Kenya MBS Brief

What Do the Data Mean?

INTRODUCTION

Malaria is a significant public health concern in Kenya with approximately 70% of the population at risk for malaria, including 13 million people in endemic areas. The nationwide prevalence is 6% according to the 2020 Kenya Malaria Indicator Survey. The lake endemic region has the highest malaria burden with a prevalence of 19% among the epidemiological malaria risk zones in Kenya (KMIS 2020). The greatest burden from malaria in Kenya is felt by children under five years and pregnant women among the at-risk population.

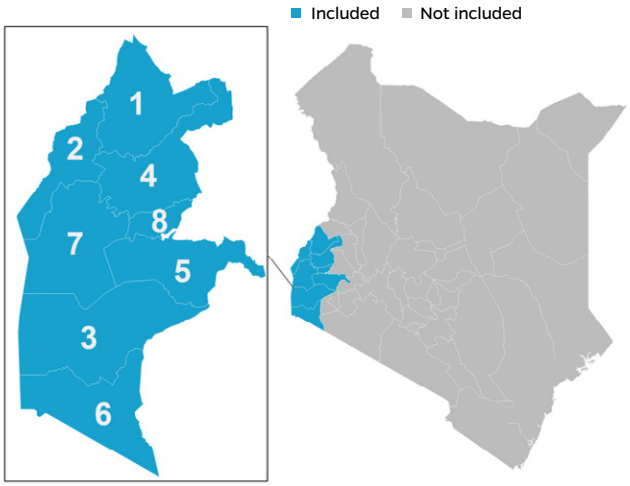
To reduce malaria incidence and deaths, the Division of National Malaria Programme (DNMP) continues to integrate and strategize effective malaria control and elimination interventions in Kenya. These interventions have been supported by the DNMP with financial and technical assistance from U.S. President's Malaria Initiative, the Global Fund, WHO, among others. Along with systemic interventions, malaria control and elimination depend in part on human behavior. Understanding populations' malaria-related knowledge, attitudes, and practices are key to optimizing social and behavior change (SBC) programs.

This brief highlights findings from the 2022 Malaria Behavior Survey (MBS). The survey had two main objectives: First, to better understand the sociodemographic and psychosocial characteristics (as described by the Ideation model of behavior change) associated with malaria-related behavioral outcomes in Kenya. Second, to use this information to determine the appropriate focus of SBC activities.

WHAT DO THE DATA MEAN?

This MBS brief summarizes the survey results and presents recommendations for SBC programs for each of the malaria intervention areas. A complete report is available on the MBS website.

2022 KENYA MBS STUDY ZONE



Counties Included:

1. Bungoma	5. Kisumu
2. Busia	6. Migori
3. Homa Bay	7. Siaya
4. Kakamega	8. Vihiga

The Kenya MBS collected data from:

1,456 households

2,253 individual respondents
1,787 women | 466 men

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Malaria Case Management

BEHAVIORS AT-A-GLANCE

Among caregivers of children under five who had a fever in the two weeks before the survey:

64%
sought care from a health facility or CHP (appropriate care)

61%
sought advice or treatment the same day as, or the day after, fever onset (prompt care-seeking)

50%
sought prompt and appropriate care

58%
reported that the child received a malaria test, with a smaller percentage of children younger than 12 months administered tests (48%) compared to children aged 12–13 months (67%) and 24 months or older (66%) ($p<0.05$)

74%
reported that children under 5 with confirmed malaria received artemisinin-based combination therapy (ACT) the same or next day after confirmed malaria diagnosis (prompt treatment)

SBC RECOMMENDATIONS

CHALLENGE: Only half of children under five with a fever in the past two weeks received prompt and appropriate care. To address barriers to seeking care promptly and accessing appropriate sources of care, SBC programs can:

- **Foster interpersonal communication about malaria with a spouse or partner to improve prompt and appropriate care-seeking.** Caregivers who reported talking with a spouse/partner had **two-times** increased odds of reporting prompt and appropriate care-seeking for a child under 5 with fever in the two weeks preceding the survey (AOR: 2.0; 95% CI: 1.2-3.6; $p<0.05$). Overall, less than half **(46%)** of respondents reported discussing malaria with a spouse or partner. A significantly larger percentage of men, older respondents, and more educated respondents reported interpersonal communication with a spouse or partner about malaria, compared to women ($p<0.001$), younger respondents ($p<0.01$), and those with lower education attainment ($p<0.01$). SBC programs can encourage spousal or partner communication about malaria with women, younger populations, as well as those with lower educational attainment.
- **Promote favorable attitudes and perceptions related to community health promoters (CHPs).** Caregivers with favorable perceptions of CHPs, specifically if they perceived CHPs to always have rapid diagnostic tests for malaria, had **1.9 times** increased odds of reporting prompt and appropriate care-seeking for a child under 5 with fever in the two weeks preceding the survey (AOR: 1.9; 95% CI: 1.1-3.4; $p<0.05$). **Sixty-one percent** of respondents had favorable perceptions of community-based health workers regarding malaria care-seeking and treatment overall, based on a series of questions related to respondents' perceptions that community-based health workers have malaria treatment medication and rapid diagnostic tests. These perceptions varied by respondent sex, with more women **(64%)** than men **(57%)** having favorable perceptions of community-based health workers ($p<0.01$). Only **50%** of respondents perceived community health volunteers in their community to always have a rapid diagnostic test to confirm if a person has malaria. SBC programs can work with CHPs and community members, particularly men, to improve perceptions of CHPs and increase demand for rapid diagnostic tests from CHPs. SBC programs can also collaborate with service delivery partners to

complement these efforts by ensuring the availability of rapid diagnostic tests and artemisinin-based combination therapy (ACT) as well as appropriate training for CHPs at the community level.

- **SBC should promote prompt care-seeking and treatment for children under five with fever.** SBC programs can emphasize the timeliness of care-seeking not only at onset of fever, but also following a confirmed malaria case. SBC materials can also be developed for health facility workers, CHPs, as well as community members to encourage malaria testing for children under 5 with fever. Given the lower percentage of children under 12 months who had received a rapid diagnostic test, particular attention should be given to make sure that those less than a year old are administered tests when appropriate. Finally, SBC programs can collaborate with service delivery partners to address supply-side barriers that restrict prompt provision of ACT.

Insecticide-Treated Nets

BEHAVIORS AT-A-GLANCE

Net access and use

Net use by household members the night before the survey was:

72%
across household members of all ages

78%
among children less than 5 years of age

17%
if there was fewer than one net for every two people in the household

80%
if the household had one or more nets for every two people in the household (ITN use:access ratio)

17%
of available ITNs were used every night of the week before the survey

Consistent use of nets

87%
of individuals in households with at least one net used a net every night of the week

88%
of women pregnant at the time of the study in households with at least one net reported using a net every night of the week

92%
92% of these were obtained for free and 8% were purchase

Net care

42%
of respondents reported that they roll or tie up their net when it is not in use

32%
of ITNs that were ever washed had been washed with bleach or detergent *(NOT recommended)*

36%
of ITNs were dried in the sun *(NOT recommended)*

SBC RECOMMENDATIONS

1 CHALLENGE: Too few people with access to nets use them consistently. While most individual respondents **(87%)** in households with a net reported using one every day, only 80% of household members with access to an ITN reported that they slept under one the night before the study. Further observations highlight an issue of available nets going unused, with **31%** of nets observed in the study still stowed away and not in use. In addition to increasing access to nets, programs can:

- **Promote positive attitudes towards net use and care.** Those who reported positive attitudes towards net use had **1.6 times** greater odds of sleeping under a net every night than those who did not (AOR: 1.6; 95% CI: 1.2-2.1; p<0.01). Respondents who reported positive attitudes towards net care were also more likely to sleep" to "had 2.2 times greater odds of sleeping under a net every night than those who did not (AOR: 2.2; 95% CI: 1.6-3.0; p<0.01).
- **Promote consistent net use as a behavior that everybody can practice.** The odds of sleeping under a net every night were more than **six times** greater among respondents who reported perceived self-efficacy to use a net compared with their counterparts.
- **Leverage radio to promote net use.** The odds of using a net every night were **1.5 times** greater among those who reported listening to the radio at least once per week compared with those who did not.
- **Purposively engage youth on topics related to net use.** The odds that those in the youngest age group (15-19 years) reported using a net every night were **two to three times lower** than among those in older age groups (p<0.01). Net use among those with adequate access to an ITN varied significantly (p<0.01) by household member age, with only **76%** of those aged 5–14 years and **71%** of those aged 15–24 years sleeping under a net the previous night.

- **Promote net use among those with access to an ITN:** Only **80%** of household members who had adequate access to an ITN slept under one the previous night. Additionally, **34%** of nets observed were not used the previous night and **23%** were still stored in their original packaging. SBC programs can focus on addressing non-use of stored nets.

2 CHALLENGE: Practice of net care behaviors shows room for improvement. Only **42%** of respondents in households with at least one net stated that they fold or tie up their nets when not in use. Additionally, **32%** of ITNs that were reported to have been washed were washed with detergent in addition to water and **36%** of washed ITNs were dried outside in the sun after they were washed. To address this issue SBC programs can:

- **Promote tying up of nets when not in use.** Less than half of respondents reported that they fold or tie up their nets when not in use and only **28%** of nets observed in the study were tied up at the time of the study. This did not vary by residence, so it is advisable that SBC programming consider both urban and rural populations for promotion efforts.

- **Increase knowledge of safe net washing practices.** Washing nets with detergent and drying them in the sun can have harmful effects on an ITNs protective coating, thus potentially shortening its effective lifespan. The practice of net drying in the sun was significantly higher in urban (**50%** of ITNs) than in rural (**33%** of ITNs) areas. Washing nets with detergent was not significantly different across residence, but still was mentioned for nearly **a third** of nets. SBC programming can consider focusing on increasing knowledge about safe practices for net washing and drying and can take a particular focus on promoting safe cleaning in urban areas of the lake endemic region.

Antenatal Care (ANC) and Intermittent Preventive Treatment During Pregnancy (IPTp)

BEHAVIORS AT-A-GLANCE

Of the women surveyed who reported a pregnancy during the previous two years:

99%
attended at least one antenatal care (ANC) visit

22%
started ANC in their first trimester

82%
had 4 or more ANC visits

13%
had 8 or more ANC visits

87%
had favorable attitudes towards IPTp, which was higher among those with a college/university education (93%) compared to others (primary/secondary: 86%; no formal education: 84%; p<0.05).

87%
received at least one dose of IPTp

48%
received at least 3 doses of IPTp

Of the women surveyed who intend to have a future pregnancy

70%
intend to start ANC in their first trimester

90%
intend to attend 4 or more ANC visits

24%
intend to attend 8 or more ANC visits

98%
intend to take IPTp during their next pregnancy

SBC RECOMMENDATIONS

CHALLENGE: Only 22% of women with a live birth in the 2 years preceding the study started ANC in their first trimester, and 70% of women who intend to have a future pregnancy stated that they intend to start ANC in their first trimester.

- **Foster favorable ANC/IPTp attitudes.** Women with favorable ANC/IPTp attitudes had **3.7 times** increased odds of intending to seek early ANC during the next pregnancy, compared with those who did not have favorable ANC/IPTp attitudes (AOR: 3.7; 95% CI: 1.7-8.0; p<.001). Similar associations were found with intention to attend 4 or more as well as 8 or more ANC visits. With **87%** of women having favorable attitudes and given the strong link between ANC intentions and receipt of IPTp, continued maintenance of favorable ANC/IPTp attitudes will be critical to improve ANC and IPTp uptake. Favorable ANC/IPTp attitudes were more prevalent among respondents with a college/university education **(93%)** compared to others (primary/secondary: **86%**; no formal education: **84%**; p<0.05). SBC programs should ensure that ANC messages are tailored for individuals across education levels.

a. Among attitudes towards ANC/IPTp, only **27%** of respondents (both women and men) agreed it was okay for pregnant women to take IPTp to prevent malaria on an empty stomach. Other attitudes included:

   i. if a woman thinks she may be pregnant, she should not wait a few months before seeing a health provider (**65%** agreed), which was higher among women in urban areas (71%) than in rural areas (64%; p<0.01).

   ii. a woman who has given birth before does need to see a health provider as soon as she thinks she might be pregnant (**83%** agreed),

   iii. IPTp is safe for pregnant women and their babies (**95%** agreed),

   iv. pregnant women must take several doses of IPTp during pregnancy (**75%** agreed)

b. SBC programming can develop strategic messages tailored for pregnant women and their spouses/ partners about taking IPTp on an empty stomach and supporting early ANC (particularly in rural areas), even if women have had previous pregnancies. Given that **30%** of women who intend to have a future pregnancy did not state that they intended to start ANC in their first trimester, SBC programming offers a useful avenue to address delays in first ANC attendance.

- **Increase reach of SBC materials on malaria through mass media and community and other health workers, particularly materials related to ANC/IPTp:** Respondents exposed to messages on malaria in the last 6 months (AOR: 1.9; 95% CI: 1.08-3.24; p<.05) had **1.9 times** increased odds of seeking early ANC during the next pregnancy, compared with those not exposed. Similar associations were found with intention to attend 8 or more ANC visits. Exposure to messages on malaria was significantly higher among males (63% vs. 47%, p<0.001), older (p<0.001), and more educated respondents (p<0.001). Television, radio, or other channels could be harnessed to improve reach and increase exposure to information on malaria, particularly for women intending pregnancy who are younger and have lower educational attainment. Community health promoters and other health workers could also be important sources of malaria-related information. **96%** of respondents had a favorable perception of CHPs related to malaria in pregnancy, and **88%** had a favorable perception towards facility-based providers related to malaria in pregnancy. Efforts could include conducting household visits by CHPs or dialogue and action days hosted by facility-based providers to foster favorable ANC/IPTp attitudes.

Media Habits and Channels

AT-A-GLANCE

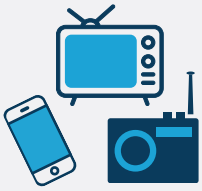
53%
had heard a malaria message in the past 6 months

6%
could recall a specific campaign slogan

Radio and television were the most common sources of malaria messages. Of those who reported hearing a message in the past 6 months:

59%
heard a message on the radio

37%
saw a message on the television



81%
own a mobile phone (urban vs. rural: 91% vs. 79%; p<0.001)

62% watch TV at least once a week (urban vs. rural: 80% vs. 58%; p<0.001)

84% listen to the radio at least once a week (urban vs. rural: 77% vs. 85%; p<0.05)

4 pm to 12 am **(50%)** is the best times to air on the radio

8 pm to 12 am **(81%)** is the best times to air on TV

Mass Media Channel Access

Urban	1. Mobile phone **(91%)** 2. Television **(80%)** 3. Radio **(77%)**
Rural	1. Radio **(85%)** 2. Mobile Phone **(79%)** 3. Television **(58%)**
Male	1. Radio **(92%)** 2. Mobile Phone **(90%)** 3. Television **(66%)**
Female	1. Radio **(78%)** 2. Mobile Phone **(75%)** 3. Television **(59%)**

MEDIA RECOMMENDATIONS

1 CHALLENGE: Mass media access and exposure to malaria messages varied by audience.

- **Increase SBC mass media programming across malaria lake endemic regions, especially among those with lower education and wealth levels.** There was overall low exposure to malaria messaging in the past six months **(53%)**, with significant differences by education (p<0.001) and wealth (p<0.05). Respondents from the lowest education level and wealth quintile (47% and 49% respectively) reported lower exposure to malaria messages than those from the highest education level and wealth quintile (67% and 61% respectively).

- **Diversify media channels to increase exposure and have an equitable approach to maximize reach of SBC programming for those living in urban and rural areas.**

Urban respondents routinely watch television **(80%)** more than they listen to radio **(77%)** and almost all **(91%)** own mobile phones. Rural respondents listen to the radio **(85%)** more than they watch television **(58%)** and most **(79%)** own mobile phones. Of the mobile phones reported, **85%** had web-based media capacity, and urban males have particularly good access to mobile phones. With web capabilities, there are increased opportunities to develop, test, and scale up innovative SBC programming that is tailored to specific audiences and that is interactive, engaging, and entertaining. By disseminating messages via multiple channels, SBC programming will ensure an equitable approach that reaches primary audiences with the same message via different channels. SBC research has long found that the more sources someone hears a key message, the more

likely they are to change their behavior. By diversifying media channels, SBC programs will increase the likelihood that audiences will take purposive action.

Respondents also reported diverse sources of malaria messages. Respondents who reported exposure to malaria messages cited (in order) the following channels:

Rural	Urban
1. Radio	1, Television
2. Television	2. Radio
3. Health Center/Hospital	3. Health Center/Hospital
4. Community Health Promoter	4. Community Health Promoter
5. SMS/Chat/Email	5. SMS/Chat/Email
6. Social media	6. Social media

While there were not necessarily SBC materials being pushed out through all six of the listed channels, these findings identify opportunities for mass media exposure point to the potential for different iterations of radio, television, mobile phone, and health centers/hospitals as strong channels to use in SBC programs.

- **Air malaria messages in the evenings.** Findings suggest that afternoons through late evenings (4 pm to 12 am) are the best times to air on the radio, while early and late evenings (8 pm-12 am) are the best times to air on TV. During these hours, up to **50%** of radio listeners and 81% of TV viewers tune in.