria prevention? Do you use age-segmented approaches in reaching different age groups? Which are the most and least successful interventions/communication channels?
- 4. What are key lessons learned and best practices for addressing youth barriers to malaria prevention, diagnosis, and control in Uganda?
- 5. What is the current capacity of the national malaria control program to integrate youth considerations in its work?
- 6. What are the key information gaps related to how age-related barriers impede malaria prevention, diagnosis and control for youth, and what can the MAPD project do to address them?
- 7. What other organizations, private, public, or non-profit, are active in supporting or advocating for youth access to health information and services, and malaria specifically?

<sup>&</sup>lt;sup>131</sup> Questions adapted from Family Health International (2003). YouthNet Country Needs Assessment Tool. USAID/YouthNet.

8. How can youth be engaged to play a more active role in malaria prevention, particularly youthled interventions and organizations? Do you know of examples of youth-led interventions that have worked in Uganda?

#### Interview Guide B: Key Informant Interviews at District Level

#### Health Officials and workers

- 1. Are you familiar with the recently released national youth policy? If so, how do you plan to integrate it into your services?
- 2. What malaria services do you offer? Do you have a particular group or age that you target? Do you strategies for reaching hard to reach populations?
- 3. Do your programs include targeted services for youth? Are youth accessing these services? What challenges do youth have in accessing services?
- 4. Do you maintain age and sex-disaggregated data? Would you be able to share this information with us?
- 5. After initial services are provided, what follow-up is provided for youth?
- 6. Do you target in-school or out-of-school youth or both? Males? Females? If so, how do you do this?
- 7. Are youth involved in planning, implementation, and/or evaluation of programs? If so, how are they involved?
- 8. Are providers fully paid or volunteers?
- 9. Is malaria education provided in schools? Who provides this education?
- 10. Are there any policies that unintentionally prevent youth from accessing malaria services?
- 11. Do you have a BCC campaign for malaria? Does it target specific age groups? What techniques do you use? Have you developed any targeting youth? Which have been the most and least successful? How are you linking communication activities to services and referrals?
- 12. How are young people involved in your program? What are the benefits you gain by involving youth in your programs? What challenges do you face in involving them?
- 13. How is gender integrated into your program?
- 14. Do you conduct gender analysis of your work?
- 15. Do you address disparities between male and female youth health?
- 16. Do you seek to increase decision-making power of adolescent girls and young women, particularly in reducing gender-based violence?

- 17. Do you promote equitable participation and involvement of adolescent girls and boys in health services including malaria at all levels?
- 18. Are there social and cultural norms that affect the ability of youth to access malaria prevention and treatment services? If so, which ones are those? Do you promote changing social and cultural norms and improved balance of decision-making power between males and females? If so, how do you do it?
- 19. Do you consider the various factors that may prevent young people from accessing resources and services, particularly adolescent girls?
- 20. Has your staff undergone gender sensitivity/awareness training?

#### Education officers, Teachers, etc.

- 1. Are you familiar with the recently released national youth policy? If so, how do you plan to integrate it into your school?
- 2. Does your school provide malaria prevention/treatment services? If yes, what services do they provide? How are these programs administered? Is the District Health Office involved? If so, how? Is there a formal referral system to health providers?
- 3. What challenges do you face in proving malaria prevention and treatment services to youth in school? How are you addressing them?
- 4. Are there any policies that unintentionally prevent youth from accessing malaria services? Do adolescent girls face particular problems in accessing these services?
- 5. Is malaria education part of your school health education curriculum? Is it possible to see the malaria curriculum?
- 6. Do you involve young people in these programs service or educational? If so, how please describe how you involve them. What are the benefits you gain by involving youth in your programs? What challenges do you face in involving youth?
- 7. Are there any types of school clubs for students? Do any of them include malaria? Are any of them for adolescents (age 10-19)? Are any clubs led by adolescents? Do you have any clubs focused on the needs of adolescent girls?
- 8. Do any of your students face gender-based violence (GBV), particularly adolescent girls? Is there a referral system for them to access specialized care and services? If so, how does it work? How does the school support its students who face GBV?

#### Leaders/Officials – District/Community Levels

- 1. Are you familiar with the recently released national youth policy? If so, how do you plan to integrate the policy into your district/community malaria prevention and treatment activities?
- 2. Are there any programs/activities targeted to youth, particularly their health, including malaria. Do you have special programs for adolescent girls?
- 3. Are there any other youth populations, i.e., disabled, HIV positive, refugees, who face particular challenges to access healthcare, and specifically malaria prevention and treatment services?

- 4. Are there any laws that can unintentionally prevent youth from accessing malaria services?
- 5. Are there any cultural norms or practices that can prevent young pregnant girls from attaining antenatal care? As local leaders, what have you done to protect young pregnant girls who are denied the opportunity to attain ANC due to cultural norms?
- 6. How are youth impacted when a family member is ill with malaria, particular adolescent girls (community-level)?
- 7. Is sexual and gender-based violence (SGBV) an issue in your district/community, particularly for adolescent girls? Is there a referral system for them to access specialized care and services? If so, how does it work?
- 8. Do you involve youth in district/community-level programs or activities? If so, how are they involved? Do you seek youth input or opinions when programs are initiated? Are there any youth leaders who are elected officials?
- 9. Do you have any youth-led organizations in your district? If so, please share their names and contacts?
- 10. What do you see at the biggest challenges for youth in your community, particularly for adolescent girls in relation to malaria?

# **Community Focus Group Exercises**

#### Introduction

Hello and welcome. My name is \_\_\_\_\_\_ and these are my colleagues: \_\_\_\_\_\_ and \_\_\_\_\_. We work with the Malaria Action Program for Districts, or MAPD, implemented by the Malaria Consortium. We are conducting a study of the different ways that malaria affects youth (age 10-29) to identify how MAPD can best address their respective needs for malaria prevention, diagnosis and treatment. This information will be used to help improve public health services. We would like your opinion on these issues because we value your knowledge and experience.

We will ask you some questions. Please know that there are no right or wrong answers to the questions we are about to ask. We expect that you will have different points of view and you are welcome to share your point of view even if it differs from what others have said. You don't have to respond to every question we ask. We are here to ask questions, listen, and make sure everyone has a chance to share. We're interested in hearing from each of you. So, if you're talking a lot, we may ask you to give others a chance. And if you aren't saying much, we may call on you. We just want to make sure we hear from all of you. Overall, the session should take 1-2 hours.

We will be taking notes to help us remember what is said. Because I do not speak \_\_\_\_\_\_ (insert language), \_\_\_\_\_\_ (insert interpreter's name) will help translate. We are also recording the discussion because we don't want to miss any of your comments. We will take pictures at several points during our session for our report. If you do not wish to be photographed, please let us know. We will ask you your names, but no names will be included in any reports. While we would like to include your thoughts and perspectives in our study, we promise that we will not identify you in our reporting. Knowing this information, are you willing to participate in this discussion?

Let's begin by having each person in the room tell us your name, your job, who is the head of your household, and the ages of your children at home.

Include a variety of ages, marital status, household incomes, and structures. If possible include vulnerable populations from the community, including people living with disabilities, people living with HIV/AIDS, and refugees. This activity should be conducted in single-sex groups of youth between 6 to 10 participants. Separate focus groups with youth facilitators leading youth focus groups.

Purpose: To gather critical information on activities related to youth malaria prevention, diagnosis and treatment at the household and community levels.

After a general, introductory discussion about malaria, ask each participant group the following:

#### Community

Parents

- I. Is malaria a problem here? If so, why?
- 2. Do you know how to prevent malaria? Tell us what you know. How did you learn this?
- 3. How many children do you have? How many are adolescents (ages 10-19)?
- 4. How many of your children have had malaria?

- 5. Can you receive malaria prevention/treatment services in your community? Who can provide these services (VHT's or someone else)?
- 6. How do you protect your family from malaria?
- 7. Do you use a bednet? Do you have enough bednets for everyone to sleep under one? Do all your children sleep in bed nets? Can your adolescent children sleep in the bednet? Do you have a separate bed net for them?
- 8. When do you decide that a family member who is sick with malaria goes to get treatment? Who takes care of them? Can your adolescent children go get treatment on their own or do they need permission from a parent/guardian?
- 9. Who cares for a family member who is ill with malaria? Who cares for adolescent children when they get sick with malaria? Are girls and boys cared for differently when they get malaria? If so, why?
- 10. You have mentioned some but we will ask again, what are the biggest challenges you face in protecting your adolescent children from malaria and get them treatment when they are ill with malaria?

### Youth

#### Young mothers and pregnant adolescent girls

- I. Is malaria a problem here? If so, why?
- 2. Do you know how to prevent malaria? If so, tell us what you know. How did you learn this?
- 3. Are you able to receive malaria prevention/treatment services in your community? Who provides these services (VHT's or someone else)?
- 4. Do you sleep under a bednet? Does your family have enough bed nets for everyone to sleep under a one? Whom do you share the bed net with?
- 5. How many children do you have? What ages are they? Have any of them had malaria?
- 6. Have you ever had malaria? If so, what treatment did you receive and from whom?
- 7. Who took care of you when you were sick with malaria?
- 8. How easy or difficult was or has it been for you to access ANC services? Have you been able to go as often as recommended? How many visits have you made so far (for pregnant adolescents)? Have you received intermittent preventive therapy for malaria (IPTp)? Are there any reasons why

you do not like to go for ANC visits? Is there anyone else whose permission you need to access these services?

9. What challenges do you face trying to prevent malaria for yourself? What about getting treatment when you are ill with malaria?

## Tool to Encourage Youth Participation<sup>132</sup> in Focus Group Discussions

#### MAPPING MY COMMUNITY<sup>133</sup>

WHY USE IT?

This tool can be used to set the climate to encourage participation in reflection on community-related factors that influence malaria prevention and treatment by:

Exploring places and people who are important to accessing services and treatment Identifying where they can go8 and where they cannot go Identifying risks related to different places and how to avoid them

Materials needed:

Local materials or flip chart paper, masking tape, marker pens materials or flip chart paper, masking tape, marker pens

Time Needed: Between 90 minutes and 2 hours

How to do it?

Use with groups of adolescent boys and girls segmented by age cohort, i.e., 10-14, and 15-19 years. Ask each group to draw a map of their community showing the main roads, their home, school, church/mosque, different places that are important to them, i.e., places where they go to play, meet friends, etc.

Discuss the maps with the participants, using the focus group guide questions.

### Girls/Boys

- I. Do you know about malaria?
- 2. Is malaria a problem here? If so, why?
- 3. Do you know what causes malaria?

<sup>&</sup>lt;sup>132</sup> Tool for strengthening positive youth development

<sup>&</sup>lt;sup>133</sup> Adapted from Zambezi R, Hernandez JJ. (2006). *Engaging Communities in Youth Reproductive Health and HIV Projects: A Guide to Participatory Assessments*. USAID/YouthNet, Family Health International.

- 4. Do you know how to prevent malaria? If so, how did you learn this?
- 5. Where do you go for malaria treatment? Who provides these services (VHT's)?
- 6. Do you sleep under a bed net? Does your family have enough bed nets for everyone to sleep under a one? Whom do you share the bed net with?
- 7. What happens when a family member gets sick with malaria? If your parents were not at home and you felt sick, what would you do?
- 8. Who cares for a family member who is ill with malaria? Who cares for adolescents in the family when they get sick with malaria? Are girls and boys cared for differently when they get malaria? If so, why?
- 9. What are the biggest challenges you face trying to prevent malaria for yourself? What about getting treatment when you are ill with malaria?

In-school only:

- 10. Are you able to receive malaria prevention/treatment services in your school?
- II. Where do you go for malaria treatment when you are at school?
- 12. Are there clubs in your school? If so can you name any? Are you a member of any of them? If so, what do you like about your club? Is malaria ever discussed in your club? Who gives you support when you are discussing malaria? If you could change anything about the club, what would you change?

#### Out-of-school only

- 13. When you do you decide to go to the hospital in case you feel you have malaria?
- 14. How often do you visit the hospital when you feel you have malaria?
- 15. Are girls or boys more likely to visit the health center? What the reasons for this?
- 16. Do you have youth-friendly services at your health center? If yes, can you access these services?
- 17. Do they include malaria treatment and prevention services?
- 18. What would you recommend to increase youth utilization of malaria prevention / treatment services?
- 19. How would you want to receive information regarding prevention / treatment of malaria?

# ANNEX B: List of Key Informant Interviews

ΝΟ	NAME	SEX (M/F)	AGE BRACKET A=(10 - 14); B=(15 - 19); C=(20 - 24); D=(25 - 30); E= (31+)	LOCATION	TITLE	ORGANISATION	PHONE NUMBER
Ι.	DAWA ANNE	F	D	KOBOKO DISTRICT	AIC ASSISTANT	KDLG	0793954728
2.	JURUA KIZITO	Μ	E	KOBOKO DISTRICT	AG.ADHO.ENV.HEALTH	KDLG	0782795025
3.	GORO GRACE	F	E	KOBOKO DISTRICT	SEC.SOC.SERVICES	KDLG	0772967257
4.	OCOKORU ROSELYN	F	E	KOBOKO DISTRICT	BIOSTATISTICIAN	KDLG	0772357273
5.	KENYI SANTUS	M	E	KOBOKO DISTRICT	AG DHO	KDLG	0778734711
6.	WITRO RACHEL	F	E	KOBOKO DISTRICT	AG.ADHO.MCH/N	KDLG	0782582331
7.	LEBU AKIM	M	E	KOBOKO DISTRICT	ASSISTANT ENVIRONMENT OFFICER	KDLG	0782070556
8.	DR OLOYA DENIS	Μ	D	KOBOKO DISTRICT	M/O .AG.MS KOBOKO	KDLG	0777357590
9.	IDRINGI DEOUDONE	M	E	KOBOKO DISTRICT	DHE	KDLG	0772964437
10.	SANYA MUTTO STEPHEN	М	E	KOBOKO DISTRICT	V/C/P-KDLG	КОВОКО	0782884303
11.	HON.TODOKO ISAAC	M	E	КОВОКО	SEC.PRODUCTION	КОВОКО	0782666912

12.	HON.SITIMA FIKIRA	F	D	КОВОКО	FEMALE YOUTH D.COUNCILLOR	КОВОКО	0774467614
13.	CHANDIRU A ROSELILLY	F	E	КОВОКО	DDEO	KDLG	0774104141
14.	AGELE RASHID	М	D	КОВОКО	NURSING ASSISTANT	LURUJO HC/ II	077762
15.	ANICIA BEATRICE	F	С	КОВОКО	ENROLLED MIDWIFE	LURUJO HC/ II	0775124210
16.	SWAIBU YUSUF	М	D	КОВОКО	COMMUNITY VACCINATOR	LURUJO HC/ II	0794161767
17.	AVAKO IRENE	F	D	КОВОКО	MEDICAL RECORDS ASSISTANT	LURUJO HC/ II	0785857276
18.	ANGUYA FAIZA	F	D	КОВОКО	ENROLLED NURSE	LURUJO H/C II	0787931483
19.	ASIKU PONTIUS ORITI	F	D	КОВОКО	ENROLLED NURSE	LURUJO H/C II	0773996672
20.	YUMA.Y.NIGO	М	E	КОВОКО	HUMC CHAIRPERSON	LURUJO H/C II	0780213770
21.	AJONYE LOICE	F	E	КОВОКО	HUMIC	LUROJO H/C III	0773822312
22.	BAYO JAMES	М	E	КОВОКО	VACCINATOR	LUROJO H/C III	0774278641
23	AYILA CHRISTOPHER	М	E	КОВОКО	HUMC CHAIRPERSON	LUBOLE H/C III	0785575616
24.	AYIKE RUKIA	F	E	КОВОКО	ENROLLED MIDWIFE	LUBOLE H/C III	0775968565
25.	BAIGA PETER	М	E	КВОКО	VACCINATOR	LUBOLEH/C III	0771299173
26.	MASWA RUKAZUBWE	М	E	КОВОКО	H/W	LUBOLE H/C III	0778349927
27.	NGOJA RASHID	Μ	E	КОВОКО	V.H.T	DASA VILLAGE	0793702837
28.	HANITA NEZIMA	F	D	КОВОКО	A.C.U/COUNSELLOR	LOBULE H/C III	0773992252
29.	SONY ZAIDA	F	E	КОВОКО	DATA MANAGER	LOBULE H/C III	0774279265
30.	JAMAL ABDUL MALIK	М	E	КОВОКО	SENIOR CLINICAL OFFICER	LOBULE H/C III	0782416122
31.	ATAI JESCA	F	С	КОВОКО	LAB ASSISTANT	LOBULE H/C III	0772784897
32.	SAKI FARUKU	Μ	С	КОВОКО	ENROLLED NURSE	LOBULE H/C III	0779744380
33.	GOGO LAZARO	Μ	D	КОВОКО	COUNCILLOR	LOBULE S/C	0781371010
34.	ROPAMI CLARA	F	D	КОВОКО	POLICE OFFICER	LOBULE S/C	0785470466
35.	MAMBU ALLI	Μ	D	КОВОКО	REPRESENTING YOUTH	LOBULE S/C	0773774472
36.	ATAI HARRIET	F	D	КОВОКО	VL/P LC 3	LOBULE	0786729993
37.	AYIKI ISSA	Μ	D	КОВОКО	COUNCILLOR	LOBULE S/C	0781371010
38.	ARIKE RICHARD	Μ	E	КОВОКО	GISO	LOBULE	0772646209

39.	YUMA DAVID	Μ	E	КОВОКО	LC 3, C/M	LOBULE	0774034132
40.	ONZIGA MOHAMMED	М	С	КОВОКО	SEC/SOCIAL/SERVICE	LOBULE	0794480999
41.	DRICIRU CAROLINE	F	D	КОВОКО	ACDU	LOBULE	0773797336
42.	ABETI ROMAN	Μ	E	КОВОКО	TEACHER	LOBULE P/S	0777447774
43.	BAKO LYDIA	F	E	КОВОКО	TEACHER	LOBULE P/S	0773793202
44.	NALINDU HENRY	Μ	E	КОВОКО	TEACHER	LOBULE P/S	0777447774
45.	ANGUPALE JASINDO	М	E	КОВОКО	TEACHER	LOBULE P/S	0789866740
46.	BUNIA DOMINIC	Μ	E	КОВОКО	HEADTEACHER	LOBULE P/S	0782251194
47.	WANJE ISAAC MWIMA	М	E	ARUA	SATC	RIVER OLI DIVISION	0782310291
48.	APANGU BENARD	Μ	E	ARUA	TOWN AGENT	<b>RIVER OLI DIVISION</b>	0784500619
49.	DUKWA GIDEON	М	E	ARUA	AG ACDO	<b>RIVER OLI DIVISION</b>	0772892915
50.	IVAN SUKUR	Μ	D	ARUA	YOUTH CHAIRMAN	RIVER OLI	0779582224
51.	HON JAMAL NANSUR	М	D	ARUA	SEC FOR EDUCATION	RIVER OLI	0774628296
52.	ADRIKO GEORGE	Μ	E	ARUA	ACDO/AG.PSWO	COM. SERVICES	0782349616
53.	DRIWARU LILLIAN	F	E	ARUA	OC/CFPU ARUA	POLICE	0772821617
54.	ACHOM STELLA	F	E	ARUA	CFPU	POLICE	0703600603
55.	OYOMCE. A. FLORENCE	F	E	ARUA	CFPU	POLICE	0775917738
56.	AYIKURU ROSE	F	E	ARUA	REGIONAL POLICE HEAD OFFICE	POLICE	0774828315
57.	ANGUMANIYO BEN	Μ	D	ARUA	BIOSTATISFICIAN	ADLG	0779203593
58.	ANDERU KEVIN EYOA	F	E	ARUA	R.C.N	ADLG	0777893676
59	TIYO EMMANUEL	Μ	E	ARUA	HEALTH INSPECTOR	ADLG	0776579187
60.	BUATRU DOREEN	F	E	ARUA	DHE/MEP	ADLG	0772395984
61.	ARIKUBA DAN	Μ	E	ARUA	ADHO/MEH	ADLG	077264
62.	DR HASSAN NASSOR	М	E	ARUA	SMO	OLI HEALTH CENTRE	0775502952
63.	OBEEREI WASHINGTON	М	E	ARUA	мсо	OLI HEALTHY CENTRE IV	0784833027
64.	ONZIA JACKLINE	F	D	ARUA	HIA	OLI H/C IV	0785677766

65.	SAIDI NASUR OKUTI	М		ARUA	MEMBER HUMC	OLI H/C IV	0772626801
66.	DZAZA BENARD	Μ	D	ARUA	M.R.A	OLI H/C IV	0777446086
67.	ANDEOYE WILLIAM	Μ	E	ARUA	MEMBER HUMC	OLI H/C IV	0782511662
68.	MUDASHIR ONDOGA	М	D	ARUA	МСО	OHC-W	0787874628
69.	BAKO BEATRICE	F	С	ARUA	E/N	OLI H/R IV	0772825135
70.	EZABUKU EMILY	F	E	ARUA	E/N	OLI H/C IV	0772559214
71.	DRISARU A JANE	F	E	ARUA	PHN	OLI H/C	0772977414
72.	OCOKORU MARGRET	F	E	ARUA	E/N	OLI H/C IV	0774434345
73.	ELONG TONNY	Μ	С	ARUA	CCA	OLI H/C IV	0779059204
74.	DR.ANZO WILLIAM	Μ	D	ARUA	MEDICAL OFFICER	OLI H/C IV	0777363201
75.	TUKU ISMAEL	М	E	ARUA	CHAIRPERSON H/U MANAGEMENT COMMITTE	OLI H/C IV	0782831080
76.	LEKURU LUCY	F	E	ARUA	MEMBER HUMC	OLI H/C IV	0774736757
77.	AMADILE CHARLES	Μ	E	ARUA	CDO-YOUTH	ARUA DLG	0772163445
78.	BAKOLE GEOFREY	М	D	ARUA	DISTRICT YOUTH CHAIRPERSON	ARUA DLG	0774332856
79.	ANGUYO ZELEX FRANCIS	М	E	ARUA	TEACHER	OLI PARENT P/S	0752288025
80.	CANDA DAVID	Μ	E	ARUA	TEACHER	OLI PARENT P/S	0772864407
81.	ABABO PASCAL	Μ	E	ARUA	TEACHER	OLI PARENT P/S	0774136262
82.	OMEDUWA AISHA	F	E	ARUA	TEACHER	OLI PARENT P/S	0773149846
83.	AMANZIRU ROSE	F	E	ARUA	HEADTEACHER	OLI PARENT P/S	0772789684
84.	KITANYWA SOWEDI	М	E	KASESE	SPWO	KDLG	0772610133
85.	MUTHEGHEKI ERISANIA	М	E	KASESE	ECN	KMC HC III	0773324527
86.	MULIRO JETHRO	Μ	E	KASESE	LAB.TECHNICIAN	KMC HC III	0752619279
87.	<b>BUSINGYE MARIAM</b>	F	E	KASESE	N/O	KMC HC III	0782665858
88.	MUSOKI ZELEVA	F	E	KASESE	R/M	KMC HC III	0782651406
89.	MWINWABO JAMES	Μ	E	KASESE	S.C.O	KMC HC III	0772382459

90.	RWAMBALE ZAKAYO	M	E	KASESE	N/A	KMC HC III	0774419699
91.	BAMGA STELLA	F	E	KASESE	ADHO-MCH	KASESE DLG	0772664529
92.	TIBAMWENDA NOAH	М	E	KASESE	DVCO/MFP	KASESE DLG	0772320433
93.	MUTORO JULIUS	М	D	KASESE	AG.BIOSTATISTICIAN	KASESE OHO'S OFFICE	0779088959
94.	THEMBO CONSTANTINE	М	D	KASESE	VOLUNTEER	KASESE DHO 'S OFFICE	0775777929
95.	BASEKA YUSUF	Μ	Е	KASESE	DHO	KASESE DLG	0772859062
96.	MUGISHA MADINAH	F	E	KASESE	STENOGRAPHER	KASESE DLG	0701753661
97.	SAM MUHINDO	Μ	E	KASESE	HEALTH INSPECTOR	KASESE DLG	0703231034
98.	MUHINDO MILTON	Μ	E	KASESE	DTLS	KASESE DLG	0777012756
99.	KATEMBOSON ELISHA	Μ	E	KASESE	HIA	KASESE DLG	0782418518
100.	KASIMBA SAMUEL	Μ	E	KASESE	DHE	KASESE DLG	0705148878
101.	ERICANA	Μ	E	KASESE	DISTRICT HEALTH	KASESE DLG	0772594209
_	BWAMBALE				INSPECTOR		
102.	<b>BIRUNGI RAPHINE</b>	Μ	Е	KASESE	TEACHER	ST.PETERS P/S	0771808092
103.	BIIRA SCHOLA	F	E	KASESE	TEACHER	ST.PETERS P/S	0782971718
104.	BIIRA K HAMUZIA	F	E	KASESE	TEACHER	ST.PETERS P/S	0774414826
105.	SUNDAY ZAVERIO	Μ	E	KASESE	TEACHER	ST.PETERS P/S	0782479146
106.	MUGHUMA BIIRA	F	E	KASESE	DEPUTY	ST.PETERS P/S	0774156933
	GEVINAH				HEADTEACHER		
107.	george.s.maija	М	E	KASESE	DISTRICT EDUCATION OFFICER	KASESE DLG	0772580216
108.	MUHINDO SAIDI KISUKI	M	E	KASESE	C/P LC III	NYAMWAMBA	0754667860
109.	NINSIMA OLIVER	E	D	KASESE	SEC.SOCIAL SERVICES	NYAMWAMBA	0777537223
110.	MAGEZI ABDUL	Μ	E	KASESE	C.D.O	NYAMWAMBA	0772823676
111.	KAMUTHIMA KULE GEORGE	М	D	KASESE	YOUTH CHAIRMAN	NYAMWAMBA	0773981717
112.	MASIKA GRACE	F	E	KASESE	SENIOR ASSISTANT TOWN CLERK	NYAMWAMBA	0772342790

113.	RUTH KABUGNO	F	E	KASESE	SECRETARY FOR HEALTH	KASESE DLG	0782835490
114.	BWAMBALE GODFREY	М	E	KASESE	SPEAKER	KASESE DLG	0752234301
115.	MAGWARA ELLY	Μ	E	KASESE	VICE CHAIRPERSON	KASESE DLG	0772830826
116.	NTABOSE GIDEON	Μ	D	KASESE	SECRETARY FOR	KASESE DLG	0706399138
	SANYU				PRODUCTION		
117.	MAISABA FRANCIS	Μ	E	BUNDIBUGYO	MANAGEMENT MEMBER	BUBUKWANGA	0772052917
118.	KISEMBO STANLEY	Μ	E	BUNDIBUGYO	HEALTH ASKARI	BUBUKWANGA	0771985603
						HEALTHY CENTRE III	
119.	KOMWAWE	F	E	BUNDIBUGYO	MANAGEMENT MEMBER	BUBUKWANGA	0785413154
	MARIMU						
120.	KANDOLE PETER	Μ	E	BUNDIBUGYO	MANAGEMENT MEMBER	BUBUKWANGA	0785098686
121.	BAGUMA PETER	Μ	E	BUNDIBUGYO	TREASURER HUMC	BUBUKWANGA	0772972542
122.	BAGUMA PETER	Μ	E	BUNDIBUGYO	N/A	BUBUKWANGA	0785175844
123.	AROMBA YK	Μ	E	BUNDIBUGYO	N/A	BUBUKWANGA	0774079968
	JOSEPH						
124.	FERESTA	F	E	BUNDIBUGYO	N/A	BUBUKWANGA	0771844115
	TANDIKIBU						
125.	KURIHIRA ROSE	F	E	BUNDIBUGYO	MRA	BUBUKWANGA	0776716335
126.	BAGONZA	Μ	E	BUNDIBUGYO	CLINICAL OFFICER	BUBUKWANGA	0771448010
	LAWRENCE					HEALTHY CENTER III	
127.	KUNIHIRA EVASTA	F	E	BUNDIBUGYO	MIDWIFE	BUBUKWANGA	0782842685
128.	KABASINGUZI	F	E	BUNDIBUGYO	N/ASST	BUBUKWANGA H/C	0775313703
	HONEST					III	
129.	SUNDAY PETER	Μ	E	BUNDIBUGYO	LAB ASSISTANT	BUBUKWANGA	0774031919
130.	KYALIMPA.G.ADOLF	Μ	D	BUNDIBUGYO	YOUTH CHAIPERSON	BUBUKWANGA	0777307780
131.	BASIIME AMOS	Μ	E	BUNDIBUGYO	LCIII CHAIRPERSON	BUKWANGA	0782254082
						SUBCOUNTY	
132.	AGARUKI JULIUS	Μ	E	BUNDIBUGYO	C.D.O	BUBUKWANGA	0775859133
	POSIANO					SUBCOUNTY	
133.	KURIHIRA SAFINA	F	D	BUNDIBUGYO	MEMBER	BUBUKWANGA	0784017082
						SUBCOUNTY	
134.	BYAMUKAMA	M	E	BUNDIBUGYO	C.VHT	BUBUKWANGA	0781647591
	GODFREY					SUBCOUNTY	

135.	BALYEFUKYA ELVIS	М	E	BUNDIBUGYO	SUBCOUNTY CHIEF	BUBUKWANGA SUBCOUNTY	0787203211
136.	GUMA NICHOLAS	М	E	BUNDIBUGYO	S/C CHIEF	BUBUKWANGA SUBCOUNTY	0772975903
137.	BAHEMUKA EDMON	Μ	E	BUNDIBUGYO	SECRETARY FOR SOCIAL SERVICE	BUBUKWANGA SUBCOUNTY	0780296829
138.	MAISABA EDMOND	М	E	BUNDIBUGYO	DCDO	BUBUKWANGA SUBCOUNTY DLG	0772395915
139.	NAMANDI ANNET	F	E	BUNDIBUGYO	DISTRICT HEALTH EDUCATION	DHO'S OFFICE	0772961926
140.	KULE JOSHUA	Μ	E	BUNDIBUGYO	BIOSTATISTICIAN	DHO OFFICE	0782542690
141.	KEMBABAZI IMMACULATE	F	E	BUNDIBUGYO	HEALTH INSPECTOR	DHO'S OFFICE	0782353402
142.	KOMU PETER	Μ	E	BUNDIBUGYO	S.A.A	DHO'S OFFICE	0772997291
143.	NAKISEMBO GETRUDE	F	E	BUNDIBUGYO	OFFICE SECRETARY	DHO'S OFFICE	0781690434
144.	BAGONZA MAJID A	Μ	E	BUNDIBUGYO	MALARIA FP	DHO'S OFFICE	0772364148
145.	CANDIGA RICHARD	Μ	E	BUNDIBUGYO	H/E	DHO'S OFFICE	0772301104
146.	KYAMUKAMA .A. BONNY	М	E	BUNDIBUGYO	HEALTH INSPECTOR BUGHENDARA	DHO'S OFFICE	0772962788
147.	MBAKANIA ISMAIL	Μ	Е	BUNDIBUGYO	ACTING ADHO	BDLG	0782363239
148.	TIBESIGWA JOHN	Μ	Е	BUNDIBUGYO	DISTRICT MALE YOUTH	BDLG	0772823962
149.	SIBUGYO AGNES	F	E	BUNDIBUGYO	SECRETARY FOR HEALTH	BLDG	0780297078
150.	MUTEGEKI RONALD	М	E	BUNDIBUGYO	LCV	BLDG	0782141274
151.	MUBULYA .B.MARTIN	М	E	BUNDIBUGYO	D/COUNCILLOR	BLDG	0788435429
152.	SHEIKH MIRAJI.A	Μ	ш	BUNDIBUGYO	IMAM MAIN MOSQUE	UMSC/BUNDIBUGYO	0772924561
153.	CHANCE NTAMUHIRAGI	М	E	BUNDIBUGYO	DEO'S REPRESENTATIVE	BLDG	0785472028
154.	MAFABI JANAM	Μ		BUNDIBUGYO	LAW ENFORCEMENT	NAJJEMBE DIVISION	0703066790
155.	ANESO MARIA	F		BUNDIBUGYO	C.D.O	NAJJEMBE	0706123075
156.	NAKAYIZA NUBUWAT	F		BUNDIBUGYO	SECRETARY FOR HEALTH	NAJJEMBE	0773432129

157.	KISIRA GODFREY	M		BUNDIBUGYO	TREASURER	NAJJEMBE	0703173307
158.	MBABAZI REGINA	F	E	BUIKWE	ENROLLED NURSE	KIZIGO HEALTH CENTRE II	0782304268
159.	PATRICK ELENA	M	E	BUIKWE	MEDICAL LABORATORY ASSISTANT	NAJJEMBE HEALTH CENTRE II	078278420
160.	NSUBUGA AKINO	M	E	BUIKWE	MEDICAL LABORATORY ASSISTANT	NAJJEMBE HEALTH CENTRE III	0781537411
161.	KAYUKI AISHA	F	E	BUIKWE	ENROLLED MIDWIFE	NAJJEMBE HEALTH CENTRE III	077405O928
162.	KIWANUKA MUHAMMED	М	E	BUIKWE	VHT	NAJJEMBE HEALTH CENTRE III	0774207628
163.	NAKAYIZA MARY	F	E	BUIKWE	MEMBER HUMC	NAJJEMBE HEALTH CENTRE III	0782446642
164.	MUBIRU FAIZAL	М	D	BUIKWE	CLINICAL OFFICER	NAJJEMBE HEALTH CENTER III	0703011026
165.	KALEMBE KEZIA	F	D	BUIKWE	MEDICAL LABORATORY TECHNICIAN	NAJJEMBE HEALTH CENTER III	0779441253
166.	NAMUGGA JULIET	F	E	BUIKWE	NURSING ASSISTANT	NAJJEMBE HEALTH CENTRE III	0782037571
167.	NAKALYOWA HAMUYAT	F	E	BUIKWE	VHT	NAJJEMBE HEALTH CENTER III	0756642794
168.	NAKIBULE CATHERINE	F	E	BUIKWE	ENROLLED NURSE	NAJJEMBE HEALTH CENTRE III	0783982144
169.	wasswa juma g	М	D	BUIKWE	DISTRICT MALE YOUTH	BUIKWE DLG	0758425208
170.	ssewanyo Kiganda sam	М	E	BUIKWE	DCDO	BUIKWE DLG	0787961375
171.	JAMES KIMMULA	Μ	D	BUIKWE	PLANNER	BLDG	0774899832
172.	OCHIENG BENARD	Μ	D	BUIKWE	CLINICAL OFFICER	BUIKWE HOSPITAL	0785214536
173.	MUGABI GRACE	M	С	BUIKWE	DTLS/ SCO	BUIKWE	0782678474
174.	KAZIBWE LAWRENCE	M	E 	BUIKWE	HMISFP	BUIKWE	0772606712

175.	BEINAVETTE NABUUMA	F	E	BUIKWE	MCH/ FP /HIV	BUIKWE DLG	0776849748
176.	MUSISI DEO	M	E	BUIKWE	MUSISI DEO	BUIKWE	0788380949
177.	NANTUMBWE MARIA	F	E	BUIKWE	MALARIA FP	BUIKWE	0752636719
178.	NGOBI RICHARD	Μ	E	BUIKWE	DCCT	BUIKWE	0782549009
179.	<b>BBOSA RICHARD</b>	Μ	E	BUIKWE	DHO	BUIKWE	0772494313
180.	SSENTONGO PORAFIC	F	E	BUIKWE		BUIKWE	0782447701
181.	ZZIWA JOSEPHINE	F	E	BUIKWE	DHE	BDLG	0702110742
182.	MPAKIBI SARAH SSOOLI	F	E	BUIKWE	HDTR	EDUCATION	0758324976
183.	KALIMIRO SUSAN	F	E	BUIKWE	TEACHER	EDUCATION	0775420186
184.	NAMUYIGA CHRISTINE	F	E	BUIKWE	SEA	EDUCATION	0778731142
185.	AKELLO GRACE	F	E	BUIKWE	SENIOR WOMAN	EDUCATION	0783291728
186.	KAKUUMA RACHEAL	F	С	BUIKWE	TEACHER	EDUCATION	0777386974
187.	KAMPI SUZAN	F	E	BUIKWE	TEACHER	EDUCATION	0753419235
188.	BOOGERE SAMUEL	Μ	E	BUIKWE	TEACHER	EDUCATION	078267
189.	MUKANKULAGA BECKNA	F	E	MUKONO	TEACHER	ST JOHN S.S.S	0782339143
190.	<b>BIKOBERE FATINAH</b>	F	D	MUKONO	SCHOOL NURSE	ST JOHN S.S.S	0785694646
191.	SSENTONGO SSALI HENRY	М	E	MUKONO	HEADTEACHER	st john s.s.s	0772998777
192.	ODOI DENNIS OBBO	М	E	MUKONO	WARDEN	ST JOHN S.S.S	0774477646
193.	WAKOYERA DAVID	М	E	MUKONO	CHAIRPERSON	KYAWAMBOGO	0752530777
194.	NAMAKAJJO ROBERT	М	E	MUKONO	VHT	KYAWAMBOGO	0751423438
195.	KARUNDA RICHARD	М	E	MUKONO	PWDS CHAIRPERSON	KYAWAMBOGO	0753139944
196.	NASUNA ROSE	F	E	MUKONO	VHT	KYAWAMBOGO	0784750768
197.	GETU NAMAZZI	F	E	MUKONO		KYAWAMBOGO	0775948849
198.	KYESWA. H	Μ	E	MUKONO	LC VICE CHAIPERSON	KYAWAMBOGO	0783927926

199.	MUWANGA ABISHAG	F	E	MUKONO	N.O	SEETA NAZIGO HEALTH CENTER III	0704101709
200.	KIZZA MERCY FRANCIS	F	E	MUKONO	E/N	SEETA NAZIGO HEALTH CENTER III	0782337588
201.	NAJJEMBA CAROLIN	F	С	MUKONO	L/A	SEETA NAZIGO HEALTH CENTER III	0754901197
202.	NANJIWE JACKIE	F	С	MUKONO	E/M	SEETA NAZIGO HEALTH CENTER III	0784188206
203.	NALUBOWA PLAXEDA	F	E	MUKONO	N/O	SEETA NAZIGO HEALTH CENTER III	0782796891
204.	NGOBI JULIUS	М	E	MUKONO	D/A	SEETA NAZIGO HEALTH CENTER III	0752295807
205.	NSUBUGA DAVID	М	E	MUKONO	N/A	SEETA NAZIGO HEALTH CENTER III	0754504201
206.	KAWEESA JAMES	М	E	MUKONO	VCO	MUKONO	0782002658
207.	RUTH TAMALE	F	E	MUKONO	CHAIRPERSON HUMC	BULIKA HEALTH CENTER II	0779613751
208.	KABOSI EMMANUEL	М	E	MUKONO	CHAIRPERSON LC I	BULIKA HEALTH CENTER II	0782040311
209.	ssegujja frank	М	E	MUKONO	MEMBER BULIKA HEALTH CENTER	BULIKA HEALTH CENTER II	0789597570
210.	NDAGIRE HARIMAH	F	E	MUKONO	N/O INCHARGE BULIKA	BULIKA HEATH CENTER II	0782672680
211.	NAIGA JESCA	F	E	MUKONO	N/ASS	BULIKA HEALTH CENTER II	0785845952
212.	KAYIZA SALAAMA	F	E	MUKONO	N/ASSISTANT	KATOOGO HEALTH CENTER II	0751950722
213.	NAMULEME HELLEN	F	E	MUKONO	E/NURSE	KATOOGO HEALTH CENTER II	0754830526
214.	ssebaduka Jonathan	М	E	MUKONO	CPM	KATONGA HEALTH CENTER III	0753110251
215.	KATAMBALA SULAIMAN	Μ	E	MUKONO		KATOOGO HEALTH CENTER III	0782631584
216.	SSENNOGA DAVID	Μ	E	MUKONO	C/P , VHT	KATOOGA HEALTH CENTER III	0752110586

217.	NAKANYIKE LYDIA	F	E	MUKONO	E/M	KATOOGO HEALTH CENTER III	0752260228
218.	LUZINDA PETER	Μ	E	MUKONO	HEALTH ASSISTANT	KATOOGO HEALTH CENTER III	0782425102
219.	DDUMBA ISAAC	М	E	MUKONO	ADHO-MCH	MUKONO DLG	0756427857
220.	MUKIIBI CHRISTINE	F	E	MUKONO	NURSING OFFICER	MUKONO DLG	0752656748
221.	KAKANDE PATRICK	М	E	MUKONO	DDI	MUKONO DLG	0782837409
222.	MWESIGWA IVAN	М	E	MUKONO	BIOSTATISTICIAN	MUKONO DLG	0772564616
223.	MULE WILLIAM	М	E	MUKONO	DLFP	MUKONO DLG	0772521928
224.	MBUUSI MOSES	М	E	MUKONO	HMIS FP	MUKONO DLG	0704814765
225.	KAWEESA JAMES	М	E	MUKONO	VCO/MFP	MUKONO DLG	0782002658
226.	NABAKIIKA SARAH	F	D	MUKONO	MINISTRY SECRETARY	MUKONO	0784196086
227.	NAMULI MARY	F	E	MUKONO	INSPECTOR OF SCHOOLS	MUKONO DLG	0778217343
228.	CHRISTINE ADYEYO	F	E	MUKONO	ADHO-EH	MUKONO DLG	0772628096
229.	NABUKA N SAMSON	М	E	MUKONO	SENIOR CLINICAL OFFICER	MUKONO DLG	0772432596
230.	KALUNGI HAKIM	М	E	MUKONO	SENIOR HEALTH EDUCATION	DHO'S OFFICE	0772605149
231.	LUBANGA JAMES	М	E	MUKONO	GENERAL SECRETARY	NAMUTEBE COMMUNITY	0752682198
232.	MUSENERO SAMALIE	F	E	MUKONO	SECRETARY HEALTH AND GENDER	MDLG	0706663631
233.	MUFUWA STEPHEN	М	E	MUKONO	VICE CHAIRMAN	MDLG	0782458875
234.	NTEGE JAMES	М	E	MUKONO	SENIOR PROBATION OFFICER	MDLG	0772998031
235	DR. FRED KAGWIRE	М	E	KAMPALA	HEALTH SPECIALIST	UNICEF	
236	NERI	F	E	KAMPALA	NUTRITIONIST, GENDER FOCAL POINT	UNICEF	
237	DR. SAM GUDOI	М	E	KAMPALA	CHIEF OF PARTY	MAPD	
238	DR. PATRICK BUKOMA	M	E	KAMPALA	TECHNICAL OFFICER MALARIA	MAPD	

239	DR. ESPILIDON TUMUKURATE	M	E	KAMPALA	SENIOR MALARIA TECHNICAL ADVISOR	MAPD
240	THOMSON NGABIRANO	M	E	KAMPALA	MALARIA IN PREGNANCY SPECIALIST	MAPD
241	FRIDAY MADINA	F	E	KAMPALA	SENIOR YOUTH OFFICER	MINISTRY OF GENDER, LABOUR, AND SOCIAL DEVELOPMENT
242	WINNIE MUSUBIKA	F	E	KAMPALA	SERVICE DELIVERY MANAGER	NAGURU TEENAGE
243	DR. BONGOMIN BODO	М	E	KAMPALA	NPO/ CAH AND NUTRITION	WHO
244	OBULEJO ROBERT BALLU	М	E	ARUA	ARUA CLINIC MANAGER	REPRODUCTIVE HEALTH UGANDA
245	DR. JOACIM	M	E	KASESE	KASESE ADOLESCENT CENTER (KAC) TEAM LEADER	MEDECINS SANS FRONTIERES
246	TESLA	М	E	KASESE		MEDECINS SANS FRONTIERES
247	gloria sebikaari, Md, Mph	F	E	KAMPALA	PROGRAM MANAGEMENT SPECIALIST, MALARIA, PRESIDENT'S MALARIA INITIATIVE	USAID UGANDA
248	ROBERT OTIM	M	E	KAMPALA	PROGRAM MANAGEMENT SPECIALIST, YOUTH AND CHILDREN	USAID UGANDA
249	PRISCILLA NABBANJA	F	E	KAMPALA	PROGRAM ASSISTANT	USAID UGANDA

250	JOHN BAPTIST BWINIKA	M	E	KAMPALA	SENIOR M&E ADVISOR	MAPD
251	DAUDI OCHIENG	М	E	KAMPALA	COMMUNICATIONS MANAGER	MAPD
252	DR. PATRICIA PIRIO	F	E	KAMPALA	HEAD HEALTH AND NUTRITION	SAVE THE CHILDREN
253	RONALD OTIM	М	D	KAMPALA	PROGRAM MANAGER	UGANDA YOUTH NETWORK
254	ALLEN ASIIMWE	F	D	KAMPALA	PROGRAM ASSISTANT	UGANDA YOUTH NETWORK
255	BWIRE MOSES	М	D	KAMPALA	TEAM LEADER	PEER TO PEER UGANDA
256	BETTY MAKRINA	F	D	KAMPALA	VOLUNTEER & SCHOOLS COORDINATOR	PEER TO PEER UGANDA
257	MICHAEL KAZIBWE	М	D	KAMPALA	PROGRAMS LIAISON OFFICER	PEER TO PEER UGANDA
258	PATRICK MWESIGYE	М	D	KAMPALA	TEAM LEADER	UGANDA YOUTH AND ADOLESCENTS HEALTH FORUM
259	THOMAS MALINGA	M	E	KAMPALA	DIRECTOR, HEALTH AND SOCIAL SERVICES	UGANDA RED CROSS
260	SARAH MUTEGOMBWA	F	E	KAMPALA	COORDINATOR, BDR PROGRAM	UGANDA RED CROSS
261	EDSON BAHEREZIBWA	М	E	KAMPALA	ADVOCACY OFFICER	UGANDA RED CROSS
262	DR. BARBARA ASIRE	М	E	KAMPALA	ADOLESCENT HEALTH & HIV/AIDS SPECIALIST	UNICEF UGANDA