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Maternal and Child Survival Program

Rapid Knowledge, Practices and Coverage (KPC) Survey

Malaria Module

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The Maternal and Child Survival Program (MCSP) is a global, United States Agency for International Development (USAID) Cooperative Agreement to introduce and support high-impact health interventions with a focus on 24 high-priority countries with the ultimate goal of ending preventable child and maternal deaths within a generation. The Program is focused on ensuring that all women, newborns and children most in need have equitable access to quality health care services to save lives. MCSP supports programming in maternal, newborn and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

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1. Overview

This module yields information on malaria prevention and treatment—both for children under five and for pregnant women. The module includes indicator definitions, a summary of updates made to the module, notes for program managers, notes for interviewers, the tabulation plan, other data sources, and the survey questionnaire.

2. Indicators

The following indicators can be calculated using the malaria Knowledge, Practice, Coverage (KPC) questionnaire included with this module. The indicators are divided into five tables:

1. Malaria prevention: household long-lasting insecticidal net (LLIN) ownership
2. Malaria prevention: LLIN use by children
3. Fever care-seeking and malaria testing for children
4. Malaria in pregnancy: prevention and care-seeking
5. Maternal knowledge and sick child care

Key Indicators

Within the list of indicators, six are designated as key indicators. Key indicators should be reported by all programs implementing a malaria component if they are relevant to the project context (i.e., only include the LLIN indicators if LLINs are used in the project area, etc.). The indicator tables contain indicator names and definitions as well as a column that indicates whether an indicator is a key (KEY) or "LiST" (LiST) indicator. Numerators and denominators are not included in the tables in this section, but they can be found in the tabulation plan (Section 6). LiST indicators are those that can be input into the Lives Saved Tool (LiST). If the indicator modeled in LiST is similar but somehow different from KPC indicator, the LiST indicator's definition is noted as a footnote.

Key ML Indicators

Indicator 1.2*: LLIN ownership *(1 LLIN for every 2 people in household)*

Indicator 2.1: LLIN use by children under five

Indicator 3.1: Care-seeking for fever (children under five)

Indicator 3.5: Use of malaria rapid diagnostic testing (children under five)

Indicator 4.1: Intermittent preventive treatment for pregnant women (IPTp) during last pregnancy *(3+ doses)*

Indicator 4.3[1] LLIN use by mother during last pregnancy

*Indicator 1.2 is applicable for projects that use a household listing and net roster in their KPC survey. Indicator 2.1 can be used in its place if a net roster is not used, just to give programs information on LLIN use by children under 5. See the "Choosing between Sub-Modules ML1 and ML2" section to learn more about the two methods.

[1] Because KPC surveys have small samples (300–600 households) and targets mothers of children ages 0–59 or 0–23 months, the number of currently pregnant women will be too small to ask if currently pregnant women slept under an LLIN the previous night. Therefore, in the KPC we ask about LLIN during the last pregnancy.

Table 1. Malaria Prevention: Household LLIN Ownership

Indicator	Definition	Key/LiST
Scenario 1: Project has strong activities regarding LLIN distribution and use; therefore information on universal LLIN ownership is needed and a net roster should be conducted		
1.1 Long-lasting insecticidal net ownership *(1+)*	Percentage of all households that own at least one LLIN	LiST*
1.2 LLIN ownership, at least one net for every two people in household[2,3]	Percentage of all households with at least one insecticide-treated net (ITN) for every two people in the household	KEY
Scenario 2: Project has limited activities regarding LLIN distribution but wants to have a basic understanding of coverage of LLIN ownership in their target population, which can be useful for coordinating with groups that are focusing on LLIN distribution		
1.3 LLIN ownership *(1+)*	Percentage of households of children ages 0–59 months that own at least one LLIN	LiST*

* LiST indicator: Percentage of households with at least one insecticide-treated net or covered by indoor residual spraying.

Table 2. Malaria Prevention: LLIN Use by Children

Indicator	Definition	Key/LiST
Child LLIN Use (Scenarios 1 and 2)		
2.1 LLIN use by children	Percentage of children ages 0–59 months who slept under an LLIN the previous night	KEY

Table 3. Fever Care-Seeking and Malaria Testing for Children

Indicator	Definition	Key/LiST
Care-seeking for fever in children		
3.1 Care-seeking for fever	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey for whom advice or treatment was sought from an appropriate health facility or provider	KEY
3.2 Prompt care-seeking for fever *(Same or next day)*	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey for whom advice or treatment was sought from an appropriate health facility or provider the same or next	
3.3 Care-seeking for fever from community health worker (CHW) *(CCM only)*	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey for whom advice or treatment was sought from a CCM-trained CHW	
3.4 CHW as first source of care for fever *(CCM only)*	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who were taken first to a community case management (CCM)-trained CHW for care	
Testing for malaria in children		
3.5 Use of malaria diagnostic testing	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who had a finger or heel stick (i.e., Malaria Rapid Diagnostic Test [mRDT])	KEY

[2] The President's Malaria Initiative and other large-scale malaria programs are increasingly interested in knowing the percentage of households with at least one ITN for every two people.
[3] This indicator can only be collected in surveys that use a net roster.

Indicator	Definition	Key/LiST
3.6 Malaria diagnostic testing results	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who had had finger or heel stick whose mother received the results	
3.7 Use of malaria diagnostic testing by CHW *(CCM only)*	Percentage of children ages 0–59 months with a fever in the two weeks preceding the survey who had a finger or heel stick (i.e., mRDT) done by a CCM-trained CHW	
3.8 Child seen by a CHW for a follow-up visit *(CCM only)*	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who received treatment from a CCM-trained CHW who were seen again by the CHW for a follow-up visit	

Table 4. Malaria in Pregnancy: Prevention and Care-Seeking[4]

Indicator	Definition	Key/LiST
4.1 IPTp during last pregnancy	Percentage of mothers of children ages 0–23 months who received IPT for malaria, broken into the following categories[5]: • 1 dose • 2 doses • 3 doses • 4+ doses	KEY, LiST *
4.2 LLIN received during ANC in last pregnancy	Percentage of mothers of mothers of children ages 0–23 months who received an LLIN during an ANC visit of the pregnancy with the youngest child	
4.3 LLIN use by women during pregnancy	Percentage of mothers of children ages 0–23 months who reported they slept under an ITN all of the time or most of the time during their most recent pregnancy	KEY
4.4 Appropriate care-seeking for fever during last pregnancy	Percentage of mothers of children ages 0–23 months who had fever during pregnancy with the youngest child, who sought care from an appropriate health facility or provider	LiST **

* LiST is set up to include only one of the two of these indicators in any given projection.

** LiST indicator: Percentage of pregnant women with malaria who are treated for malaria between conception and six weeks after delivery.

Table 5. Maternal knowledge and sick child care

Indicator	Definition	Key/LiST
5.1 Maternal knowledge of child danger signs	Percentage of mothers of children ages 0–59 months who know at least two signs of childhood illness that require immediately seeking assessment and treatment by a provider outside of the home	
5.2 Appropriate sick care (continued fluids)	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who were offered more than usual to drink (including breastmilk)	

[4] Indicators for malaria in pregnancy are collected from mothers of children 0–23 months (in order to facilitate recall of events that occur in pregnancy), unlike other indicators that are collected from mothers of children 0–59 months. The sample size should be adjusted to ensure that there are enough mothers of children 0–23 months in the survey. Parallel sampling may be used.

[5] Current WHO recommendations are for women to receive three doses of IPT, but in order for programs to track progress this indicator should be broken down into categories by dose.

Indicator	Definition	Key/LiST
5.3 Appropriate sick care (continued feeding)	Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who were offered more than usual to eat	
5.4 Maternal knowledge that CHW treatment activities *(CCM only)*	Percentage of mothers of children ages 0–59 months who know that there is a CHW in her community who provides treatment for fever and/or malaria	

3. Updates to the Module

Several updates have been made to the malaria KPC module:

- The module no longer includes indicators for pretreated nets or nets that must be re-treated as these are no longer produced in the vast majority of countries; the module now focuses on long-lasting insecticidal nets (LLINs).
- Indicators related to case management of malaria in children have been updated to reflect the changes in Roll Back Malaria Monitoring and Evaluation of Malaria Reference Group indicators.
- Indicators for case management of malaria during pregnancy and for community case management of malaria have been added.
- The "Interviewer Instruction" section has been replaced with a "Notes for Interviewers" section, which is meant to be more concise and only address issues that may arise rather than serve as a question-by-question guide through the questionnaire.
- The "Suggested Qualitative Research Questions" section has been replaced with the "Other Data Sources" section, which includes information about qualitative research topics.
- The "Notes for Program Managers" section has been expanded to include more items for consideration as the baseline KPC survey is being designed.
- The survey questionnaire has been redesigned in Microsoft Excel, which is intended to make the questionnaire more easily adaptable and consistent with the Demographic and Health Survey standard template.

4. Notes for Program Managers

This section outlines items that program managers or survey leaders need to prepare in advance before they implement a KPC survey and before they train the data collection team.

Context Considerations

To choose the pieces of the malaria KPC module and to adapt them appropriately for your program, the following should be determined:

- Is the project area endemic for malaria? Is malaria present sporadically?
- What is the national policy for appropriate malaria treatment?
- What are the cadres of health workers that can treat malaria?
- Is malaria treatment through CCM in your project area?
- Are RDTs used to diagnose children with malaria? Have they been rolled out in the project area? If not, do you expect them to be rolled out during the life of the project?

- What is the national policy for IPTp during pregnancy?
- Is IPT recommended in your project area? If it is not recommended, is case management of malaria in pregnancy recommended?
- Are ITNs still commonly used in your project area? If so, do owners re-treat their nets? Are LLINs most commonly used?

Choosing Indicators

There are a large number of indicators presented in this module. It is important that program mangers recognize that they do not need to collect data or report each and every one of them. As with all surveys, program managers need to strike a balance between collecting sufficient information to make decisions and assess progress and collecting too much information that unnecessarily consumes limited resources. The scope and focus on the program and the local context (answers to questions above) will help determine which questions and indicators to include in the survey. For example, if national policy for malaria in pregnancy is case management during pregnancy and not IPTp, the project will not use the indicator for IPTp coverage. When selecting indicators, it is important to consider both short- and long-term objectives and how each will be measured. Benchmark indicators, which measure progress made toward achieving greater outcomes, are key to ensuring programs and initiatives are on track to reaching long-term goals.

The indicators listed as key malaria indicators should be included in all surveys if the project has a malaria component. For all other malaria indicators, program managers will need to choose those indicators that best meet program needs.

LLIN USE DURING PREGNANCY INDICATOR (SPECIAL NOTE): the LLIN use during pregnancy indicator is not comparable to the use of itns by pregnant women indicator found in the demographic and health survey and other large sample surveys. The kpc does not have a large enough sample of currently pregnant women for this indicator to be calculated. Instead, the self-reported kpc indicator covering the previous pregnancy is meant to give project managers an idea about the practice of this behavior in the project area.

CCM Indicators (Special Note): A few basic indicators have been added to the module for programs that have a CCM component. Please note that the indicators included in this module use the term "CCM-trained CHW" to distinguish CHWs who are trained to provide treatment for childhood illness from other CHWs in settings where multiple types of CHWs exist. However, in defining project indicators, the term "CCM-trained CHW" should be replaced by the local term used for such CHWs. If the project area has both CCM-trained and non-CCM-trained CHWs, make sure to clearly list both options, with appropriate local terms, in questions with lists of health providers (**Q.SC203**, **Q.SC208**, **Q.SC211**, **Q.SC303**, **Q.SC309**, **Q.SC403**, **Q.SC408**, and **Q.SC410**). Interviewers will not read aloud the list of providers, so mothers probably will not specify if the CHW was CCM trained or not. Program managers will need a good knowledge of CCM implementation in the program area before developing the questionnaire in order to both use the appropriate local term for CCM-trained providers and to interpret the results as referring to CCM-trained providers or not. If the project is *not* conducting CCM activities, indicators labeled "CCM only" do not need to be calculated and many questions may be deleted.

If your program has a CCM component, additional information can be collected about the services the CHWs are offering and that the population is accessing through other means such health system-based records, exit interviews, and qualitative research. See Section 7 (Other Data Sources) for suggestions.

Preventative Treatment versus Case Management for Malaria during Pregnancy (Special Note): In certain areas, malaria is endemic and accounts for a large proportion of illness and mortality. In such areas, pregnant women are advised to take malaria prophylaxes during their pregnancy. In other areas, where malaria is not endemic, prophylaxis is often not used; rather, cases of malaria are treated. If malaria prophylaxis is used in the area to be surveyed, questions Q.ML406–Q.ML408 should be included in the questionnaire.

Maternal Knowledge Indicator (Special Note): The indicator for maternal knowledge of child danger signs (5.1) is a general one, and the list of danger signs will vary slightly across countries. Implementing organizations should consult the national integrated management of childhood illness (IMCI) protocols and adapt the response categories prior to conducting the survey.

Furthermore, after the baseline survey and other formative research (including qualitative methods) is complete, projects may need to adapt the indicator itself to address specific objectives of their behavior change strategy (to focus on certain danger signs that had low knowledge at baseline). This adaptation is particularly important where knowledge of two indicators is high at baseline. Example adaptations of the indicator include increasing the minimum number of danger signs (mothers who know at least four signs) or focusing on one or two specific signs that had poor results in the baseline survey (mothers who know both high fever and convulsions).

Questionnaire Overview

The malaria questionnaire is divided into five sections or sub-modules: (ML1) Measuring LLIN ownership and use with a net roster; (ML2) Measuring LLIN ownership and use without a net roster; (ML3) Care-seeking and diagnosis; (ML4) Malaria in pregnancy; and (ML5) Caregiver knowledge and sick child care. Note that either Sub-Module ML1 or ML2 will be used; it is not appropriate to include both. See the next section to determine which is more appropriate for your project.

Choosing between Sub-Modules ML1 and ML2

This module presents two methods for collecting LLIN ownership and use indicators: using a net roster and not using a net roster. Both methods have advantages and disadvantages that are highlighted in the table below. Choosing the best method for your project is one of the first decisions to make when using this KPC module.

Method	Goal	Considerations
Using a Net Roster **(Sub-Module ML1)**	**Project has a broader interest in malaria and an intensive interest in LLIN coverage among all residents**	Advantages: • Provides detailed information on LLIN use by all household members and on all nets in a household • Can compare indicators to those from large-scale population-based surveys of all households Disadvantages: • Requires a household listing • Includes more intensive questions that are more time-consuming and require more resources
Not Using a Net Roster **(Sub-Module ML2)**	**Project has a malaria component and will focus malaria interventions exclusively on young children**	Advantages: • Does not require a household listing • Includes a simplified series of questions that focus on prevention and treatment of malaria in young children Disadvantages: • Only provides information on LLIN use by young children and mothers during pregnancy • Cannot compare indicators to those from large-scale population-based surveys, but information collected is helpful for program purposes

After deciding which LLIN module is most appropriate, use Sub-Modules ML3, ML4, and ML5 to construct other malaria indicators important to your program.

Common Survey Question Considerations for Adaptation

Many of the indicators and corresponding questions in this module are based on international standards or current best practices, but some may need to be modified because of national policy, local context, or language. The following table contains common adjustments to consider. **The tabulation plan must be adjusted in parallel.**

Question No.	Consideration
Sub-Module ML1	
ML113	Adapt list of LLIN brands to reflect locally available products
Sub-Module ML2	
ML203 and ML209	Adapt list of LLIN brands to reflect locally available products
Sub-Module ML3	
ML303 and ML311	Adapt list of locations as needed
ML308	Adapt list of health service providers as needed
Sub-Module ML4	
ML404	Adapt list of LLIN brands to reflect locally available products
ML406A and ML407	Adapt list of antimalarial drugs as needed
ML411	Adapt list of health service locations as needed
Sub-Module ML5	
ML504	Adapt list of signs to align with national integrated management of childhood illness policy
ML505 and ML506	Adapt question to use local term for CCM-trained CHW
ML506	Adapt list of CHW services and responsibilities as needed

5. Notes for Interviewers

For this module, questions are asked of the youngest child age 0–59 months. However, malaria in pregnancy indicators are only asked of children ages 0–23 months.

Asking Questions and Recording Answers

It is very important that you *ask each question exactly as it is written* on the questionnaire. In addition to the questions, there are statements that appear in all capital letters, indicating that they are interviewer instructions and should not be read aloud to the mother. Several of these are filter questions to help the interviewer know where to proceed next with the questionnaire. For example, filter **Q.ML312** asks, "CHECK **Q.ML311**: DRUG FROM CHW?" If the answer is Yes, you would then ask **Q.ML313**, if the answer is No, you would proceed to the next sub-module.

Most questions in this module have pre-coded responses. It is important that you *do not read these choices aloud to the mother*. When you ask a question, you should listen to the mother's response, then circle the code next to the response option that best matches her answer.

When you see a question with "(NAME)", you should insert the name of the child about whom you are interviewing the mother—the child whose name is listed on the cover page. For example, **Q.ML207** reads, "Did (NAME) sleep under a mosquito net last night?" If the child's name is Carlos, you will ask the mother,

"Did Carlos sleep under a mosquito net last night?" For filter questions, "(NAME)" tells you that the question refers specifically to the child listed on the cover page.

The skip pattern for some questions indicates "END" rather than a question number. If "END" is indicated, this means that this is the end of the interview.

Filling In Identification Information

To calculate the indicators in this module, the child's date of birth must be recorded. Normally, this module is part of a larger KPC survey, so this information is collected at the beginning of the interview. Please make sure that date of birth, along with other crucial identification information (cluster number or supervision area, household number, and record number), is recorded as part of the survey.

Important Notes about Asking Certain Questions

Sub-Module ML1: Measuring LLIN Ownership and Use with a Net Roster

Sub-Module ML1-1: Household Listing

For Sub-Module ML1-1 both a household listing and a net roster must be filled out. Be sure to read the introductory sentence at the top of the page before continuing with the question in Column ML102.

COLUMN ML101: LINE NUMBER
This is the line number used to identify each person listed in the schedule.

COLUMN ML102: USUAL RESIDENTS AND VISITORS
The first step in completing the Household Listing section is to get a complete list of all persons who usually live in the household and any visitors. You will always list the head of the household first. Other persons can be listed in any order. To get a correct listing, you will have to know what we mean by a member of the household and what we mean by a visitor.

- MEMBER OF THE HOUSEHOLD: A household is a person or a group of persons who usually live and eat together. This is not the same as a family. A family includes only people who are related, but a household includes any people who live together, whether or not they are related. For example, three unrelated men who live and cook meals together would not be considered one family, but they would be considered one household. A member of the household is any person who usually lives in the household.
- VISITOR: A visitor is someone who is not a member of the household but who stayed in the household the night before the day you are conducting the interview. If he or she stayed in the household the previous night, he or she should be listed on the Household Schedule. However, to qualify for the sample, the mother of a child under 24 months should be a member of the household.

Sometimes it is not easy to know whom to include in the household and whom to leave out. Here are some examples:

- A woman lists her husband as head of the household, but he lives somewhere else. If he does not usually live in the household you are interviewing, and he did not stay there the previous night, he should not be included in the listing.
- Sometimes people eat in one household and sleep in another. Consider the person to be a member of the household where she or he sleeps.
- A person living alone is a household.

A servant is a member of the household if she or he usually lives and sleeps in the household.

Anyone included in the household listing has to be either a usual resident of that household—Column **ML104** is YES—or to have spent the previous night in the household—Column **ML105** is YES. As your respondent lists the names, write them down, one in each row in Column **ML102** of the table. Begin with the head of the household, that is, the person who is considered responsible for the household. This person may be determined on the basis of age (older), sex (generally, but not necessarily, male), economic status (main provider), or some other characteristic, but the person who is listed as the head of the household has to be someone who usually lives in the household. It is up to the respondent to define who the head of household is.

Since there is not much room on the form, you may not be able to write the full names for each person; so, if the last name is the same for several people, you can use ditto marks:

01 Alfred Johnson

02 Miriam ”

03 Sarah ”

For each person, the relationship to the head of the household and the sex should be recorded before asking the name of the next person. After completing Columns **ML102** through **ML104** for each person, start with the person listed on Line **01** and move across the page, asking each appropriate question in Columns **ML105** through **ML107**. When you have completed the information for the person on Line 01, move to the person listed on Line **02**, and so forth.

COLUMN **ML103**: SEX
Circle 1 for males and 2 for females.

COLUMNS **ML104** AND **ML105**: RESIDENCE
If the person usually lives in the household, circle 1 for YES in Column **ML104**. We call someone who usually lives in the household a member of the household. Someone who does not usually live in the household but who stayed there the night before the interview is called a visitor. If the person stayed in the household the night before you are conducting the interview, circle 1 for YES in Column **ML105**. A usual member of the household may or may not have stayed in the household the night before.

If after asking these residence questions you learn that the person does not usually live there—Column **ML104** is NO—and did not stay there the previous night—Column **ML105** is also NO—you will have to delete this person from the listing because the person is neither a member nor a visitor. For example, imagine you had listed Mary Worth as Line **04** and then learned that she does not usually live there and she did not stay there the previous night. You would draw a line through Line **04**, cancelling Mary from the listing. Then you would have to renumber the subsequent line numbers to make them correct—in Column **ML101**, change Line **05** to **04**, **06** to **05**, and so forth.

COLUMN **ML106**: AGE
You are to obtain each person’s age in completed years, that is, the age at the time of the last birthday. If there is an infant younger than 1 year old, record the age as ‘00’ years. If the person is 95 years old or older, record the age as ‘95.’

After completing the household schedule, ask the respondent the three questions at the bottom of the schedule. If the answer to any of them is YES, add those persons to the household schedule and then continue to the next page of the questionnaire.

Sub-Module ML1-2

For Sub-Module ML1-2, neither a household listing nor a net roster is used. Questions are only asked.

Qs.ML110 and ML111: It does not matter if the nets are actually used or even if they are set up. If they are in the household and could be used while sleeping, they should be counted. Note that "cake covers" or baby nets that are used to keep flies off infants, usually during the daytime, are not considered mosquito nets. These nets cannot be treated with insecticide. Window screens are also not considered mosquito nets.

Qs.ML112–ML115: Questions **Q.ML112** through **Q.ML115** are applicable for each net that the household owns. If the household has more than three nets, take an additional KPC questionnaire, fill in all the information on the cover page, and write CONTINUATION on the top. Then on the second questionnaire, change Net #1 to Net #4 and, if necessary, change Net #2 to Net #5, and so on. Then write the information for each of these nets. Return to the first KPC questionnaire to complete the interview.
To distinguish the nets, you may use phrases like, "Now let's talk about the first net you showed me" or "Let's talk about the net which (NAME) uses."

Q.ML115: If more than four people slept under a single net the night before the survey, record only the first four people mentioned by the respondent. For each person mentioned, record their name and their corresponding line number from the Household Listing (Sub-Module ML1-1).

Sub-Module ML2: Measuring LLIN Ownership and Use without a Net Roster

Q.ML203: Read the name of each brand of net in turn: "Is the net (are any of the nets) Brand A?" and circle the appropriate response. If the respondent is not sure whether a net is one of these brands, look at the net, if possible. If it is not possible to look at the net, use the pictures you were given to aid in identification.

When you finish asking about the brands of nets, ask the respondent if there is any other brand of net. If YES, circle 1 and write down the brand of the net. If there is a net for which the respondent does not know the brand, circle 1 for Unknown Brand. If the respondent does not mention any LLINs, skip to Sub-Module ML3.

Q.ML209: Unlike **Q.ML203**, in **Q.ML209** you should ask the mother to identify the brand of the net that the child selected for the KPC survey slept under the previous night. If the mother is not sure whether a net is one of these brands, look at the net, if possible. If it is not possible to look at the net, use the pictures you were given to aid in identification.

Sub-Module ML3: Fever Care-Seeking and Malaria Testing for Children

Qs.ML307–ML309: Malaria can be diagnosed by taking a few drops of blood from the patient and examining them for the presence of malaria parasites or malaria-specific proteins. The blood is usually taken from the patient's finger or heel. If blood is taken, you will also ask if the caregiver received the test results. There is no need to ask what the result was.

Qs.ML310–ML313: These questions refer to treatment of fever, whether or not blood was drawn the child. Respondents are only asked if they received a drug and where they obtained it. For situations where the respondent replied that they received drugs from a CHW, they are then asked if the child was seen by the CHW again to follow up on the illness (Q.ML313). It is not important where this follow-up took place.

Sub-Module ML4: Malaria during Pregnancy: Prevention and Care-Seeking

Q.ML401: This question refers to any antenatal care given by a health care provider while pregnant with her youngest child. The care should have been specifically to check her pregnancy and not for other reasons.

Q.ML404: Local names of LLINs will be used in this question. If possible, look at the net. If it is not possible to look at the net, use the pictures you were given to aid in identification.

Qs.ML406A and ML407: If the respondent took an antimalarial drug to prevent malaria during her last pregnancy, but she does not know which drug it was or cannot remember the name, ask her to show you the package that the drug came in. If she does not have the package, show her typical antimalarial drugs and ask if she took any of them. If she mentions that she was given three big, white tablets to take all at the same time in order to prevent malaria, circle A on the assumption that she took SP/Fansidar. Note that you should circle more than one code if the respondent says that she took more than one type of drug to prevent malaria.

Special Note: If the respondent says that she had malaria or a fever during the pregnancy and was given drugs to treat the malaria or fever, such drugs would not be considered preventive. Drugs to prevent malaria are only drugs that are taken during pregnancy when the woman does not have malaria already.

Q.ML408: Here we are asking about *preventive doses of SP/Fansidar*, not curative doses given if the respondent had a fever. You should count only the doses of SP/Fansidar taken during the respondent's pregnancy to prevent malaria. Do not count the doses she received to treat her fever. Also, we are interested in the number of *times* the woman took SP/Fansidar—not the number of tablets she took. Thus, if she says she only took three tablets one time, record 01 for the number of doses.

Sub-Module ML5: Maternal Knowledge (CCM Only)

Qs.ML502 and ML503: Children who are sick need to eat and drink to help them recover. Frequently, children lose their appetites when they are sick and need to be encouraged to eat and drink. In this question, try to ensure that caregivers understand you are asking about how much food and drink they *offered* the children, not how much the children actually ate or drank. If necessary, you may make the clarification for them by saying, "I am asking about how much you offered (NAME), not how much he actually ate/drank."

Qs.ML505 and ML506: Ask the interviewee if there are any CCM-trained CHWs in the community. If the respondent replies NO or is unsure, thank the respondent for her time and conclude the interview. If the respondent replies YES, ask the respondent to list what the CHW does. Do not read the responses but circle all that are mentioned in **Q.ML506.**

6. Tabulation Plan

Sub-Module ML1 Tabulation Plan

Indicator	How to Calculate the Indicator
1.1 LLIN Ownership *(1+)* Percentage of households of children ages 0–59 months that own at least one LLIN	$\frac{\text{Number of households of children ages 0–59 months that own at least one LLIN}}{\text{Number of households of children ages 0–59 months in the survey}}$ **ML113 =** [**1** OR **2** for at least one net] X 100
1.2 LLIN Ownership, at least One Net for Every 2 People in the Household Percentage of households of children ages 0–59 months with at least one ITN for every two people	$\frac{\text{Number of households of children ages 0–59 months with at least one ITN for every two people}}{\text{Number of households of children ages 0–59 months in the survey}}$ Total number of household for which: Total # of members from **ML101**/Total # of all nets for which **ML113 =** [**1** OR **2**] ≥ **2** X 100

Indicator	How to Calculate the Indicator
1.3 LLIN Use by Under-Fives Percentage of children 0–59 months who slept under an LLIN the previous night	Number of children ages 0–59 months who slept under an LLIN the previous night **ML116 = 1** ÷ Number of children ages 0–59 months in the survey X 100

Sub-Module ML2 Tabulation Plan

Indicator	How to Calculate the Indicator
2.1 LLIN Ownership *(1+)* Percentage of households of children ages 0–59 months that own at least one LLIN	Number of households of children ages 0–59 months that own at least one LLIN **ML203 =** [**1** OR **2**] ÷ Number of households of children 0–59 months in the survey X 100
2.2 LLIN Use by Under-Fives Percentage of children 0–59 months who slept under an LLIN the previous night	Number of children ages 0–59 months who slept under an LLIN the previous night **ML209 =** [**1** OR **2**] ÷ Number of children ages 0–59 months in the survey X 100

Sub-Module ML3 Tabulation Plan

Indicator	How to Calculate the Indicator
3.1 Care-Seeking for Fever Percentage of children ages 0–59 months with fever in the two weeks preceding the survey for whom advice or treatment was sought from an appropriate provider	Number of children ages 0–59 months with a fever during the two weeks preceding the survey for whom advice or treatment was sought from an appropriate provider **ML303 =** ANY [**A–E** , **G—J**] ÷ Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100
3.2 Prompt Care-Seeking for Fever *(Same or next day)* Percentage of children ages 0–59 months with a fever in the two weeks preceding the survey for whom advice or treatment was sought from an appropriate provider the same day that or the next day after fever began	Number of children ages 0–59 months with a fever during the two weeks preceding the survey for whom advice or treatment was sought from an appropriate provider the same that or the next day after fever began (**ML303 =** ANY [**A—E**, **G—J**]) AND (**ML306 =** [**0** OR **1**]) ÷ Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100
3.3 Care-Seeking from a CHW for Fever Percentage of children ages 0–59 months with a fever in the two weeks preceding the survey for whom advice or treatment was sought from a CCM-trained CHW	Number of children ages 0–59 months with a fever during the last two weeks for whom advice or treatment was sought from a CCM-trained CHW **ML303 =** [**E** OR **J**] ÷ Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100

Indicator	How to Calculate the Indicator
3.4 CHW as First Source of Care for Fever Percentage of children ages 0–59 months with a fever in the two weeks preceding the survey for whom advice or treatment was sought from a CCM-trained CHW as the first source of care	Number of children ages 0–59 months with a fever in the two weeks preceding the survey for whom advice or treatment was sought from a CCM-trained CHW as the first source of care **ML305 =** [**E** OR **J**] ÷ Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100
3.5 Sick Child Seen by a CHW for a Follow-Up Visit Percentage of sick children ages 0–59 months who received treatment from a CHW in the two weeks preceding the survey who were seen by a CHW for a follow-up visit	Number of sick children ages 0–59 months who received treatment from a CHW in the two weeks preceding the survey who were seen by a CHW for a follow-up visit **ML313 = 1** ÷ Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100
3.6 Use of Malaria Diagnostic Testing Percentage of children ages 0–59 months with a fever in the two weeks preceding the survey who had a finger or heel stick	Number of children ages 0–59 months with a fever in the two weeks preceding the survey who had a finger or heel stick **ML307 = 1** ÷ Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100
3.7 Use of Malaria Diagnostic Testing by CHW *(CCM only)* Percentage of children ages 0–59 months with a fever in the two weeks preceding the survey who had a finger or heel stick done by a CCM-trained CHW	Number of children ages 0–59 months with a fever in the two weeks preceding the survey who had a finger or heel stick done by a CCM-trained CHW **ML308 = A** ÷ Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100
3.8 Malaria Diagnostic Testing Results Shared *(CCM only)* Percentage of children ages 0–59 months with fever who had a finger or heel stick in the two weeks preceding the survey whose caregivers received the results of the malaria diagnostic test	Number of children ages 0–59 months with fever who had a finger or heel stick in the two weeks preceding the survey whose caregivers received the results of the malaria diagnostic test **ML309 = 1** ÷ Number of children ages 0–59 months with fever who had a finger or heel stick in the two weeks preceding the survey **ML307 = 1** X 100

Sub-Module ML4 Tabulation Plan

Indicator	How to Calculate the Indicator
4.1.a IPTp (one dose) Percentage of mothers of children ages 0–23 months who received one or more dose of intermittent preventative treatment for pregnant women (IPTp) to prevent malaria during the pregnancy with the youngest child	Number of mothers of children ages 0–23 months who received one or more dose of IPTp to prevent malaria during their pregnancy with the youngest child **Age of most recent child < 24 months AND ML408 = 1** Number of mothers of children ages 0–23 months in the survey X 100
4.1.b IPTp (two doses) Percentage of mothers of children ages 0–23 months who received two or more doses of IPTp to prevent malaria during the pregnancy with the youngest child	Number of mothers of children ages 0–23 months who received two or more doses of IPTp to prevent malaria during their pregnancy with the youngest child **Age of most recent child < 24 months AND ML408 = 2** Number of mothers of children ages 0–23 months in the survey X 100
4.1.c IPTp (three doses) Percentage of mothers of children ages 0–23 months who received three or more doses of IPTp during the pregnancy with the youngest child	Number of mothers of children ages 0–23 months who received three or more doses of IPTp to prevent malaria during their pregnancy with the youngest child **Age of most recent child < 24 months AND ML408 = 3** Number of mothers of children ages 0–23 months in the survey X 100
4.1.d IPTp (at least four doses) Percentage of mothers of children ages 0–23 months who received four or more doses of IPTp during the pregnancy with the youngest child	Number of mothers of children ages 0–23 months who received four or more doses of IPTp to prevent malaria during their pregnancy with the youngest child **Age of most recent child < 24 months AND ML408 = 4** Number of mothers of children ages 0–23 months in the survey X 100
4.2 LLIN Received during ANC in Last Pregnancy Percent of mothers of mothers of children ages 0–23 months who received an LLIN during an Antenatal Care (ANC) visit of the pregnancy with the youngest child	Number of mothers of mothers of children ages 0–23 months who received an LLIN during an ANC visit of the pregnancy with the youngest child **ML402 = 1** Number of mothers of children ages 0–23 months in the survey X 100
4.3 LLIN Use during Last Pregnancy Percentage of mothers of children ages 0–23 months who reported that they slept under an LLIN all of the time or most of the time during their most recent pregnancy	Number of mothers of children ages 0–23 months who reported sleeping under an LLIN all the time or most of the time during their most recent pregnancy **Age of most recent child < 24 months AND** (**ML404 =** [**1** OR **2**]) AND (**ML405 =** [**1** OR **2**]) Number of mothers of children ages 0–23 months in the survey X 100

Indicator	How to Calculate the Indicator
4.4 Appropriate Care-seeking for Fever during Last Pregnancy Percentage of mothers of children ages 0–23 months with fever at any time while pregnant with their youngest child who sought advice or treatment from an appropriate provider	Number of mothers of children ages 0–23 months with fever at any time while pregnant with their youngest child who sought advice or treatment from an appropriate health facility or provider **Age of most recent child < 24 months AND ML411 = ANY [A—E, G—J]** **/** Total number of mothers of children ages 0–23 months who had fever during their last pregnancy in the survey **ML409 = 1** X 100

Sub-Module ML5 Tabulation Plan

Indicator	How to Calculate the Indicator
5.1 Appropriate Sick Care (Continued Fluids) Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who were offered more than usual to drink (including breast milk)	Number of children ages 0–59 months with fever in the two weeks preceding the survey who were offered more than usual to drink (including breast milk) **ML502 = 4** **/** Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X 100
5.2 Appropriate Sick Care (Continued Feeding) Percentage of children ages 0–59 months with fever in the two weeks preceding the survey who were offered more than usual to eat	Number of children ages 0–59 months with fever in the two weeks preceding the survey who were offered more than usual to eat **ML503 = 4** **/** Number of children ages 0–59 months with a fever in the two weeks preceding the survey **ML301 = 1** X100
5.3 Maternal knowledge of Child Danger Signs Percentage of mothers of children ages 0–59 months who know at least two signs of childhood illness that require immediately seeking assessment and treatment by a provider outside of the home	Number of mothers of children ages 0–59 months who know at least two signs of childhood illness that require immediately seeking assessment and treatment by a provider outside of the home **ML504 =** ANY 2 OR MORE [**A—J**] **/** Total number of mothers of children ages 0–23 months in the survey X 100
Maternal Knowledge That CHWs Treat Malaria *(CCM only)* Percentage of mothers of children ages 0–59 months who know that there is a CHW in her community who provides treatment for fever and/or malaria	Number of mothers of children ages 0–59 months who know that CCM-trained CHWs provide treatment for fever and/or malaria **ML506 =** [**O** OR **N**] **/** Total number of mothers of children ages 0–23 months in the survey X 100

7. Other Data Sources

Qualitative

Certain topics are better explored using qualitative research techniques rather than closed-ended questions. The qualitative research component will yield important information on community knowledge, beliefs, and normative practices related to malaria. For example, findings from focus group discussions could be used to modify the KPC questionnaire to reflect local terms, concepts, and customs. In addition, upon completion of the KPC survey, additional areas may need to be explored. Thus, program staff can employ qualitative methods to provide explanations for specific KPC results (e.g., LLIN ownership is high, but use among children under 5 is low). The following list contains a sample of topics relevant to malaria that could be explored through qualitative research means:

- What caregivers understand and believe about causality of fever in general and malaria specifically
- What caregivers understand and believe regarding nonmalarial fevers (pneumonia, etc.)
- How communities perceive and practice key malaria prevention strategies (LLINs, indoor residual spraying [IRS], IPTp, etc.)
- How caregivers treat childhood fever
- How caregivers decide if and where to seek care for childhood fever
- Who in the household makes the decision to seek care (father, mother, joint, etc.)
- How communities perceive malaria testing (a few examples below, not an exhaustive list)
    - What they know about RDTs
    - What experiences they have had with RDTs (including treatment according to results)
    - How they perceive RDT reliability (including understanding/compliance with negative results)
    - Caregiver demand for testing when a child has fever
- How communities view CHWs' expanded role in malaria case management (versus promotional/prevention work)
- How communities motivate/recompense CHWs (community-instituted incentive measures)
- Barriers to care seeking for childhood fever, including referrals (distance to providers, quality of care, cultural practices or beliefs, etc.)
- Barriers to treatment (packaging, drug availability, cultural practices or beliefs, etc.)
- Availability and functioning of emergency referral systems (transportation issues, feasible solutions, etc.)
- How communities perceive malaria during pregnancy (beliefs, case management, care-seeking for fever, barriers to IPTp, etc.)

Please note that while potential topics are provided, the KPC tools do not include guidance on how to conduct qualitative studies.

Health Facility Assessments

The KPC does not include indicators to assess many aspects of quality of care that children (and pregnant women) are receiving from providers because caregiver recall is generally unreliable for such evaluation. Most projects will need to measure appropriateness of diagnosis, treatment, and counseling and should use more direct methods for assessing provider performance such as record review, observation, and exit interviews.

Such assessments will also help to measure other critical areas such as staffing, training, supervision, equipment, and commodity supply.

CCM Assessments

While some health facility assessment tools have a component for evaluating CHW performance, projects with a large CCM component may need to seek out or develop CCM resources to collect information on CCM services, including CHW performance, reporting, supervision, and drug supply. Program managers can find guidance on conducting a CCM situation analysis in the CCM Essentials Manual.

8. Survey Questionnaire

[See Excel file Malaria Questionnaire]