“The important thing is education on prevention”:

A qualitative study on malaria prevention and treatment in Tanzania

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# Table of Contents

Abbreviations ........................................................................................................................................... iii

Introduction .................................................................................................................................................. 1

Part 1: Malaria in Tanzania ....................................................................................................................... 1

Part 2: Methodology ................................................................................................................................. 4

Part 3: Findings .......................................................................................................................................... 6

3.1: Malaria as a Community Health Problem ....................................................................................... 6

3.2: Net Use .............................................................................................................................................. 8

3.3: Treatment Seeking ............................................................................................................................. 12

3.4. Intermittent preventative treatment for pregnant women (IPTp) .................................................... 15

Part 4: Discussion ..................................................................................................................................... 18

Part 5: Conclusion and Recommendations .............................................................................................. 19

References .................................................................................................................................................. 21
Abbreviations

AIDS            Acquired Immune Deficiency Syndrome
ANC            Antenatal care
BCC            Behavior change communication
CBO            Community-based organization
CCA            Community Change Agent
COMMIT         Communication and Malaria Initiative in Tanzania
DOT            Directly observed treatment
FGD            Focus group discussion
GDP            Gross Domestic Product
HIV            Human Immune deficiency Virus
IPTp           Intermittent preventative treatment for pregnant women
IRS            Indoor residual spraying
ITN            Insecticide-treated net
JHU/CCP        Johns Hopkins University Centre for Communication Programs
MIS            Malaria Indicator Survey
MOH            Ministry of Health
MOP            Malaria Operational Plan
NGO            Non-governmental organization
NMCP           National Malaria Control Program
PMI            US President’s Malaria Initiative
SP             Sulfadoxine-pyrimethamine
THMIS          Tanzania HIV and Malaria Indicator Survey
Introduction

The Communication and Malaria Initiative in Tanzania (COMMIT) is beginning Year 3 of its five-year project cycle. In the last two years COMMIT has successfully implemented a robust behavior change communication (BCC) program that is working at many levels to ensure there is support, motivation, information, and an enabling environment to help bring about the change in behaviors around malaria. This will ultimately impact the burden of malaria in Tanzania. COMMIT has worked at the national as well as the district levels to ensure an enabling environment. It has worked to improve the skills of health providers that will see, counsel and treat clients for malaria treatment and prevention. At the community and individual level, COMMIT has implemented a massive community mobilization campaign that reaches down to the ward level in 9 regions through direct contact with households with the more than 1,000 Community Change Agents (CCAs). These CCAs and the community-based organizations (CBOs) and non-governmental organizations (NGOs) are working to implement a variety of programs including house visits, community talks, sports events, cultural shows and school programs to start a dialogue around malaria and its prevention and management. All of these activities are supported by mid-media activities that include Roadshows and Mobile Video Units that are creating awareness and socialization to larger groups of people, but still using interpersonal communication. This is reinforced by national media (mainly radio) disseminating a series of malaria prevention messages. In the last two years the messaging and themes for all the programs have been net use, malaria in pregnancy, and case management as well as net retreatment.

This report describes research conducted using a Focus Group Discussion (FGD) and decision-tree modeling methodology to elicit opinions, perceptions and attitudes about insecticide treated net (ITN) use, treatment seeking behavior for fever, and intermittent preventative treatment for pregnant women (IPTp). The research will be used to design messages for the communication activities in COMMIT’s Year 3 workplan.

Part 1: Malaria in Tanzania

Malaria exacts a heavy burden on Tanzania. Ministry of Health (MOH) statistics indicate over 16 million malaria cases per year and over 70,000 deaths. Furthermore, 97% of the Tanzanian population is estimated to be at risk of contracting malaria. An estimated 30-40% of all in- and out-patient cases recorded in the country every year are due to malaria. The economic costs of malaria are estimated at 3.5% of Gross Domestic Product (GDP). While much progress has been made in improving the health situation in Tanzania in recent years (see the FY2007 MOP for details), malaria presents unique challenges in Tanzania. The Tanzanian mainland has a population of about 38.2 million people living in 128 districts, about 10,000 villages, and 7 million households in an area of 885,987 sq. km. Implementing malaria control activities in so many villages, over such a large area is a daunting task. The Tanzania National Malaria Control Program (NMCP) strategy has selected a technically sound, feasible set of interventions to scale up nationally in order to control malaria, which consists of the following: the ongoing Under Five Catch Up Campaign, upcoming Universal Coverage Campaign, introduction of the
new upgraded voucher scheme for pregnant women, and recently, infants, supplemented by a strong commercial market; IPTp; prompt and effective treatment, especially for children with fever; and indoor residual spraying (IRS) in appropriate settings.

BCC is a critical component of the US President’s Malaria Initiative (PMI) portfolio of activities supporting the NMCP. Tanzania’s malaria policies are among the best in Africa, and the commodities needed to provide households with effective prevention and treatment are rapidly becoming widely available. A key gap in achieving critical malaria prevention and treatment objectives in Tanzania is ensuring that the commodities and services are effectively utilized by Tanzanian households, particularly rural households, and that demand for these services continues to increase. The 2007-2008 Tanzania HIV and Malaria Indicator Survey (THMIS) found that

- Nationally, 39% of households own an ITN
- 26% of children under five and 27% of pregnant women slept under an ITN the previous night
- 57% of women took at least one dose of Sulfadoxine-pyrimethamine (SP) during their last pregnancy; 30% took 2 doses
- 57% of children got an antimalarial the last time they had a fever, but only 21% got Alu, the recommended formulation, even fewer (14%) within 24 hours

Mwenesi (2005) noted that despite advances in malaria-related social, behavioral, economic evaluation, health systems and policy research, there have been numerous examples of programs that fail to utilize findings from social science research, reducing their overall impact. Tanzania boasts a large research community, largely thanks to the presence of the Swiss Tropical Institute and the Ifakara Health Institute.

For net use behaviors, numerous studies have identified a wide range of factors, from seasonality (Winch, 1994; Frey, 2006) to heat (Alaii 2003) to sleeping patterns within the household and structural issues (Toe, 2009; Kilian unpublished), as well as beliefs about the etiology of malaria (Minja, 2001). More recently in Tanzania, Boulay (unpublished) shows that levels of perceived threat and levels of perceived efficacy have a large impact on bednet use. But we do not have a detailed understanding of the decisions made at the household level that explain the gap between ownership and use of ITNs in Tanzania.

Treatment seeking behavior has been studied in depth in Tanzania. Montgomery (2006) finds that most education and BCC programs have focused on mothers, the primary caregivers, while ignoring the fact that women are often not in charge the decision making process for treatment seeking. Decision making at the household level is complex, explored in Ellis (2008) in Mali, and finding that multiple relatives are involved at each step of the process, for advice, money, transport, etc. Kamat (2006) shows that user fees are not the primary reason for delaying treatment, but rather the perception that the fever is not serious, and other cultural knowledge about symptoms, gender relations, and patterns of communication between providers and mothers influence outcomes for childhood febrile illness.
Overdiagnosis of malaria has been shown to be more common for patients older than 5 years, a lower patient load, and male clinicians (Chandler, 2008b). Previous studies of care-seeking behavior found that convulsions (degedege) were treated with traditional practices; newer studies (Dillip, 2009) show that 71% of all convulsion cases were brought to a health facility within 24 hours. However, traditional and moral causes of fever were associated with less timely health facility use; lack of stock, money to pay for treatment, or lack of diagnosis were reasons caretakers administered anti-malarials to children without going to a health facility. Health facility attendance increased the odds of receiving an antimalarial nearly eight-fold, but did not have an influence on correct dosage (Hetzel, 2008).

In a context where transmission may be dropping, diagnosis becomes even more important (Mwanziva, 2008). Reasons for overdiagnosis are primarily social (Chandler, 2008a) – initial training in a context where malaria is emphasized; the influence of peers/perceived expectations of colleagues; and pressure to conform to perceived patient preferences. Three ‘mindlines’ were identified that guided providers: that malaria is easier to diagnose than other diseases; malaria is a more acceptable diagnosis, and missing malaria is indefensible. Clinicians were found to follow these mindlines rather than the actual guidelines, incorporating the multiple social influences.

IPTp behaviors are closely correlated with antenatal care (ANC) seeking behavior. Studies have shown that the perception of risk from malaria during pregnancy may be low for some symptoms (Pembe, 2000). That study also found that husbands and relatives are the decision makers in maternal referrals, whereas the women had limited influence, especially on emergency referrals. The process in deciding to seek referral care takes into account the community perception of seriousness of the condition, difficulty to access and cost involved in transport, living expenses at the hospital, and perceived quality of care at facility level. Knowledge of the risk of malaria to pregnant women is high (MIS, 2008), and women are generally aware that SP is the recommended drug for IPTp (Mubyazi, 2005), but that directly observed treatment (DOT) is not always implemented due to lack of clean water and cups. Adolescents in their first pregnancy have higher parasite prevalence, and since they are already at higher risk for complications, it is unsurprising that low birth weight is highest among adolescents delivering during the malaria season (Wort, 2006). Knowledge about malaria has not been shown to be a critical factor in IPTp uptake, although it does affect ITN use (Nganda, 2004), due largely to the fact that IPTp is part of the ANC package.

Gaps
These studies, based mostly on household survey data and clinical observations and interviews, do not address the key factors that are important at the household decision-making level. But gaps remain in our understanding of household-level decision-making on net use, treatment seeking behavior, and ANC attendance that ensures delivery of IPTp.
Part 2: Methodology

Decision-tree modeling workshops were held in 2 districts in Tanzania; Nanyumbu District in Mtwara region and Kasuru District in Kigoma Region, to provide two sources of data from a high malaria-prevalence and a lower malaria-prevalence area. Mtwara and Kigoma also differ culturally. A 6-day series of workshops was held that explored issues in three thematic areas: net ownership and use; treatment seeking behavior and adherence to treatment; and early ANC attendance to receive two doses of IPTp. Two research teams conducted the workshops simultaneously in both Nanyumbu and Kasuru districts. The schedule of the workshops was as follows:

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<thead>
<tr>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
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<tbody>
<tr>
<td>Women Nets</td>
<td>Men Nets</td>
<td>Women Treatment</td>
<td>Men Treatment</td>
<td>Women IPTp</td>
<td>Men IPTp</td>
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<td>FGD discussion on general malaria beliefs and attitudes</td>
<td>FGD discussion on general malaria beliefs and attitudes</td>
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<td>Decision Tree Modeling exercise: 3 groups of 4 develop Dtrees. (users of nets; owners-but-non-users; non-owners)</td>
<td>Decision Tree Modeling exercise: 3 groups of 4 develop Dtrees. (users of nets; owners-but-non-users; non-owners)</td>
<td>Decision Tree Modeling Exercise: 4 individuals develop dtrees</td>
<td>Decision Tree Modeling Exercise: 4 individuals develop dtrees</td>
<td>Decision Tree modeling exercise: One group of 4 husbands of early ANC attendees and one group of 4 husbands of late ANC attendees</td>
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In each district, participants were identified through Malaria Focal Persons, village leaders and/or the Lindi-Mtwara community survey. Using purposive sampling three groups of four people each were formed for both men and women: one group of net users; one group of net owners but non-users; and one group of non-owners. To enable interaction between participants and free expression of ideas and opinions, the groups were grouped by sex, women on the first day and men on the second. Formal leaders including village chairperson were excluded, as their presence may interfere with the freedom of expression amongst participants.

Nets FGD: Prior to being divided up into small groups for the decision tree modeling exercise, the groups of 12 men and 12 women participated in a focus group discussion together about general themes associated with perceptions of malaria and household hierarchy in decisions around net use and ownership.
**Nets Decision-Tree:** Each group of four developed a decision tree model, facilitated by a research team member using VIPP cards. Using open ended questioning interviewers discussed benefits and constraints, social, economic, cultural, and practical/mechanical to construct a decision tree for the behavior. The lead researcher later combined the decision trees first into two models (for men and for women) and then into a single model.

**Treatment Seeking and Adherence:** On days 3 and 4, a group of 4 women and 4 men respectively participated first in a Focus Group Discussion that looked at general issues about malaria treatment seeking and adherence to dosage. Then, facilitators conducted individual interviews to construct decision tree models for treatment seeking behavior and adherence to correct dosage. Because treatment seeking is a complicated issue, individual decision trees were completed to ensure the details were captured for each participant.

**IPTp Uptake:** On day 5, four women identified as having gone early for ANC and four women identified as having gone late to ANC participated in a FGD to identify issues around ANC attendance and IPTp uptake. Following the FGD the participants were split into two groups, Early ANC and Late ANC, to construct decision tree models that describe the process of going to ANC early and getting IPT1, and going again for IPT2. The models were combined by the research team leader during analysis. On day 6, husbands of women identified from the two groups (but not the same women) went through the same process.

Total number of participants:

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<table>
<thead>
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<tbody>
<tr>
<td>Nets</td>
<td>12 women and 12 men</td>
</tr>
<tr>
<td>Treatment</td>
<td>4 women and 4 men</td>
</tr>
<tr>
<td>IPTp</td>
<td>8 women and 8 men</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24 women and 24 men</strong></td>
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**Data Analysis**

FGDs were audiotaped, then transcribed and translated from Swahili to English to make data accessible to non-Swahili speaking members of the research team. To ensure accuracy of the translation, a transcript of one FGD was back translated by a linguistics expert. The researchers conducted their own analysis and developed the final decision trees, combining the small groups' models.

This report is based on analysis of the data from the general FGDs only as transcriptions were not available for the decision-tree exercises. Analysis and findings are therefore focused on the more general opinions and beliefs about malaria, net use, treatment seeking and IPTp, rather than an in-depth examination of the decision-making process.
Part 3: Findings

3.1: Malaria as a Community Health Problem

Every group that participated in the study identified malaria as the leading health problem in their community. The other main health issues that were identified included HIV/AIDS, cholera, worms and diarrhea. Female participants in Nanyumbu also mentioned a wide range of other problems, including measles, chickenpox, eye disease, respiratory diseases, maternal health problems, rashes, boils and headaches. Many of these problems were attributed to poor sanitation and the lack of clean water.

I think diarrhea [is a community health problem] but mostly malaria. (Kasuru, Female, Treatment)

HIV/AIDS is number two. (Nanyumbu, Female, Treatment)

There are many diseases in our community, for example malaria, eye diseases, respiratory diseases, and pregnant women problems. If you take a look we have a lot of health problems. (Nanyumbu, Female, ITN)

These diseases are caused by lack of clean water. (Nanyumbu, Male, IPTp)

The prevalence of malaria was perhaps the main reason that people identified it as the most important community health problem – there simply is no-one who is not inflicted by the disease at some point. A few groups noted that children and pregnant women were most at risk.

This problem is huge because whenever you hear someone is sick it’s malaria. (Kasuru, male, case management)

Malaria takes 100% of all diseases in this village, try to ask others here if there is anybody among us who didn’t have malaria in the past six months, maybe but I don’t think so. (Nanyumbu, female, ITN)

The severity of malaria also appeared to be a key factor in identifying malaria as the leading health problem. People fear malaria as a “lead killer disease” (Kasuru, female, treatment), particularly for children. They noted that it is more of a problem than other diseases, including HIV, because it kills very fast.

Many people are dying because of malaria, malaria kills very fast. (Nanyumbu, female, treatment)

It is a dangerous diseases it kills even for adults. When you get malaria even the unborn baby gets it if you don’t go to the clinic early to get treatment. (Nanyumbu, female, IPTp)
We do fear because you might die any time – it’s different from other diseases. For example HIV/AIDS - you will live with it for a long time; but malaria, in thirty minutes you might die. (Nanyumbu, male, treatment)

Malaria was perceived by participants to be a problem throughout the year, and most groups noted a marked increase during the rainy season. During this time, participants noted the increase in breeding sites for mosquitoes such as water-filled potholes and long grasses.

In terms of what can be done to prevent malaria, nearly all groups who discussed this mentioned the need to use nets, and asked for more to be supplied. Two groups noted the need for education on how to use nets and how to use insecticide-treated nets, particularly with regard to overcoming beliefs that treated nets are harmful to humans. Also, nearly all groups mentioned the need to clean the environment, such as by covering potholes, filing in ponds, and cutting down grass.

*What we’re doing is unblocking ponds and removing the bushes around our houses, in order to make the mosquitoes live far away from our home environment* (Kasuru, male, ITN)

*We need help; at least every household should be given a net.* (Nanyumbu, female, ITN)

*Everyone is supposed to keep the areas surrounding their house clean, which means filling in puddles with soil, emptying cans filled with water.* (Kasuru, female, IPTp)

In general, participants showed at least some level of self-efficacy to carry out malaria prevention efforts, for example by using nets or cleaning the home environment. However, the male ITN group in Nanyumbu was more fatalistic and several of the participants thought that prevention was “impossible”. One of those noted that it was the responsibility of women. Other participants in the group noted that individual action is not enough – in order to effectively clean the environment a group effort is needed. A similar view was expressed by one of the participants in the male ITN group in Kasuru who called for the government to take care of public roads and spaces.

*The issue of clearing damp at home is the issue of the person him/herself but the issue of clearing tributaries I can’t clear the tributaries... maybe the government should help us on doing it... maybe the mosquitoes will decrease.* (Kasuru, male, ITN)

*It is impossible because in our homes women do not take good care of stagnant water and malaria parasites produces themselves in that water.... It’s none of my business, I only need water to take a bath, but she is the one who plays with water in cooking, washing dishes, and other activities.* (Nanyumbu, male, ITN)
Respondents in Kasuru noted that there used to be community spraying to combat malaria but it is no longer happened. Both the respondents in Kasuru and Nanyumbu thought that spraying was a key strategy to prevent malaria and that the government should take action in this matter. This was seen to be a way to combat malaria once and for all, whereas the use of nets is not sufficient, since people travel away from home where they may not have access to a net and nets cannot protect you from mosquitoes when not in bed.

I remember last time there were those assistant health officers having medicine for spraying on the ponds or outside the house...nowadays even if you take five nets or ten still you will be infected because the life we are living in is full of ponds and ...the mosquitoes lay many eggs on those ponds. (Kasuru, male, ITN)

I would like to beg the government if possible to provide mosquito sprays in our households. Maybe it will help to kill mosquitoes especially during the rainy season, because there are a lot of mosquitoes. (Nanyumbu, male, ITN)

Education was another key strategy that participants called for to prevent malaria. Some noted that this used to happen in the past but only one group, women in the IPTp Kasuru group, noted that health officers currently pass by the house to provide education on malaria. However, one of the men’s groups in Kasuru noted that the health attendants are unreliable sources of information. Other groups thought that education was needed in several areas, including how to clean the environment and how to use nets.

So you can find health attendants we have here in the village but if you have questions on health issues you will find that they don’t know much and can’t give you the right answer. (Kasuru, male, treatment)

Sure for those people who got the mosquito nets... they are not ready to use them, they said that those nets have poison...we want to get educated like those who have them and those who don’t have at all so we can know the right time for using those nets. (Kasuru, male, ITN)

The important thing is education on prevention... we understand that this is a problem but we don’t know what to do. (Nanyumbu, male, ITN)

3.2: Net Use

During the general focus group discussions on net use, 12 men and 12 women discussed a variety of issues associated with net use, including availability, affordability, efficacy, and household decision-making, among others.
In terms of the availability and affordability of nets, participants noted that there were not enough nets for everyone. Participants were aware that the priority was for children under 5 years and pregnant women but were also conscious that everyone in the household needed to use a net as no one was immune from malaria. Many participants mentioned the voucher scheme for pregnant women and young children but it was noted by the men in Nanyumbu IPTp group that there were not enough nets in the voucher program and problems with administration and registration meant that not everyone who was eligible received a net. Others purchase nets from shops and the price ranged from 4,500-7,500 Tanzania Shillings. In the ITN groups in Nanyumbu they noted that people generally preferred the rectangle nets as they fit the bed more easily.

*Pregnant women and children under five years of ages get vouchers, but other people have to purchase in the shop. (Nanyumbu, female, ITN)*

*The price differs a lot, for the triangle nets you can get for Tsh. 7,500 and the round one is Tsh. 4,500 or 5,000. (Nanyumbu, male, ITN)*

*By the way the nets are few. Sometime back they gave nets for free for children under 5, but most of them didn’t get one. (Kasuru, male, IPTp)*

Three of the four ITN groups noted that the cost of nets presented a significant barrier to net use for those with a low income. Participants also noted that nets were distributed without proper education on how to use them and this also stops people from using nets correctly, particularly the use of insecticide treated nets.

*Some of the households do not own a net due to their low income, only pregnant women and those with children who are under five are the ones who own a net. (Nanyumbu, female, ITN)*

*These nets have a problem because we are not sure what to do with them because they give them to us with no education. (Kasuru, male, ITN)*

Indeed, the use of insecticide was of considerable concern to the men in Kasuru. Some of them thought that the insecticide was poisonous for humans and was brought by white people to kill or sterilize people. Women in Kasuru were also concerned about children being in contact with ITNs, especially during the washing and retreatment process.

*[My wife] said those are white people’s feelings; they want to cause problems in order to destroy the people with those mosquitoes. You just think somebody is given a mosquito net with poison on it for killing mosquito and you also want to cover yourself on the same net? (Kasuru, male, ITN)*
I think when it [the treated net] is wet it causes harm because of the water dropping out of it but when it is dry only mosquitoes are affected (Kasuru, female, ITN)

Nevertheless, the women’s ITN group in Kasuru were aware of the benefits of using insecticide and emphasized that after three months the insecticide becomes weak and ineffective and there is therefore a need to wash and retreat nets regularly. While one participant in the Nanyumbu women’s group for ITN clearly stated how to wash and retreat, participants noted that others did not know how to use the insecticide properly.

[You wash nets after three months] because after three months the insecticide becomes weak to kill the mosquito. (Kasuru, female, ITN)

People have the Ngao (insecticide) but they don’t know how to use it. She might be told to use a certain amount but they do it in a wrong way. This does not help. (Nanyumbu, female, ITN)

Other barriers to net use mentioned by the FGDs included feeling hot under the net, fear of nets catching fire, nets being too small for mothers and children to sleep together, administration and registration, and not having proper mattresses. While some of the problems such as poverty and distribution are related to structural factors, many of the barriers to use can be effectively addressed through strategic communication programs such as COMMIT.

Although motivation to purchase nets was not extensively discussed in the large group discussions, some participants mentioned that triggers to purchase nets included the onset of rainy season, counseling from hospital staff, or the death of a friend’s child.

I can say that, as human being we have a tendency of forgetting, we do remember when something happens. Someone can remember to buy mosquito net after a certain problem like death of a friend’s child or one of his best friend due to malaria, then will tell his wife, this year we must buy bed nets as you can see what happened to our friend. So, people do buy nets after a certain problem happens. (Nanyumbu, male, ITN)

The ITN discussion groups discussed whether it is possible to still get malaria when using a net. Only the women’s group in Nanyumbu thought that it was “impossible” and that “if you use [nets] properly you cannot get malaria”, unless the net has holes in it or is used without a proper mattress. The other groups noted that many of them have used nets and still become sick with malaria, primarily from being bitten while walking around at night or when visiting others that do not have nets. Nets were seen as part of a package of prevention but that the best way to eradicate malaria is to get rid of the mosquitoes. One participant in Nanyumbu questioned whether nets really do prevent malaria since he did not use a net and had not been sick with malaria for many months.

Because mosquitoes bite you anytime not only when you’re sleeping. (Kasuru, female, ITN)
Even if I slept in bed, I don’t have a net...I haven’t been suffering from malaria for about a year...so I don’t understand if it is mosquito nets or something else that helps to prevent malaria. (Nanyumbu, male, ITN)

I am sleeping inside the mosquito net but if I go outside mosquitoes will bite me. (Nanyumbu, male, ITN)

The ITN groups also discussed washing and repairing nets. Overall, participants agreed that they wash and retreat nets after three months as this is when the insecticide becomes weak. They noted that some people might wash nets more often depending on their house, such as if they sleep in the kitchen. Participants also all agreed that they sew up any holes that appear in the nets to prevent mosquitoes from getting inside during the night. In Kasuru, the women noted that they washed and retreated the nets and sewed up any holes. However, the men in that district claimed that their wives did not know how to do this and it was the men who did the repairs. This suggests that household responsibilities and decision-making for malaria prevention are not clearly assigned to either sex.

It is true some people clean their net after every 90 days, and some do cleaning in between that, due to their type of house. You know some people sleep in the kitchen; so to wait for 90 days is not possible it will turn into blanket. (Nanyumbu, male, ITN)

On my side I usually wash after three months, if I see mosquitoes on the nets I will know that the insecticide has finished and if I don’t see any mosquitoes then the insecticide is still on. (Kasuru, male, ITN)

If it tears we sew it. (Kasuru, female, ITN)

Our wives are the ones washing them and they are supposed to be the ones to put the insecticide but they don’t know how to do so. (Kasuru, male, ITN)

A similar disagreement was seen in Nanyumbu, with the women claiming that the mothers sew up any holes and the men saying that the head of the household, a man, is responsible for making any repairs. When it comes to household responsibility for purchasing a net, there was also not a clear response. Some of the women in Nanyumbu said that women paid the supplementary amount to purchase a net with a voucher, whereas others noted that the man will pay. Among the men, in Nanyumbu, they noted that anyone could purchase a net but it is often the women who go to buy it and the man provides the money.

You can be married and still sometime the husband doesn’t give you money, then you have to pay by yourself. (Nanyumbu, female, ITN)
In my case if I am pregnant and I ask my husband for the money to buy a net, he has no problem at all, he gives to me. (Nanyumbu, female, ITN)

The mother goes by herself…. A man prepares her but she goes by herself. (Nanyumbu, male, ITN)

When asked how they would describe someone who uses a net every night, participants in Kasuru related to their wealth status and called them “rich” or “wealthy”, whereas in Nanyumbu they referred to their skills and called them “diligent”, “capable” and “a protector”. For those who did not use nets every night, they called them “careless”, “not capable”, “foolish” and “stupid”, though this caused some offence by others in the group.

3.3. Treatment Seeking

Four focus groups were gathered to discuss seeking treatment for malaria and develop a decision-tree to illustrate household decision-making. During the general group discussions, which are the focus of this report, the groups discussed a range of issues including the actions taken to seek treatment, barriers, trust in the diagnosis, and knowledge of available medication, among others.

Most respondents noted that they sought treatment promptly if a child was sick – either immediately or after a short period of observation.

Other people decide to do a research; they wait for the first day and the second day. Others will send their child immediately after they see any sign. As for you why do have take two days after you see the signs and symptoms to take your child to the health facility. (Kasuru, female, treatment)

If that happens to me there is no room for discussion I just take the text book (for records) and ask my wife to carry the baby and run right away to the hospital, because we don’t watch the time I can’t figure out the hours. (Nanyumbu, male, treatment)

However, these claims seem to be outweighed by the many barriers noted by respondents to seek prompt treatment, or any treatment at a health facility. A common strategy was to conduct a self-diagnosis and get medication from a pharmacy. Only if that did not work would they then seek treatment at a health facility. The primary reason given for the delay is financial. Participants explained that if they do not have the money to pay for treatment at a hospital or clinic, then they try using medicine first to see if it helps before seeking an actual diagnosis. They also noted that this helps them to avoid long wait-times at hospitals or clinic, in rural areas, may be the only option close by.

If I don’t have money to go for testing I will just go straight to the pharmacy. (Kasuru, female,
You may have only five hundred for buying medicine; you take it and you still feel sick. When you are critically ill, your relatives will come and contribute money and take you to the hospital. (Nanyumbu, female, treatment)

Some people are avoiding the chaos of standing in queues in the health facilities while here in the district we have many pharmacies. First you buy the medicines and use them; if they don’t work then you go to the hospital. It’s a big chaos standing in queues from morning till the evening and you might not get the service as well. (Kasuru, female, treatment)

In villages there are no laboratories, there are only shops. So when you feel you are not okay, you buy medicine and take it. If God helps you and you get cured, then you know that you had malaria. (Kasuru, female, treatment)

In seeking treatment for children, participants, especially those in Kasuru, noted that some families are more willing to spend the time and money to seek a proper diagnosis before treatment, whereas others will still go straight to a self-diagnosis and seek medication.

For a child/an infant it’s not good to start giving him/her some medicines before going to the hospital to get some tests and be sure of what he/she is suffering from, because you might overdose or give him/her a single dose. (Kasuru, female, treatment)

Basically when you find your child is sick you take him to the hospital for checkups, then if you get drugs you give him. But most of us we give them pain killers first; because you just know when you go to the hospital they will just tell you its malaria. (Kasuru, male, treatment)

Yes, regardless of other diseases they just give them malaria drugs. Many people in the villages don’t go to the hospitals for checkups. (Kasuru, male, treatment)

People conduct this self-diagnosis based on high prevalence of malaria and the symptoms that they or their family member are experiencing.

Because malaria is the major problem and it’s what have been bugging them, so that why they start to think of malaria first then later think of something else. (Kasuru, female, treatment)

Perceptions of the diagnostic skills at hospitals and clinics may also be another factor influencing people to self-diagnose and self-treat for malaria. Participants in Nanyumbu seem to trust doctors more than those in Kasuru, and the men described doctors as “experts” or those who “went to school”. In Kasuru, they expressed more doubt as to the capabilities of doctors and the quality of care received, especially those in local laboratories rather than at the district hospital.
But for what I know here in Kasuru, I am not sure for the whole of Tanzania, but in here we have very few professionals, e.g. Doctors, nurses, especially in the remote villages they don’t have much knowledge so they might tell from the fever that you have malaria but when they check they might not find. (Kasuru, male, treatment)

There are professionals from Mlimani University, who took at least one-year course those ones, are good, but there are those who took a course from God knows where for like six months so they are not fully trained. And another thing is the microscopes here are old and they can’t read the numbers so they just estimates the figures tell you have 800 malaria, just from looking at the patient. (Kasuru, male, treatment)

We believe for 100% because they are the doctors (Nanyumbu, female, treatment)

They are the experts so we trust them. (Nanyumbu, male, treatment)

Participants were aware of Alu as the preferred drug for malaria treatment, especially among children and that is “approved medicine” or the “modern one” (Nanyumbu, female, treatment). Overall, participants viewed the drug to be efficacious but one participant noted that the duration of the treatment can be a barrier for some to complete the full course. Only the women in Nanyumbu mentioned a side effect of “skin burns” on children when taking Alu.

For me truly, Alu is what is accepted more. (Nanyumbu, male, treatment)

Alu is one of the good medications for children who are cured by Alu. (Nanyumbu, male, treatment)

I have tried to use for my kids, and that medicine is good, but a lot of people don’t like to use since it has a lot of tablets and its takes so many days to finish, someone might take half of the dose and quit, but if you take the complete dose it is a very good medicine. And the medicine does not have any problems. (Kasuru, female, treatment)

When the treatment is found not to be working, people either change medications or seek help from a traditional healer.

If you don’t feel well you keep on changing drugs (Nanyumbu, female, treatment)

We go to the hospital first but it doesn’t help, the medicine does not cure, then we go to the traditional healers. (Kasuru, male, treatment)

At the first they do go the hospital then when no improvement they opt to go to traditional
healers. (Nanyumbu, male, treatment)

When deciding what treatment to seek for a child and when, it seems that both the mother and the father play an important role. Participants noted that it is usually the mother who makes a decision about whether to seek treatment since women are in the home more than men, but that either parent could take the child for treatment. Payment for treatment is the opposite – although either parent could provide the money for the treatment, it is usually the man who gives money since he is the “bank” (Nanyumbu, male, treatment).

Sometimes the child gets sick while I’m not around, so she has to take matters on hand, she can’t wait for me. (Kasuru, male, treatment)

It depends... because the woman might have the money... or I might have money. It means anyone between us can provide money. (Nanyumbu, male, treatment)

Most of the time we, fathers, are the ones who provide money because we the fathers are the owners of the houses. (Nanyumbu, male, treatment)

When asked to describe people who take their children for prompt treatment, participants responded positively, saying that they “care for the family” (Kasuru, female, treatment), are “a good caretaker” (Nanyumbu, female, treatment) or are “brave” and “educated” (Nanyumbu, male, treatment). However, those who delay treatment were described as “cruel” (Kasuru & Nanyumbu, female, treatment), “careless” or that they “didn’t go to school” (Nanyumbu, male, treatment).

3.4. Intermittent preventative treatment for pregnant women (IPTp)

The final days of the research study focused on malaria prevention for pregnant women. A women’s group, made up of four women who went early for ANC and four women who went late for ANC, as well as a men’s group of husbands, discussed some general themes around ANC attendance and IPTp uptake prior to working on the decision tree exercise.

Participants agreed that the first person a woman tells about her pregnancy is usually the “one responsible” (Kasuru, female, IPTp) – the father of the child, though both groups of women in Kasuru and Nanyumbu noted the possibility that the husband might deny his responsibility for the pregnancy. The groups also noted that a woman might choose to tell her mother, mother-in-law, siblings or best friend about the pregnancy. The men’s group in Nanyumbu highlighted the importance of telling the husband so that they can discuss together when to seek ANC. In Kasuru, the men also noted that the decision to seek ANC is made by both the man and the woman.

You first inform the person responsible, if he refuses, then that’s it. (Kasuru, female, IPTp)
She gives me information so that we can decide together to go to the clinic. This is because pregnancy itself is a problem. Pregnancy needs to be taken care of by a specialist not just staying with it at home. There are many problems in pregnancy. (Nanyumbu, male, IPTp)

The general perception among the groups was that a woman should attend ANC two to three months into the pregnancy. Only the male groups noted that women should attend as soon as they know they are pregnant, and that it is “stupid to be late” (Kasuru, male, IPTp). In Nanyumbu, the groups noted that women seek early ANC so that they can receive preventative treatment for a variety of diseases, including malaria. Several participants quoted three times as the correct number of visits necessary for ANC, whereas others said it should be “as often as you want” (Kasuru, female, IPTp) or that the “doctor’s advice will determine how many times to attend clinic” (Nanyumbu, male, IPTp).

They attend early so that they can get medicine to prevent malaria. (Nanyumbu, female, IPTp)

As soon as she suspects that she is pregnant [she should start going to the clinic]. (Kasuru, male, IPTp)

“Laziness” and “negligence” were cited by the women in Kasuru as reasons for attending ANC late. They also noted, as did the men in Kasuru, that the women might not want people to know that they are pregnant. Farm work and distance from a clinic were also thought to delay care-seeking, as was a dislike for being “pressed on the stomach” (Kasuru, male, IPTp).

It’s just laziness; feeling lazy to go to the clinic. (Kasuru, female, IPTp)

During the test they press their stomachs, so some don’t like that; also some don’t like people to know that they are pregnant. (Kasuru, male, IPTp)

The groups in Kasuru were well aware that malaria prevention medication was available for pregnant women at clinics, and noted that they were given SP or Alu once or twice during the pregnancy and that the drug was “beneficial”. Early care-seeking was cited as important in order to receive preventative treatment and those who attended late noted that they did not receive any medication. In Kasuru, the women noted that in busy clinics only some women would be given the medication – suggesting a problem with distribution and supply. The women’s group in Kasuru and the male group in Nanyumbu noted that dizziness was a side effect of taking the medication.

Some clinics have a lot of patients, for instance the one in the villages...perhaps the storekeeper only signed out a few drugs from the store, so only a few people will get them and the rest will get them at another date when they come for a check up. Maybe the period for taking the drug is over so that means she won’t take it again. (Kasuru, female, IPTp)

They didn’t give me SP because I went to clinic when I was already eight months pregnant.
(Kasuru, female, IPTp)

About this medicine, some say they are helpful some are affected by the medicine...whey they take them they feel dizzy. (Nanyumbu, male, IPTp)

When asked to describe a woman who seeks late ANC, participants called them “lazy” (Nanyumbu, male and female, IPTp) or “stupid” (Kasuru, male, IPTp). When it came to describing women who seek early ANC, the men in Nanyumbu viewed them positively, describing them as “educated” or “informed”. However, the women in Kasuru seemed to express some distain for women who are just “overly concerned” or “rushing to the clinic, queuing up, waiting, claiming that she is pregnant” but in the next breath said that they would advise women to go “early” for care. In Nanyumbu, the women also saw early care-seeking as if the women were showing-off their “prestige”, especially first-time mothers. Early, but not too early, seems to be the ideal timing of ANC as perceived by the women.
Part 4: Discussion

Malaria was widely acknowledged during the FGDs to be a serious disease affecting all members of the community. However, participants called out for more education on the specific attributes of the disease and preventative methods. They showed knowledge about basic actions such as net use and treatment seeking but expressed confusion about some of the information they have received and were sometimes unsure about potential benefits and risks. This lack of clarity poses a barrier to effective decision-making on malaria. Self-efficacy to take action was fairly strong and participants understood that there were actions individuals could take to help themselves and their families but there remains a need for greater empowerment of communities to really change the impact of the disease.

Overall, knowledge of nets was good but there is a clear need for more education. It appears that nets are often distributed with the assumption that people will know what to do with them. In fact, people need clear guidelines on the when, why and how of using nets as well as the benefits and risks of treating nets with insecticide. Myths about the use of ITNs have increased fear and present a considerable barrier to use, but one that can be overcome with effective communication strategies.

Belief in the efficacy of nets is strong but it was clearly expressed that nets are not enough since they only protect people during the hours of sleep. Participants called for more long-term strategies to eradicate malaria from the environment. On the other side of the coin, in Nanyumbu, the women’s belief that it impossible to get malaria if nets are used properly shows a misguided sense of security that nets alone can combat malaria and that people need clear information on the benefits of net use but also the limitations.

In terms of treatment seeking, participants showed a strong sense of responsibility for taking some kind of action for fever but the health facility is rarely the first point of call. The prevalence of malaria leads many to assume that it is the most likely cause of illness and self-diagnosis is therefore fairly common. In these cases, people first go to purchase medications at local pharmacies and shops. Only when that fails do they seek a formal diagnosis from a health facility. It was not clear exactly what medications were purchased privately before diagnosis at a health facility, but it seems that these were more for the management of symptoms, such as pain relievers, rather than direct treatment for malaria. This suggests a critical delay in receiving the right course of treatment rather than any course of treatment.

However, attendance at a health facility does not guarantee that patients will receive the right course of treatment either. While trust in doctors and their diagnostic skills was mixed between the two districts, over-diagnosis of malaria seemed to be a common perception. When treatment is received, Alu is the commonly prescribed medication and is generally well accepted, though the length of treatment may pose a barrier to completing the full dose. Also, some participants insisted that quinine was the only efficacious course of treatment.
Traditional healers still play a prominent role in treatment, though for many it is seen as a second option when modern medicine does not work. There were some fairly strong opinions expressed that although many people seek help from traditional healers, it was because they were uneducated and ill-informed.

Knowledge and attitudes for IPTp were overall less clear than those for net use and treatment seeking, suggesting that this is an area of malaria prevention that has received less attention in the past and could benefit greatly from more focused communication messages. Participants understood that ANC was important for pregnant women to receive but opinions on the time to seek care and frequency of visits differed considerably. They were also aware that medication for malaria prevention was provided at ANC but several of the women in the FGDs had not received it themselves as they had attended ANC too late in their pregnancy or there was no supply of drugs at the clinic.

Furthermore, perceptions of women who seek early ANC was also more negative than people who use nets or seek prompt treatment, and also more contradictory. Participants viewed those who sought late ANC as “lazy” but also viewed those who “rush to the clinic” as inexperienced mothers who are overreacting to what is a natural and common part of a woman’s life - pregnancy.

Although this report was not able to examine the decision-making process in depth, some comments and observations by participants highlight the ill-defined allocation of responsibility within the household when it comes to malaria prevention and treatment. Men and women both saw themselves as being responsible for purchasing a net, repairing nets, taking a child to receive treatment and for women attending ANC, and the focus of communication strategies therefore needs to target both audiences, rather than assuming women to be the sole care-takers of health.

**Part 5: Conclusion and Recommendations**

Malaria prevention campaigns such as COMMIT have clearly made a considerable impact on the knowledge and attitudes of community members towards the prevention and treatment of malaria. However, this research study shows some clear gaps where effective communication strategies can make significant in-roads to improve knowledge and reduce the burden of this disease. In particular, the following points are recommended for action in the next phase of the COMMIT program:

- The prevalence and severity of malaria are well understood. Messages should focus on clear action points that can be taken to reduce the burden of disease through prevention and treatment.
- Target messaging at both men and women as decision-makers and encourage joint responsibility for malaria prevention and treatment.
- Go beyond basic messages on the importance of preventative methods to explain clearly the details of malaria transmission as well as the benefits, risks and limitations of prevention strategies.
• Provide clear messages to accompany the distribution of nets so that recipients understand how to use a net, who should use it, when to use it, and how to care for it through repair and retreatment.
• Address the myths of insecticide treated nets and provide clear guidelines on potential risks to health and how to avoid them.
• Developing messaging on the importance of completing a full course of treatment of Alu.
• Address self-diagnosis and the types of medication being sought at pharmacies to ensure that the correct course of treatment is being received for malaria and not just any treatment.
• Provide clear communication messages on the recommended timing and frequency of ANC attendance for pregnant women and target messages at both women and men.
• Encourage a change in perception of those who seek early ANC away from being “overly-concerned” to portray them as responsible and caring for their families.
• Empower communities to take action collectively rather than promoting only individual behavior change.
DRAFT

References

TO BE COMPLETED