

Malaria Behavior Survey

Quick Reference Guide

The Malaria Behavior Survey

- The Malaria Behavior Survey (MBS) is a quantitative, cross-sectional, and standardized survey of randomly selected women, men, and household heads. The MBS was developed and refined through an iterative process.
- The MBS aims to provide a better understanding of the socio-demographic and ideational characteristics associated with malaria-related behavioral outcomes at the zonal level in a given country. With this information programmatic activities intended to improve malaria-related behavioral outcomes can adjust their strategic focus.

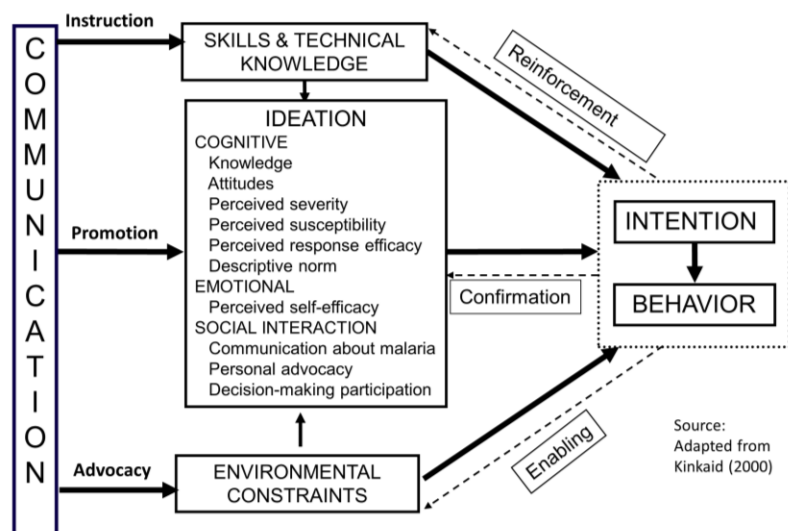


Figure 1: Ideation model of strategic communication and behavior change

Conceptual Model

- The MBS measures several social science indicators about malaria prevention and care-seeking behaviors.
- The conceptual model that underlies the MBS is the [ideation model](#) of behavior change (Figure 1), which combines the [theory of diffusion of innovations](#) and [social network theory](#), and refers to how ideas, ways of thinking, and behaviors are developed and disseminated to others through [communication](#) and [social interaction](#).
- The ideation model explores the psychosocial factors (called ideational factors) associated with behavioral outcomes. Understanding these factors helps malaria program planners determine the most strategic focus of social and behavior change (SBC) activities, service delivery strengthening, vector control programs and more.

Sampling Approach

- The MBS sampling approach divides the survey area into two or more zones combining contiguous subnational areas. Geographic zones are determined with country stakeholders and informed by the key considerations they agree are important for groupings areas, such as malaria transmission patterns and major ethnic/linguistic groups.
- In most cases, the MBS is fielded nationally and is designed to make national-level inferences. Making inferences for lower levels depends on the sampling strategy, which will be detailed in each country report and publication.
- Survey participants are interviewed using theory-driven, structured questionnaires and are selected through a multi-stage, cluster random sampling technique that involves i) selection of enumeration areas based on probability proportional to the population size, ii) a random selection of eligible households within enumeration areas, and iii) selection of all eligible individuals within the randomly selected households.
- The sample size is calculated to provide point estimates of malaria-related outcome indicators to a specified level of statistical certainty. See [MBS Methods](#) for more information.

Implementation of the Survey

- The survey is fielded in the rainy season or shortly afterward, with a representative sample selected from the previously defined study zones. An adaptation of the [MBS for use in lower transmission settings](#) is available.
- The MBS is currently implemented through [Breakthrough ACTION](#) and PMI. Additional information about implementing the MBS can be found in the [MBS Implementation Guidelines](#).
- [PMI FY2024 Technical Guidance](#) recommends that the MBS be conducted a minimum of eighteen months between any other large household surveys, due to the intensive nature of these surveys. The MBS is meant to be complementary to MIS, DHS, and MICS results.

Key indicators

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- The MBS explores self-reported behavioral outcomes, ideational characteristics, structural factors, perceptions of health workers, and perceptions of the availability of supplies in health facilities.
- The survey indicators are based on the [RBM Partnership to End Malaria SBC Indicator Reference Guide](#) and the net roster employed in the household questionnaire is nearly identical to that used by the MIS.
- Refer to the MBS-specific behavioral indicator definitions in the table below.

Behavioral outcomes

- Prompt care-seeking for fever
- Appropriate care-seeking for fever
- Prompt and appropriate care-seeking
- Use of existing ITNs
- Consistent net use
- ITN care
- Early ANC attendance
- Attainment of recommended ANC visits
- ANC4 attendance
- Receipt of IPTp3
- Attainment of recommended IPTp doses
- Early ANC intent
- IPTp intent
- IRS acceptance
- SMC adherence

Ideational factors

- Attitudes
- Knowledge
- Perceived threat
- Perceived response efficacy
- Descriptive norms
- Communication about malaria with others
- Personal advocacy
- Decision-making participation
- Perceived self-efficacy
- Perceptions of health providers
- Perceptions of health services
- Gender attitudes

Other factors

- Sociodemographic characteristics
- Distance to nearest health facility
- Urban and rural residence
- Wealth quintile
- Access to sufficient nets in households
- Media consumption
- Exposure to and recall of relevant SBC interventions

The MBS does NOT measure

- Incidence of malaria in the surveyed population (parasitaemia)
- Rates of malaria testing or antimalarial prescriptions
- Rates of antimalarial treatment
- HMIS indicators such as number health facility visits, number of fever cases seen at the health facility, number of cases of severe malaria, etc.
- Indoor residual spraying coverage
- Seasonal malaria chemoprevention coverage
- Inferences below the MBS study zone level

Analysis

- Analytical methods will be detailed in every MBS publication. In brief, the general approach uses bivariate and multivariate analytic methods to assess the relationships between sociodemographic characteristics, ideational factors, and the behavioral outcomes of interest.
- Bivariate analyses examine how each potential correlate is associated with dependent outcomes. Using the variables that are statistically significantly associated from this step, as well as variables identified from *a priori* knowledge, multivariate regression models are used to detect the association with the dependent variables after controlling for potential confounding factors.
- The dependent variable is the malaria-related behavior or outcome of interest, and independent variables include region, urban/rural residence, education level, age, marital status, religion, household size, wealth quintile, media exposure, and ideational variables (such as perceived severity, perceived susceptibility, perceived self-efficacy, perceived response efficacy, attitudes, knowledge).
- For ideational factors that are assessed based on multiple question items, a composite variable is created by developing a score on the items used to measure that factor for each respondent. The score is then split at zero to denote positive versus negative ideation. In cases where the average score is very high and splitting at zero would result in most respondents (e.g., 90% or more) being classified as having positive ideation, the score can be split at the highest value to denote higher versus lower levels of ideation on that factor. The composite variable is used in the multivariable regression model.

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Glossary of Selected SBC Terminology

Terminology	Definition
Attitudes	The judgments people make about a product, practice, or service; these may or may not be favorable. People who have a favorable view of a behavior, such as net use, or of a malaria commodity, such as RDTs, are more likely to adopt a given health behavior.
Barriers	Perceptions of factors that may hinder someone from practicing recommended behaviors.
Behaviors	The desired result the program is trying to achieve among members of the target population, in the case of the MBS, the malaria prevention and control behaviors.
Decision-Making Participation	One's perception that they participate in decisions related to specific health issues in their household such as seeking care for a sick child or allocation of mosquito nets among household members.
Descriptive Norms	Descriptive norms refer to the perceptions of how prevalent or common a behavior is within one's immediate environment or community. The belief that most other persons in a community use insecticide-treated nets, seek care promptly in case of fever, attend antenatal visits, or use intermittent preventive treatment of malaria in pregnancy are examples of descriptive norms.
Human-Centered Design	A design-thinking approach used to drive, inspire or inform solution development from a user's point of view. It is about taking a human perspective from the beginning to the end of a design challenge. Different approaches (such as FGDs, observation, or immersion activities) throughout the design process are required to understand context, constraints, and experience and ideas for solutions are rapidly tested, iterated and improved, or discarded based on direct user feedback.
Information, Education, Communication	An approach to spread awareness through communication channels to a target audience to achieve a desired positive result.
Injunctive Norms	The perception that one is expected to follow a given norm and expects others to follow in a given situation, irrespective of how people usually respond. Injunctive norms help an individual determine what is acceptable or unacceptable social behavior.
Communication about Malaria with Others	The process of exchanging information, ideas, or feelings with other people and in the case of the MBS, refers to talking about malaria with a spouse, friends, or relatives.
Knowledge	This construct measures knowledge of the health topic or behavior among target populations. Regarding malaria, this includes knowledge about the causes, symptoms, testing, treatment, and recommended means of prevention.
Knowledge, Attitudes, Practice	Knowledge, attitude, and practice (KAP) surveys are representative of a specific population to collect information on what is known, believed, and done in relation to a particular topic.
Materials	Materials are a primary means by which health programs deliver SBC messages. There are many types of SBC materials, including printed brochures, the script for a television advertisement, a guide for facilitating a group discussion, a Facebook page or an Internet-based game.
Message Design	Designing messages is the process of connecting insights about the priority audience with key information the audience needs to know in order to make the change the program desires. Well-designed messages are simple, memorable, easily understood, culturally appropriate and meaningful to the audience.

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Perceived Severity	How serious people believe the threat of malaria or its consequences to be. This is one component of risk perception.
Perceived Susceptibility	The belief that the disease or threat can actually happen to them. This is one component of risk perception.
Pretesting	The process of bringing together members of the priority audience to react to the components of a program before it is rolled out or produced in final form. Pretesting measures the reaction of the selected group of individuals and helps determine whether the priority audience will find the components (for example, draft materials) understandable, believable, compelling and appealing.
Recall	This construct measures the reach of SBC activities. It can be adapted to measure the proportion of people hearing a specific message and can also be modified to identify the channels through which people are receiving messages.
Response Efficacy	The perception that a proposed action or solution will work to control a threat. In the case of malaria, a person's belief that ITNs serve as good protection against malaria is an example of response efficacy.
Self-efficacy	Self-confidence in the ability to take specific measures to protect one's health. Self-efficacy can refer to a person's confidence in correctly and consistently using an ITN to prevent malaria or going in for antenatal care early in a pregnancy.
Social and Behavior Change	Evidence-based and grounded in theory from various disciplines such as social and behavioral sciences and, SBC is a set of strategies and interventions that influence drivers of change at the individual, community, societal, organizational and/or structural level.
Social and Behavior Change Communication	The strategic use of communication approaches across a variety of channels to reach multiple levels of society, including the individual, community, services, and policy, to promote changes in knowledge, attitudes, norms, beliefs, and behaviors.
Segmentation	The division of a population or market into subgroups that have, or are perceived to have, meaningfully similar characteristics, and significant differences from other subgroups. Audiences may be segmented based on demographic, attributional, psychographic, behavioral, or other key variables. Segmentation serves to align messages, message delivery channels, products, and services with the needs and preferences of an intended audience to maximize program impact.
Social Factors	Interpersonal interactions such as support or pressure from friends, community leaders, or family members that convince someone to behave in a certain way.

MBS Behavioral Indicator Definitions

Behavioral Indicator	MBS Definition
Prompt care-seeking	The proportion of index children under five years old with fever in the two weeks prior to the survey for whom treatment was sought the same or next day after the onset of fever.
Appropriate care-seeking	The proportion of index children under five years old with fever in the two weeks prior to the survey for whom treatment was sought at a health facility or community health worker first.

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Prompt and appropriate care-seeking	The proportion of index children under five years old with fever in the two weeks prior to the survey who were taken to a health facility or community health worker the same day as fever onset or the next day.
ITN use to access ratio	The proportion of the population using an ITN the night before the survey, among those people who have access to one within their household (see “population ITN access” below), following standard methodology described at www.itnuse.org and at www.malariasurveys.org .
Population ITN access	This outcome is calculated by dividing the potential ITN users in a household by the number of de-facto members for each household and determining the overall sample mean of that fraction.
Use of ITNs	The proportion of ITNs that were used the previous night.
Consistent net use	The proportion of respondents who report they sleep under a mosquito net every night of the week.
Observed nets tied or folded up over sleeping space	The proportion of existing ITNs in the home that were found tied or folded up over the sleeping space at the time of the survey.
Net overwashing	The proportion of nets that were washed more than twice in the past 6 months.
Drying of nets in the sun	The proportion of nets dried in the sun after the last wash.
Nets washed with harmful products	The proportion of nets that were washed with bleach or detergent during the last wash.
Tying or folding up nets when not in use	The proportion of respondents who reported tying or folding up their nets when not in use.
Early ANC attendance	The proportion of women who gave birth in the two years prior to the study who attended ANC in the first trimester of their pregnancy.
Recommended ANC visit attainment	The proportion of women who attended their country’s recommended number of ANC visits.
ANC4 attendance	The proportion of women who had at least one child in the last 2 years who reported attending at least four ANC visits during their last pregnancy.
Recommended IPTp dose attainment	The proportion of women who gave birth in the two years prior to the study who received their country’s recommended number of IPTp doses.
Receipt of IPTp3	The proportion of women who had at least one child in the last 2 years who reported receiving three or more doses of IPTp during their last pregnancy.
Early ANC intent	The proportion of women who plan a future pregnancy that reported intent to seek ANC during the first 3 months of their future pregnancy.
IPTp intent	The proportion of women who plan a future pregnancy that reported intent to take IPTp during their future pregnancy.
IRS acceptance	The proportion of respondents who report having accepted IRS application among those who recall being approached for IRS in the past 12 months.

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SMC adherence	The proportion of respondents who report completing administration of all doses of SMC to their children participating in the most recent SMC program.
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