

Democratic Republic of Congo Malaria Behavior Survey Results Brief What Do the Data Mean?

INTRODUCTION

With funding from the U.S. President's Malaria Initiative and The Global Fund to Fight AIDS, Tuberculosis and Malaria, the Breakthrough ACTION project, managed by the Johns Hopkins Center for Communication Programs, collaborated with the Democratic Republic of Congo (DRC) National Malaria Control Program and other stakeholders to implement a Malaria Behavior Survey (MBS) on the psychosocial determinants of malaria-related behaviors.

The study, fielded during March and April 2021, collected data from a sample of households selected from four study zones using a multi-stage random sampling procedure. Study zones were created for the study, with each zone representing a group of provinces (see Figure 1). Results are statistically representative at both the national level and for each study zone. Structured questionnaires were administered to a random sample of women (15–49 years old) and men (18–59 years old) of reproductive age.

There were two main objectives of this study: First, to identify the sociodemographic and ideational characteristics associated with malaria behaviors in DRC. Second, using this information, to develop effective social and behavior change (SBC) programs.

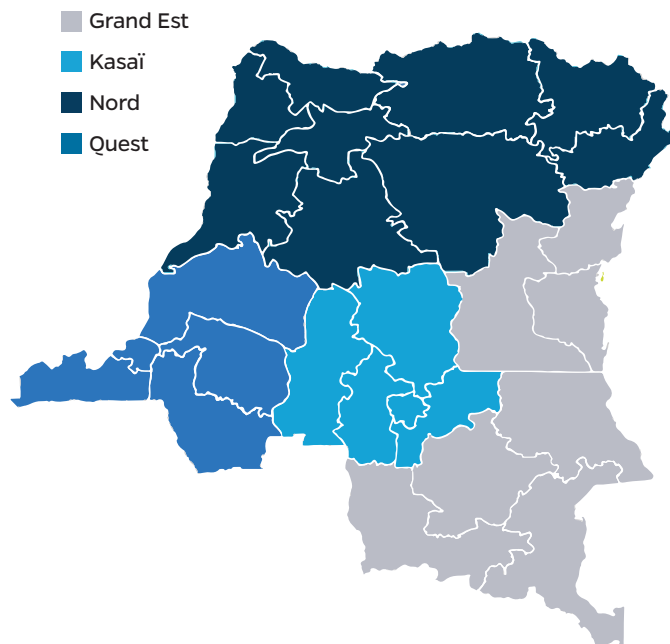
WHAT DO THE DATA MEAN?

This results brief summarizes the key statistically significant findings for each main intervention area. Subsequently, recommendations for SBC programs are provided.

When available and appropriate, statistically significant correlations from multivariable regression analysis form the basis of the recommendations.

Regression results are reported across all zones when statistically significant; when applicable, results are also shown for individual zones. The full survey report is available on the [MBS Website](#).

DRC MBS Study Zones



Breakthrough ACTION collected information from:



4,998
households



7,805
individuals
6,023 women
1,782 men



Malaria Case Management

BEHAVIORS AT-A-GLANCE

The key behavior in this module is **prompt and appropriate care**, defined as a child (under age five) being taken for care at a health facility or community health worker (CHW) within 24 hours of the start of a fever.

Of the **974** caregivers of children under five years of age reporting fever within the two weeks prior to the survey:

57%

More than half of children with fever were brought to a facility or CHW at any time after the fever began



41%

Fewer than half of children with fever were brought to a facility or CHW on the same or the next day after the fever began (i.e., prompt and appropriate care-seeking)

Prompt and appropriate care-seeking varied by subgroup

50% Nord zone

41% Ouest zone

40% Kasai zone

31% Grand Est zone

43% Urban residence

39% Rural residence



43%

Children under one year old were more likely to receive prompt and appropriate care compared to children older than three years old.



SBC RECOMMENDATIONS

Programs in all zones should continue to promote prompt (same/next day) care-seeking from qualified providers, including CHWs, for all children with fever. To be effective, SBC activities should:

1 Position prompt and appropriate care-seeking as common knowledge in the community for all children under five years old.

- The belief that “immediately” is the optimal timing for seeking care after recognizing a fever in the child was associated with **more than three-fold increased odds** ($p < .001$) of promptly seeking care at a health center or CHW across all zones. In addition, because prompt and appropriate care-seeking was less common for children two years or older compared to younger children, SBC activities can remind parents that **prompt and appropriate care for fever is essential for children of all ages**, stressing the potential severity of malaria especially in children under 5 years.

2 Promote spousal and interpersonal dialogue about malaria.

- Women who discussed malaria with their spouse, relative, or friend were **90%** ($p < .001$) **more likely** to bring their child with fever to a health center or CHW within 24 hours, across all zones.

3 Promote positive attitudes toward health facility workers.

- Women with the perception that health facility workers treat their patients with respect were **65% more likely**

($p < .05$) than others to practice prompt and appropriate care-seeking. SBC and service delivery partners can work together to promote health worker behaviors that focus on respectful and positive interactions with patients.

4 Clarify and communicate the expected costs for care.

- More than 75% of caretakers reported that they believe health facilities charge for malaria testing, and more than 50% perceived they are charged for malaria treatment. Caretakers who reported this perception about malaria treatment were **33% less likely** than others to seek prompt and appropriate care for their children. This finding underscores the need for NMCP and its partners to understand the issues underlying this concern, clarify what clients are expected to pay for, what should be free, and clearly communicate the information to communities. Cost of care information can be conveyed through community dialogue activities, price listings at the facility, and incorporated into rumor management systems. Mechanisms such as community health committees may also be utilized to ensure that community needs are being met and that facilities adhere to NMCP malaria case management guidelines.

Insecticide-Treated Nets

BEHAVIORS AT-A-GLANCE

ITN use given access

The **use:access ratio** for all zones was **0.88**, suggesting that most people who have access to a net sleep under one.

The ratio was **0.84** in Kasai and Ouest, **0.91** in Nord, and **0.96** in the Grand Est.

Sufficient access to ITNs (that is, one ITN for every two members of the household) was observed for **73%** of households.

Only **42%** of households in the Kasai zone had sufficient access to nets. Access was higher in urban areas than in rural areas of the Nord, Kasai, and Grand Est zones.



Consistent ITN use

80%

of respondents consistently slept under an ITN. This indicator varied significantly by study zone, with lower rates in Kasai and Ouest zones compared to the Nord and Grand Est zones.

2 Times

Individuals living in a household with **sufficient nets** (at least 1 net per 2 household members) were **twice as likely** to consistently sleep under a net compared to those without adequate access.

51%

If an individual **believed there are actions one could take to help the mosquito net last longer**, they were **51% more likely** to consistently use nets than those who did not.



ITN care

Of all ITNs found in the households:

15%

were hung and tied up, the recommended behavior

80%

were hung, not tied up, and vulnerable to damage

4%

were found laying on the floor, bed or elsewhere, and vulnerable to damage

1%

were stowed away



72%

of nets were reported as having ever been washed

49%

of nets were reported as having been washed more than twice in the past six months



41%

of nets were left to dry in the sun instead of in the shade as recommended

Drying nets in the sun was more common in the Nord and Grand Est zones (**about half**) compared to the Ouest (**29%**) and Kasai (**27%**) zones



SBC RECOMMENDATIONS

1 Promote consistent use of ITNs by implementing targeted SBC programs that leverage the specific ideational variables that were significantly associated with this behavior. Because these factors differed by zone, programs can tailor activities as follows.

Nord:

- Activities should promote interpersonal communication about malaria, which was associated with a **71% increased likelihood** of consistent net use.
- Increase understanding that there are actions one can take to extend the life of their nets. This was associated with a **2-fold increase** in the odds of consistent ITN use.

- Position net use as a norm in the community; this perception was associated with a **64% increased likelihood** of consistent net use.

Ouest:

- Promote favorable attitudes toward bed nets. This ideational variable was found to increase the odds of consistent net use almost **three-fold**.
- Emphasize that most people in the community consistently use nets. Respondents who believed net use was a community norm were **57% more likely** to consistently sleep under one.

Kasaï:

- Promote favorable attitudes toward bed nets, which was found to increase the odds of consistent net use almost **three-fold**.
- Position net use as a norm in the community; this perception is associated with a **75% increased likelihood** of consistent net use.
- Emphasize that using a net is approved by others in the community; this perception is associated with a **51% increased likelihood** of consistent net use.
- Promote perceived self-efficacy by modeling an ordinary family in the community whose members consistently sleep under nets. Perceived self-efficacy toward net care was associated with **45% increased odds** of consistent net use.

Grand Est:

- Knowledge that bed nets are a way to prevent malaria is associated with a **2.4-fold increase** in the odds of consistent net use.
- Promote actions one could take to extend the life of their bed nets; this belief was associated with **64% increased odds** in consistent net use.

- Strengthen positive attitudes toward nets. Positive net attitudes (e.g., that nets are easy to use for sleeping; that one can get a good night's sleep under a net; etc.) were associated with a **2.6-fold increase** in odds of consistent net use.

2 Net care behaviors are only moderately practiced in all zones and need to be promoted through SBC programs to increase the longevity of available nets.

- Despite most nets being hung above the sleeping space, ITNs were not usually folded or tied up to protect them from damage when not in use, and many nets were not dried in the shade after washing. Efforts are especially needed in Kasaï zone, where respondents were **88% less likely** to report net care behavior, compared to the Nord Zone.
- SBC activities to promote net use should leverage the opportunity to promote proper net care. Net care SBC should be central to activities related to net use and not an afterthought or delayed for a later time.
- Specifically, programs should promote folding and tying up nets when not in use, that nets should be washed no more than every three months, use mild soap for washing nets, and to dry nets in the shade after washing them.
- SBC programs should also promote that nets are effective to prevent malaria as this perception was associated with **46% increased odds** with reporting tying up or folding a net when not in use.

Antenatal Care and Intermittent Preventive Treatment During Pregnancy

BEHAVIORS AT-A-GLANCE

There are three key behaviors in this module:

1. A woman's intention to **initiate ANC in the first trimester of her next pregnancy**. The multivariate regression model is based on this behavior.
2. The **number of ANC visits** a woman made during a prior pregnancy within the last two years.
3. The **number of doses of intermittent preventive treatment during pregnancy (IPTp)** a woman took during a prior pregnancy within the last two years.

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



95%

reported attending at least one antenatal care (ANC) visit



81%

reported taking at least one dose of intermittent preventive treatment during pregnancy



68%

reported attendance at four or more ANC visits (this is the national recommendation)



42%

reported receiving three or more doses of SP (this is the national recommendation); the lowest rate was among women in Grand Est at **33%**



60%

of those who attended at least one ANC visit did so in the first three months of pregnancy



56%

reported the intention to attend a first ANC visit in the first trimester of a future pregnancy; it was highest in Kasaï zone at **73%** and lowest in the Nord zone at **41%**



SBC RECOMMENDATIONS

1 Increase knowledge about ANC and IPTp among women of reproductive age in all survey zones by promoting information about when, where, and why a woman should initiate ANC and obtain IPTp.

- Comprehensive knowledge of ANC/IPTp (defined as knowledge that a woman should start ANC in the first trimester, attend at least four ANC visits during her pregnancy, and that she should receive at least three doses of SP during pregnancy) was associated with a **2.2-fold increase** in a woman's likelihood to intend to attend ANC early in her next pregnancy ($p < 0.001$).
- However, knowledge of ANC and IPTp was generally low with much room for improvement; only **54.5%** of respondents knew that a woman should start ANC in the first trimester and only **46.3%** knew that a pregnant woman should receive at least three doses of SP during pregnancy.

2 Promote favorable attitudes toward ANC/IPTp in all survey zones.

- Women who reported favorable attitudes toward ANC/IPTp were **33% more likely** ($p < 0.1$) than others to report the intention to go to ANC early in their next pregnancy.
- Strengthening positive attitudes towards ANC/IPTp is needed in all zones and can be done through messages that emphasize the benefits of seeking pregnancy care early and frequently (e.g., that it is good for the health of the mother and baby; that SP is safe and prevents severe consequences of malaria; etc.).

3 In specific survey zones, tailored SBC activities can improve early ANC intention by addressing the significant ideational variables in each zone, specifically:

Nord:

- **Position early ANC attendance as a norm in the community.** More than **78%** of respondents in the Nord zone believe most women in the community attend ANC at least four times during their pregnancy. This perception is associated with more than a **three-fold increase** in the odds of early ANC intention. Activities to promote the perception that attending ANC early as the norm can be done by modeling early ANC attendance by women who are relatable, who openly express the benefits of ANC in their words, and who encourage other women to do the same.

Grand Est:

- **Strengthen perceived self-efficacy to take ANC/IPTp-related actions.** Perceived self-efficacy to obtain IPTp was strongly and positively associated with the intention to attend ANC in the first trimester of a next pregnancy (**aOR = 9.44**, $p < 0.01$). About three-quarters (78%) of women reported perceived self-efficacy for ANC attendance and IPTp uptake; it will be important to both maintain and grow this attitude.

Kasaï:

- **Promote spousal communication around ANC.** Couple communication can be promoted to include discussion and joint decisions about ANC. Women in the Kasaï zone who believed one should feel comfortable discussing ANC with their spouse experienced **more than two-fold higher odds** ($p < 0.01$) of reporting the intention for early ANC in a future pregnancy.

Media Habits and Channels

BEHAVIORS AT-A-GLANCE



39%

of surveyed households nationwide own a **television** and this varied by zone:

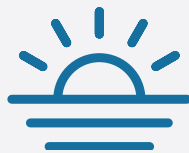
Ouest 61% Grand Est 36%

Nord 14% Kasai 9%

Efforts to disseminate messages by television could expect to reach about 45% of the population. The percentage that can potentially be reached by television varied by survey zone:

Ouest 67% Grand Est 36%

Nord 20% Kasai 14%



In Nord, Ouest, and Grand Est zones, the popular time slots for watching television programs are **early and late evening**. In Kasai zone, the most popular slots are **early morning and late evening**.

Of respondents owning a mobile phone or tablet:



64%

can receive videos and audio files

36%

were capable of accessing the internet



47%

reportedly own a radio, ranging from **54%** in the Ouest zone and **31%** in Kasai zone

More than **68%** of those with a radio in the household listened to it at least once per week. The percentage that can potentially be reached by radio varied by survey zone:

Ouest 55% Grand Est 47%

Nord 40% Kasai 37%

The preferred time for listening to the radio was generally in the **early morning** (before 8am) or **early evening** (between 4pm and 8pm), although **31%** of respondents in the Kasai zone prefer to listen in the **late evening**.

48%

reported owning a mobile phone or tablet, this varied significantly by zone and gender



FEMALE



MALE

KASAI (27%)

18%

37%

GRAND EST (48%)

39%

60%

NORD (36%)

24%

53%

OUEST (58%)

50%

69%

Exposure to malaria-related messages

One-third of survey respondents reported exposure to malaria-related messages in the six months prior to the survey.



- Men **37%**
- Women **30%**
- Malaria message exposure was highest in the Ouest zone at **44%**
- In all zones but the Nord zone, urban residents were more likely than rural residents to be exposed
- Respondents who knew the malaria campaign slogan (“All for insecticide-treated nets”) were **50% more likely** to report prompt and appropriate care-seeking.
- The most popular sources of malaria messages are radio and television; however, **34%** of respondents are not reached by either modality



MEDIA RECOMMENDATIONS

1 Adopt a multi-media approach for reaching audience groups less exposed to malaria messaging. This would include a combination of mass media, mobile, interpersonal channels, community mobilization, and others to ensure that malaria messages are reaching areas with low mass media consumption and mobile ownership.

- Despite household radio ownership, many people, especially women, do not listen to the radio regularly. The proportion of the population that can potentially be reached through the radio is less than half. Potential radio reach is lower in the Kasai zone than elsewhere.
- Given the limited level of ownership of radio and television in the study population, neither of these media alone has the potential to reach the majority of the intended population. **A strategy that combines the radio with television and mobile technology is indicated for all the study zones.** The data show that combining the three media has the potential to reach about 70% of the population, with a higher proportion in the Ouest zone (92.2% of men; 83.6% of women) but a much lower proportion in the Kasai and Grand Est zones.

2 Tailor mass media strategies according to time preferences of the target audience, which were found to vary based on gender, age group, urbanicity, and media channel.

- Early evening is the best time to reach younger people through radio, while the early morning is better for adult men, people in urban areas, and residents of the Grand Est.

- Television is preferred in the early (women) and late (men) evenings. People aged under 25 prefer watching television in the early evening.
- Community health workers can also be leveraged to increase exposure. Among those who heard a malaria message, 54.7% of women and 47.7% of men reported a health facility or community health worker as a source of the malaria messages. This was more likely to be the case in Kasai zone.

3 Develop sub-national SBC strategies

- Utilize MBS data in combination with locally available media data to develop communication strategies that will yield the broadest reach for priority populations. In each zone, priority populations may need to be targeted in a different manner, both regarding the content of messaging, as well as the modality of communicating those messages.