
Evaluation of the Impact of Malaria Control Interventions on All-Cause Mortality in Children under Five Years of Age in Mozambique

Mozambique Malaria Impact Evaluation Group

Annexes

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Annex 1: Methodological Considerations

A.1.1 General Survey Information and Data Availability for Mozambique 2003–2011

	DHS 2003	MIS 2007	MICS 2008	AIS 2009	DHS 2011
Sampling frame	1997 Population and Housing Census	19997 Population and Housing Census	2007 Population and Housing Census	2007 Population and Housing Census	2007 Population and Housing Census
Sampling distribution	Three-stage 1. PSUs 2. EAs 3. HHs within EAs	Three-stage 1. PSUs in urban and rural areas selected 2. EAs 3. HHs within EAs	Two-stage 1. EAs 2. HH within EAs	Two-stage 1. EAs 2. HH within EAs	-stage
Number of cluster (census enumeration areas/sampling points)	605 clusters PPS by urban/rural and for 11 provinces.	346 clusters PPS by urban/rural and for 11 provinces.	715 clusters PPS by urban/rural and for 11 provinces.	270 clusters PPS by urban/rural and for 11 provinces.	clusters PPS by urban/rural and for 11 provinces.
Number of household/cluster	24 HH/cluster Systematic (random) sampling	15 HH/rural cluster; 20 HH/urban cluster Systematic (random) sampling	20 HH/cluster Systematic (random) sampling	24 HH/rural cluster; 22 HH/urban cluster Systematic (random) sampling	HH/cluster Systematic (random) sampling
Sample weights	Weighted to provide representative estimates for regions by urban/rural and for 11 provinces.	Weighted to provide representative estimates for regions by urban/rural and for 11 provinces.	Weighted to provide representative estimates for regions by urban/rural and for 11 provinces.	Weighted to provide representative estimates for three regions, by urban/rural and for 11 provinces.	Weighted to provide representative estimates for three regions, by urban/rural and for 11 provinces.
Sampling errors/Design effect	See Final Report Appendix B	Design effect of 2.0	See Final Report Appendix C	See Final Report Annex B	
Representativeness (designed to provide estimates for)	<ul style="list-style-type: none"> National Urban and rural areas, separately 11 provinces (includes Maputo City) 	<ul style="list-style-type: none"> National Urban and rural areas, separately 11 provinces (includes Maputo City) 	<ul style="list-style-type: none"> National Urban and rural areas, separately 11 provinces (includes Maputo City) 	<ul style="list-style-type: none"> National Urban and rural areas, separately Regional (3) 11 provinces (includes Maputo City) 	<ul style="list-style-type: none"> National Urban and rural areas, separately Regional (3) 11 provinces (includes Maputo City)
Month(s) survey conducted	Aug – Dec 2003	Jun – Jul 2007	Aug – Nov 2008	May – Oct 2009	May – Nov 2011
Biomarkers	N/A	Hemoglobin	N/A	HIV testing	Hemoglobin
Malaria microscopy	N/A	Thin and thick blood smears collected	N/A	N/A	Thick blood smears collected

	DHS 2003	MIS 2007	MICS 2008	AIS 2009	DHS 2011
Rapid Malaria Diagnosis (brand of RDT)	N/A	ICT Malaria Pf, ICT Diagnostics	N/A	N/A	SD Bioline Malaria Ag. Pf / Pv
Hemoglobin values (brand of Hemocue /cuvettes)	N/A	Children 6-59 months, Women 15-49 (Hemocue system)	N/A	N/A	Children 6-59 months, Pregnant women (Hemocue system)
Under-five mortality estimate	Direct method (complete birth history)	Not included	Direct method (complete birth history)	Not calculated	Direct method (complete birth history)
ITN ownership	Net ownership data available only for women 15-49 years with a child under five.	A complete net roster is included. We know number of nets, treatment of each net, who used each net the previous night and duration of ownership up to 3 years before the survey.	Bednet ownership data available for all households. ITN ownership only available for households with children under five years of age.	Net ownership data not available.	A complete net roster is included. We know number of nets, treatment of each net, who used each net the previous night and duration of ownership up to 3 years before the survey.
ITN use	Only bednet use is available for women 15-49 years and children under five years of age.	Complete net roster allows us to estimate this.	Available only for children under five years of age.	Only bednet use is available for women 15-49 and children under five years of age.	Complete net roster allows us to estimate this.
IRS	N/A	Available	N/A	Available	Available
Wealth Index	Household ownership of goods (radio, telephone, motorbike, TV, bicycle, car, fridge) and housing characteristics including, electricity, source of water supply, sanitation facilities, and type of floor of dwelling	Education of the head of household, dwelling characteristics (roof, floor, walls), water source, sanitation facilities, cooking fuel used, and household ownership of goods.	Calculated, however report does not specify what variables were used.	Household ownership of goods (radio, TV, bicycle, car, motorbike), dwelling characteristics (roof, floor, walls), water source, sanitation facilities, electricity.	Household ownership of goods (radio, TV, car, bicycle, phone, fridge), ownership of agricultural land, dwelling characteristics (roof, floor, walls), animal ownership, water source, sanitation facilities, electricity.
Households sampled	14,475	5,990	14,269	6,232	13,964
Households occupied	N/A	N/A	N/A	N/A	13,951
Households interviewed	12,318	5,857 (Note: 5745 HHs used in final analysis)	13,995	6,139	13,919
Household response	96.0	97.8	97.9	98.5	99.8

	DHS 2003	MIS 2007	MICS 2008	AIS 2009	DHS 2011
rate					
Individual interviews:					
Number of women	13,667	5,833	15,060	6,749 (women 15-64 years)	13,871
Number of women interviewed	12,414	5,637	14,188	6,317	13,745
Eligible woman rate	90.9	96.6	94.2	93.6	99.1

¹ These could include electricity, radio, TV, mobile phone, landline, refrigerator, computer, internet connection, watch, bicycle, moto/scooter, cart, car/truck, motorboat, land, animals.

² MICS 2006: Children eligible: 23,238; mother/caretaker interviewed: 22,994; child response rate: 98.9%

*1996 MKAPH Caretaker interviews: 2433 eligible, 2418 interviewed, 99.4%

Intervention	Indicator Description
Prevention	
Vector Control via ITN and IRS	1. Proportion of households with at least one ITN
	2. Proportion of households with at least one ITN for every two people (NEW)
	3. Proportion of population with access to an ITN within their household (NEW)
	4. Proportion of population who slept under an ITN the previous night
	5. Proportion of children under 5 years old who slept under an ITN the previous night
	6. Proportion of pregnant women who slept under an ITN the previous night
	7. Proportion of households with at least one ITN and/or sprayed by IRS in the last 12 months
Intermittent Preventive Treatment	8. Proportion of women who received intermittent preventive treatment for malaria during ANC visits during their last pregnancy
Case Management	
Diagnosis	9. Proportion of children under 5 years old with fever in the last 2 weeks who had a finger or heel stick
Treatment	10. Proportion of children under 5 years old with fever in the last 2 weeks for whom advice or treatment was sought (NEW)
	11. Proportion receiving first line treatment, among children under five years old with fever in the last two weeks who received any antimalarial drugs (NEW)
	12. Proportion of children under five years old with fever in the last two weeks who received any antimalarial treatment
	13. Proportion of children under five years old with fever in the last two weeks who received first-line treatment according to national policy within 24 hours from onset of fever
Impact Measure	Indicator Description
Mortality Indicator	14. All-cause under 5 mortality rate (5q0).
Morbidity Indicators	15. Malaria Parasitemia Prevalence: proportion of children aged 6-59 months with malaria infection.
	16. Severe Anemia Prevalence: proportion of children aged 6-59 months with a hemoglobin measurement of <8 g/dL

Source: Household Survey Indicators for Malaria Control, June 2013.

A.1.2 Data and Indicators on ITN Coverage

Standard RBM indicators were used to estimate coverage of vector control interventions for each survey year as well as changes in coverage over the study period. These indicators are outlined below.

RBM Intervention	Indicator Description	Numerator	Denominator	Data Availability*
Insecticide-treated nets (ITNs)	1. Proportion of households with at least one ITN.	Number of households surveyed with at least one ITN	Total number of households surveyed	2007 MIS 2011 DHS
	4. Proportion of population who slept under an ITN the previous night.	Number of individuals who slept under an ITN the previous night	Total number of individuals who slept in surveyed households the previous night	2007 MIS 2011 DHS
	5. Proportion of children under 5 years old who slept under an ITN the previous night.	Number of children under 5 who slept under an ITN the previous night	Total number of children under 5 who spent the previous night in surveyed households	2007 MIS 2008 MICS 2011 DHS
Prevention and control of malaria in pregnant women	6. Proportion of pregnant women who slept under an ITN the previous night.	Number of pregnant women aged 15-49 who slept under an ITN the previous night	Total number of pregnant women aged 15-49 who spent the previous night in surveyed households	2007 MIS 2011 DHS
Insecticide-treated nets and indoor residual spraying	7. Proportion of households with at least one ITN and/or sprayed by IRS in the last 12 months	Number of households with at least one ITN and/or sprayed by IRS in the last 12 months	Total number of households surveyed	2007 MIS 2011 DHS

Calculating Indicators

Data used to produce estimates of ITN ownership and use come from DHS, MICS and MIS surveys. The specific questions and methods used to calculate the indicators are outlined in the table and text below. Although more recently, attempts have been made to standardize questionnaires across

surveys, the questions and methods required to calculate ITN indicators vary somewhat between these surveys.

In the 2003 DHS, questions on household ownership of bednets were not included. Rather, women aged 15-49 years were asked whether she uses a bednet and this is used as a proxy for household ownership of bednets. Since the question is not asked at the household level and does not include a net roster to assess the type of net and history of treatment with insecticide or not, both bednet and ITN household ownership coverage estimates from this survey were not included in the report.

In the subsequent MIS, MICS and DHS surveys, data on bednet ownership and use were collected in a different format. For the 2007 MIS and 2011 DHS, respondents reporting ownership of any nets were asked to provide specific treatment information about each net and were then asked which household members slept under each net the night prior to the interview. This “bednet roster” allows estimation of standard ITN indicators including the proportion of households with ITNs, the proportion of target populations (children under five years of age, pregnant women) using ITNs, as well as non-standard indicators such as proportion of the total population using ITNs, average number of ITNs per household, average duration of net ownership, etc.

The 2008 MICS did not include a full bednet roster but asked follow-up questions about the net used by children under five years of age. These questions included source of net, whether or not the net was pretreated when obtained, the duration of net ownership and treatment of the net. Women with children under five years of age were asked about the child’s net use during the interview.

Available Information on Nets					
	2003 DHS	2007 MIS	2008 MICS	2009 AIS	2011 DHS
Brand	N/A	Long-lasting nets (Olyset, Permanet, SalvaPerma-Net, Rede Tratada MCP); ‘Bundled-net (UNICEF, Safi, Chieso, Salva); Other	N/A	N/A	Permanet Net Protect Olyset Other treated Other
Duration of ownership	N/A	Monthly 0-12 months, 1-2 years ago, 2-3 years ago, or 3 or more years ago	Monthly 0-12 months, 1-3 years ago, or 3 or more years ago	N/A	Monthly 0-36 months OR 37 +
Treated/dipped with insecticide since it was obtained	N/A	Yes	For net used by U5	N/A	Yes

Timing of last treatment	N/A	Monthly 0-12 months, 1-2 years ago, or 2 or more years ago	For nets used by U5 (Monthly 0-24 months OR 25+ months)	N/A	Monthly 0-24 months OR 25 + months
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Potential Biases

Some limitations may affect the validity of the indicators to correctly measure parameters of interest. Correct specification of a net as an ITN requires information on the kind of net owned or used which might not be accurately reported if interviewers were not allowed to view the net. It also requires information on treatment of nets (the timing and the substance used to treat) which is subject to recall bias. The true protection offered by ITNs requires proper use: The timing of sleep under an ITN, the condition of the net (without holes, etc.), and proper net installation, are all important factors that were not measured in these surveys. For more information on RBM indicators including calculations, strengths and limitations see the “Household Survey Indicators for Malaria Control, June 2013.”

In addition, the denominators are not strictly the same across surveys. Net use was asked of all persons who slept in the household the previous night in the 2007 MIS and 2011 DHS, but not in the 2008 MICS. Net use in the 2008 MICS was asked of all children in a household (via interview of mothers or care-givers), of interviewed women age 15-49.

A.1.3 Data and Indicators on Malaria in Pregnancy (IPTp and ITN Use)

Standard RBM indicators on use of interventions to prevent and control malaria in pregnant women were used in this report. These indicators are outlined below.

RBM Intervention	Indicator Description	Numerator	Denominator	Data Availability*
Prevention and control of malaria in pregnant women	6. Proportion of pregnant women who slept under an ITN the previous night.	Number of pregnant women who slept under an ITN the previous night	Total number of pregnant women within surveyed households	2007 MIS 2011 DHS
	8. Proportion of women who received intermittent preventive treatment for malaria during ANC visits during their last pregnancy.	Number of women who received 2 or more doses of SP to prevent malaria at least one during ANC visit during her last pregnancy that led to a live	Total number of women surveyed who delivered a live baby within the last 2 years	2007 MIS 2008 MICS 2009 AIS 2011 DHS

		birth in the last 2 years		
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*The 2008 MICS did not ask about receiving SP during an ANC visit.

Calculating Indicators

Data used to estimate the proportion of pregnant women that used an ITN the night before the survey come from the 2007 MIS and 2011 DHS. In these surveys, all women aged 15-49 from selected households were asked to participate in an interview. In the course of this interview each woman was asked if she was pregnant. This information along with the responses from the household questionnaire on ITN ownership and use was used to estimate the proportion of pregnant women who slept under an ITN the previous night. As mentioned in the previous section, the ITN questions were somewhat different across these two surveys.

Data used to estimate the proportion of pregnant women that received intermittent preventive treatment during ANC visits during their last pregnancy come from the 2007 MIS, 2008 MICS, 2009 AIS and the 2011 DHS. Interviewed women reporting a live birth in the two years prior to interview were also asked to provide information about use of antenatal care (ANC) services and other malaria prevention behaviors. This information was used to estimate the proportion of these women who received at least two doses of SP for prevention of malaria during her last pregnancy which led to a live birth, at least one of which was received during an ANC visit. In the 2008 MICS, women with a live birth in the past two years were not asked if they received SP during an ANC visit; thus, strictly speaking, the IPTp indicator cannot be calculated for 2008. The difference between the proportion of women receiving 2 doses of SP and the proportion receiving 2 doses of SP, at least one of which was given at an ANC visit, is typically small. Therefore, for comparison purposes across the series of surveys, the proportion of women receiving 2 doses of SP regardless of where it was given was used in this evaluation.

Potential Biases

This indicator is dependent on recall by interviewed women over the two year period preceding the survey. Women were asked to remember not only whether or not they took medication for malaria prevention but also the type of medication, the number of doses and the source of these doses. Accurate information for all of these parameters is necessary for construction of the IPTp indicator. In addition, these questions were asked only of women whose most recent pregnancy ended in a live birth in the two years preceding the survey. This excludes stillbirths and miscarriages. As birth outcomes are known to be affected by malaria and IPTp is known to reduce the risk of malaria, the results may not be representative of the general population and may bias the observed relationships. In addition, the data for this indicator come from interviews with live women: Women that died in childbirth or from malaria acquired during pregnancy are not included. Thus, the indicator may not be truly representative of the population as some selection bias may be present.

A.1.4 Data and Indicators on Case Management

The following RBM indicators measuring case management of malaria were used in this report:

RBM Intervention	Supplemental Indicator Description	Numerator	Denominator	Data Availability
Diagnosics	8. Proportion of children under 5 years old with fever in last 2 weeks who received a finger or heel stick.	Number of children under 5 years old with fever in last 2 weeks who received a finger or heel stick.	Total number of children under 5 who had a fever in previous 2 weeks	2011 DHS
Treatment	9. Proportion of children under 5 years old with fever in the last 2 weeks for whom advice or treatment was sought	Number of children under 5 who had a fever in previous 2 weeks who sought advice or treatment	Total number of children under 5 who had a fever in previous 2 weeks	2003 DHS 2007 MIS 2008 MICS 2011 DHS
	10. Proportion receiving first line treatment, among children under five years old with fever in the last two weeks who received any antimalarial drugs	Number of children under 5 who had a fever in previous 2 weeks who received first-line antimalarials.	Total number of children under 5 who had a fever in previous 2 weeks who received any antimalarial.	2003 DHS 2007 MIS 2008 MICS 2011 DHS

In addition, several supplemental case management indicators were calculated. These are historical case management indicators which have been replaced by the RBM-MERG. Due to the retrospective nature of the evaluation, these historical indicators were referenced.

RBM Intervention	Indicator Description	Numerator	Denominator	Data Availability
Treatment	11. Proportion of children under 5 years old with fever in last 2 weeks who received any antimalarial treatment.	Number of children under 5 who had a fever in previous 2 weeks who received any antimalarial treatment	Total number of children under 5 who had a fever in previous 2 weeks	2003 DHS 2007 MIS 2008 MICS 2011 DHS
	12. Proportion of children under 5 years old with fever in the last two weeks who received antimalarial treatment according to national policy (first-line treatment)	Number of children under 5 who had a fever in previous 2 weeks who received	Total number of children under 5 who had a fever in previous 2 weeks	2003 DHS 2008 MICS 2011 DHS

		recommended antimalarial treatment according to national policy		
	13. Proportion of children under 5 years old with fever in last 2 weeks who received antimalarial treatment according to national policy within 24 hours from onset of fever.	Number of children under 5 who had a fever in previous 2 weeks who received recommended antimalarial treatment according to national policy <24 hours from fever onset	Total number of children under 5 who had a fever in previous 2 weeks	2003 DHS 2008 MICS 2011 DHS

Calculating Indicators

Data used to calculate these indicators came from 2003 DHS, the 2007 MIS, the 2008 MICS survey and from the 2011 DHS. A slight difference in denominators exists between the MICS and the other surveys. For the MICS, the denominator is all children under five years of age in a household who had fever in the two weeks prior to interview. In the DHS and MIS, the denominator for these indicators is biological children of interviewed women under five years of age who had fever in the two weeks prior to interview. Mothers (or caregivers) were asked whether or not they sought treatment for their child's fever and, if so, where care was sought and what treatments were received. The timing of this treatment in relation to onset of fever was also asked. Interpretation of trends in these indicators is challenging as the treatment options and the recommended treatments changed over the course of the evaluation period. The treatment options included in each survey are summarized in the table below.

It is important to note that for the 2007 MIS, data on the proportion of children under five years of age with fever in the last 2 weeks who received antimalarial treatment according to national policy and the proportion of children under five years of age with fever in last 2 weeks who received antimalarial treatment according to national policy within 24 hours from onset of fever is not available. The first-line antimalarial drug that was recommended in 2007 was not a response option in the 2007 MIS survey, thus has not been included.

Antimalarial Drugs Taken for Treatment of Fever			
2003 DHS	2007 MIS	2008 MICS	2011 DHS
Chloroquine	SP/Fansidar	Fansidar/Artesunate	Fansidar
Fansidar	Chloroquine	Artemisinin	Chloroquine
Quinine	Amodiaquine	Quinine	Amodiaquine
Aspirin	Artesunate		Quinine
Paracetamol	Quinine		ACT/Coartem
Other	Coartem		Other Antimalarial
	Other Antimalarial		Antibiotics (pill or injection)
	Aspirin		Aspirin
	Acetaminophen/ Paracetamol		Acetaminophen
	Ibuprofen		Ibuprofen
	Other		Other

One potentially useful indicator that is less affected by changing drug recommendations is the proportion of all antimalarial treatments that are first-line. This gives an indication of whether or not the recommended antimalarials are being dispensed.

To determine whether or not the antimalarial medication given to children with fever was “prompt” mothers were asked when the child first took the medication. Responses of “Same Day” or “Next Day” following fever onset were considered “prompt” and were included in the calculation of the third treatment indicator.

In the more recent surveys, a question asking whether or not a child with fever had a finger or heel stick has been included to estimate the proportion of children with fever who were given diagnostic tests for malaria. For Mozambique, the only survey that includes this indicator is the 2011 DHS, thus this information is not presented in the core report.

Potential Biases

A potential bias is introduced by the nature of data collection for these surveys. Denominators are not exactly the same across all of the surveys. For the MICS, the denominator includes all children under five years of age in a household who had fever in the two weeks prior to the interview. Whereas for the DHS and MIS surveys, data are collected on the biological children of the women who are interviewed. Children whose mothers were deceased at the time of interview are not included in this estimate. This may introduce bias if the children with deceased mothers are more likely than others to have fever or if they have different treatment seeking patterns. Another potential issue is the non-specificity of the denominator. Coverage of appropriate antimalarial treatment is only relevant if a child is actually infected with *Plasmodium* spp. parasites. In this case, an assumption is made that any child with fever is likely to have malaria, without the requirement of official clinical diagnosis. However, many interviewed households do not have access to facilities that provide diagnostic testing for malaria, or do not have the resources needed to access these services, so limiting the denominator of this indicator to diagnosed cases is not currently practical. Following WHO recommendations, many national malaria control programs have changed standards to require diagnostic testing (by RDT or microscopy) before administering malaria

treatment. Until widespread implementation of these standards has occurred, the current treatment indicator remains the most practical. The new indicator on diagnosis represents a proxy measure of the prevalence of diagnostic testing of children with fever. It can be used to gauge when transition to using a more specific denominator of confirmed malaria cases might be possible.

Another potential problem with this indicator is the necessity of recall of types of medications. Errors in the specification of medications taken could reduce the validity of these estimates. Additionally, proper dosage is not verified.

A.1.5 Data and Indicators on Malaria Morbidity

Morbidity indicators measured for this report include parasitemia and severe anemia prevalence in children under five years of age. The details of these indicators are outlined below.

RBM Impact Measures	Indicator Description	Numerator	Denominator	Data Availability*
Morbidity Indicator	10. Parasitemia Prevalence: proportion of children aged 6-59 months with malaria infection.	Number of children 6-59 months with malaria infection detected by an RDT	Total number of children aged 6-59 months tested for malaria parasites by an RDT	2007 MIS 2011 DHS
	11. Severe anemia prevalence: proportion of children aged 6-59 months with a hemoglobin measurement of <8 g/dL.	Number of children 6-59 months with a hemoglobin measurement of <8g/dL	Total number of children 6-59 months who had hemoglobin measurements obtained during household survey	2007 MIS 2011 DHS

*For both the 2007 MIS and 2011 DHS, microscopy (thick and thin for parasite density) and RDT (*Pf*) test results are available.

Calculating Indicators

The data used to calculate these indicators come from the 2007 MIS and the 2011 DSH. These biomarkers were measured for all children older than 6 months and less than 60 months of age, for whom permission was granted, in selected households. Parasitemia was measured using both microscopy and rapid diagnostic tests (RDT), but due to concerns with the quality of the microscopy results for the two surveys the RDT results are presented in the core report.

Parasitemia

Infection with *Plasmodium falciparum* parasites was measured in all children aged 6-59 months who slept in a selected household the night before the survey, for whom parental permission was granted. Blood was taken from a finger or heel stick using a cuvette. Thick and thin blood smears were prepared for microscopy. A rapid diagnostic blood test for *Plasmodium falciparum* antigens was then performed (ICF Malaria Pf® for the 2007 survey and a SD Bionline Malaria Ag P.f. ® for the

2011 survey). Parasitemia is defined as a positive result via microscopy for the purposes of these analyses.

Severe Anemia

Severe anemia, defined as less than 8 grams of hemoglobin per deciliter of blood, in children aged 6-59 months who slept in a selected household the night before the survey is another outcome of interest. Hemoglobin levels were measured using the HemoCue® system (a light photometer) and samples of capillary blood from finger or heel sticks.

Potential Biases

Measuring parasitemia for use in comparative studies can be challenging as parasite prevalence in the population is influenced by a multitude of factors including temperature and rainfall. Thus the timing of data collection plays an important role in ensuring comparability of data, especially in areas with seasonal patterns of malaria transmission. The analyses presented in this report include parasitemia data from the low transmission season in both 2007 and 2011. The survey in 2011 spanned predominantly the dry season, but did overlap with the rainy season for 2 months, however it did not overlap during the peak transmission season. Another measurement issue arises due to the different methods available for diagnosing *Plasmodium* spp. infection. The current RBM recommendation is to report microscopy results; however, obtaining good quality microscopy data is often challenging due to logistic constraints. In this case, diagnosis was determined via microscopy and rapid diagnostic tests. Comparing RDT results with those obtained via microscopy may not produce valid results as RDTs measure parasite antigens whereas microscopy measures actual parasites. RDTs have been shown to have lower sensitivity than high quality microscopy in areas of low parasitemia. False positive RDT results can also occur when parasites have recently been cleared from the body via effective treatment. For Mozambique, the quality of the microscopy results was deemed unreliable for both the 2007 and 2011 survey, thus RDT results were reported on in the core report.

Severe anemia is not a very specific proxy for malaria as there are many other potential etiologies. Anemia data are dependent on valid hemoglobin readings from the HemoCue® machine which can be affected by the skill of the technician drawing blood and on the number of blood tests being conducted with the same sample. This varied in the two surveys. Severe anemia prevalence is also subject to seasonal variation to the extent that it is a result of malaria infection or other time-varying factors.

A.1.6 Data and Indicators on Under-five Mortality

All-cause mortality in children under five years of age is the outcome variable of greatest interest in this report.

RBM Impact Measures	Indicator Description
Mortality Indicator	9. All-cause under 5 mortality rate (5q0).

Calculating Indicators

Estimates of mortality require significant amounts of data, as death is a fairly rare event; thus, mortality rates for Mozambique were estimated using data from the birth histories from the DHS (2003, 2011) and 2008 MICS interviews. Both the DHS and MICS calculate these estimates using information collected from birth histories of each interviewed woman. Women are asked the dates of each live birth, regardless of the current survival status of the child. For any death, child age at death is recorded. There is no time limit on this birth history, so every live birth a woman ever had during her lifetime should be recorded. With this information, 5-year mortality rates, approximating a point estimate of mortality rates approximately 2.5 years before the survey, are calculated using a synthetic cohort life table approach similar to that described in detail in the “DHS Guide to Statistics” (<http://www.measuredhs.com/help/Datasets/index.htm>). Mortality rates are calculated for ages 0 months, 1-2, 3-5, 6-11, 12-23, 24-35, 36-47, and 48-60 months using a Stata program. Each rate is calculated with a generalized linear model with binomial error, log link, and an appropriate offset for risk. Adjustments are made for the survey design using svyset. Stata produces robust standard errors and 95% confidence intervals for the log of each rate. These confidence intervals are mapped onto confidence intervals for the standard set of under-five mortality rates. The rates agree exactly with the CSpPro program used by DHS and the confidence intervals differ only slightly from the results of the jackknife procedure used by DHS.

Potential Biases

As birth history information was collected from interviewed women in the DHS and MICS, the mortality of children whose mothers have died is missing from the estimate. Children whose mothers have died are known to have worse survival, which may lead to mortality being underestimated. Other potential biases include under-reporting of deaths and misreported age at death. These issues and the measures taken to avoid erroneous data are discussed in depth in the Guide to DHS Statistics (<http://www.measuredhs.com/help/Datasets/index.htm>).

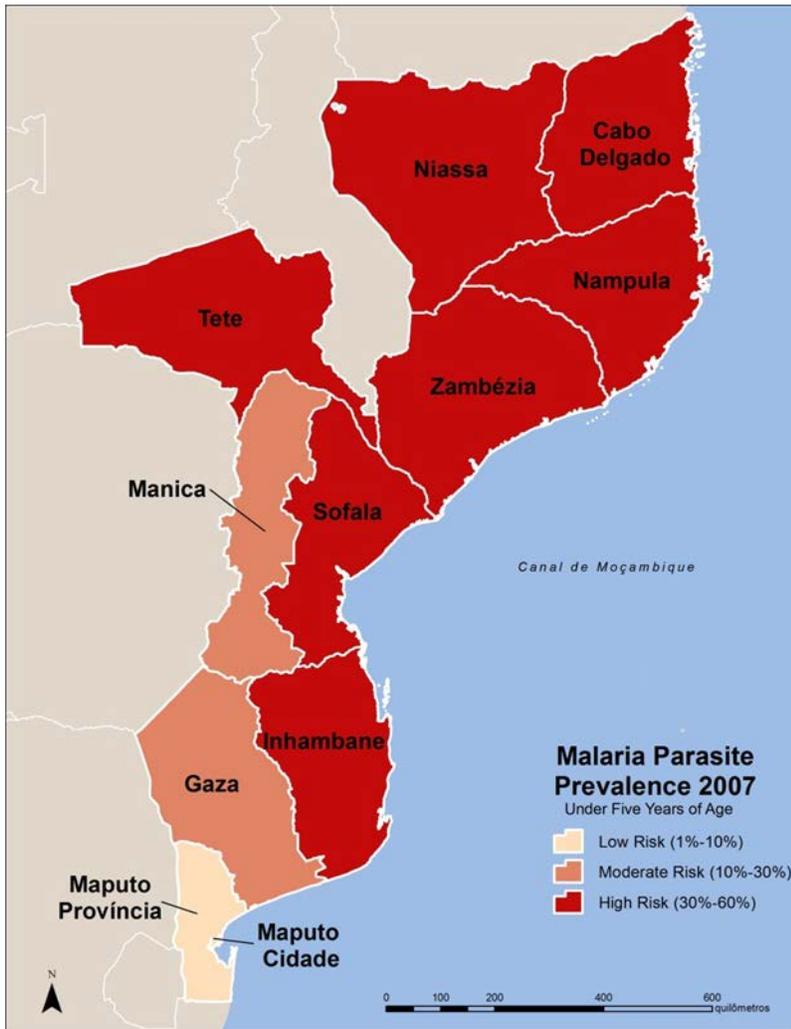
A.1.7 General Information about the Construction of Malaria Risk Zones

In Mozambique, there is no widely used stratification or risk map for malaria in the country. The different approaches for defining risk stratification were presented to key stakeholders in Mozambique (September 23, 2013). The group of stakeholders decided to use the data from the 2007 MIS to map out parasitemia prevalence across the country. The main reason for using this approach was to provide sufficient variation among the strata, while also taking into account sample size for the different analyses. Thus, using the 2007 MIS data, three malaria transmission risk zones were determined and used for the analyses throughout the evaluation: low transmission (1%-10%), moderate transmission (10-30%); and high transmission (30-60%) (Table A.1.7.1).

Table A.1.7.1: Malaria risk zones in Mozambique

ZONE	CHARACTERISTICS	PARASITE PREVALENCE	PROVINCE
Zone 1	Low transmission	1% -10%	Maputo City, Maputo Province
Zone 2	Moderate transmission	10%-30%	Gaza, Manica
Zone 3	High transmission	30%-60%	Inhambane, Sofala, Tete, Zambézia, Nampula, Niassa, Cabo Delgado

Figure A.1.7.1: Map of malaria risk zones in Mozambique



Source: ICF International

Annex 2: LiST Model Details

A.2.1 Methods - Lives Saved Tool (LiST Model)

LiST Model

The Lives Saved Tool (LiST model) is a computer-projection model that runs through the Spectrum demographic program developed by the Futures Institute [1]. The Spectrum program links together the LiST module containing maternal and child health interventions, the family planning module that accounts for changes in fertility and the AIDS Impact Module (AIM) that provides information on HIV/AIDS prevalence and interventions [1]. The LiST model projections and information are available from www.jhsph.edu/dept/ih/IIP/list/. The analysis was performed with Spectrum version 5.0. Unless otherwise indicated, the values in the standard projection for Mozambique were used.

Mozambique Demographic Data

The default demographic data (from the United Nations Population Division) in the Spectrum projection for Mozambique was used.

Family Planning Module

The values in the standard Mozambique projection were used without change.

AIDS Impact Module (AIM)

The AIDS Impact Module (AIM) was used without change from the standard Mozambique projection.

Mortality & Cause-Specific Mortality Profile

The baseline mortality values for 2003 were obtained from the 2003 DHS estimates. The values (deaths per 1000 live births) are neonatal (37.1) infant (100.6) and under five (152.3).

The cause-specific breakdown of child mortality in the model was used without change, and is based on a systematic analysis that was conducted in 2010 [3]. For neonatal mortality, the cause-specific mortality profile for Mozambique is diarrhea (2.3%), sepsis (8.0%) pneumonia (16.8%), asphyxia (26.4%), prematurity (32.0%), tetanus (5.8%), congenital anomalies (4.9%) and other (3.8%). The cause-specific mortality profile for children 1-59 months old was also obtained from the CHERG [3]; diarrhea (13.5%), pneumonia (16.5%), meningitis (3.3%), measles (6.0%), malaria (30.9%), pertussis (0.5%), HIV/AIDS (9.6%), injury (3.0%) and other (16.7%).

Intervention Coverage

Table A.2.3.1 lists the values, definitions and data sources for the prevention and treatment interventions used in this LiST analysis. The intervention coverage levels for indicators were obtained from the Mozambique DHS 2003, MIS 2007, MICS 2008, AIS 2009 and DSH 2011 with a few exceptions noted below. For the years between surveys, the values were linearly interpolated. Several of the interventions are currently in the model as place holders until the ideal indicators are

developed and the model is updated. “Data not available” refers to these interventions as well as those in which data is not currently being collected/reported in the surveys.

Malaria Control Intervention Coverage

The percentage of households owning at least one ITN or sprayed by IRS within the last 12 months was only available from the 2007 MIS and the 2011 DHS. Therefore, no baseline for 2003 was available to use in the model.

The proportion of pregnant women receiving 2 doses SP/Fansidar at an ANC visit was available in the 2007 MIS, 2008 MICS, 2009 AIS and the 2011 DHS. However, since coverage varied considerably over this time and coverage of ITN use in pregnant women was overall higher in coverage by 2011, the percentage of pregnant women that slept under an ITN was used in the model (using data from the 2007 MIS and the 2011 DHS).

Additional Health Status Data

Other health status data for the baseline year 2003 came from the standard projection that was last last updated for Mozambique in October 2013.

Malaria Intervention Protective Efficacy

The protective effect of vector control methods (household ownership of ITNs or IRS) for preventing deaths in children 1–59 months due to malaria is estimated to be 55% (ranging from 49–60%) based on a review of trials and studies [4]. The protective effect of malaria control measures (ITN use by pregnant women or use of IPTp) during pregnancy is estimated to be 35% (95% confidence interval (CI) 23–45%) during the first two pregnancies based on a review of related trials [4]. The effect of preventing malaria in pregnancy is thought to be through decreasing low birth weight by preventing IUGR and therefore can affect deaths of children 0–59 months of age [4].

Uncertainty Limits

The uncertainty bounds around the number of malaria deaths prevented are based on the uncertainty surrounding the two primary model parameters: the estimated protective effect of the malaria control interventions [4] and the malaria intervention coverage estimates from the MIS, DHS, and MICS survey data sets.

A.2.2 LiST Model References

[1] Stover J, McKinnon R and Winfrey B. Spectrum: a model platform for linking maternal and child survival interventions with AIDS, family planning and demographic projections. *International Journal of Epidemiology*, 2010, 39:i7-i10.

[2] Oestergaard MZ, Inoue M, Yoshida S, Mahanani WR, Gore FM, Cousens S, Lawn JE, Mathers CD; United Nations Inter-Agency Group for Child Mortality Estimation and the Child Health Epidemiology Reference Group. Neonatal mortality levels for 193 countries in 2009 with trends since 1990: a systematic analysis of progress, projections, and priorities. *PLoS Med.* 2011 Aug;8(8):e1001080. doi: 10.1371/journal.pmed.1001080.

[3] Black, RE, Cousens, S., Johnson, H., Lawn JE, Rudan, I., et al. Global, regional, and national causes of child mortality in 2008: a systematic analysis. *Lancet*, 2010, 375:1969-1987.

[4] Eisele TP, Larsen D, Steketee RW. Protective efficacy of interventions for preventing malaria mortality in children in *Plasmodium falciparum* endemic areas. *International Journal of Epidemiology*, 2010, 39(Suppl 1):i88-101.

A.2.3 Intervention Coverage Indicators & Values Used in LiST Analysis for Mozambique

Intervention	2003	2007	2008	2009	2011	Data Source(s)/ Indicator Information
Periconceptual						
Contraceptive use	n/a	n/a	n/a	n/a	n/a	Used defaults in FamPlan model
Folic acid supplementation/fortification	n/a	n/a	n/a	n/a	n/a	Data not available
Safe abortion services	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST Model
Post abortion case management	n/a	n/a	n/a	n/a	n/a	Data not available
Ectopic pregnancy case management	n/a	n/a	n/a	n/a	n/a	Data not available
Pregnancy						
Antenatal care	53.1	54.9	n/a	n/a	50.6	2003 DHS, 2007 MIS, 2011 DHS
Tetanus toxoid	57.1	n/a	66.5	n/a	55.8	2003 DHS, 2008 MICS, 2011 DHS
Pregnant women protected via IPT or sleeping under an ITN	n/a	7.3	n/a	n/a	34.3	Used sleeping under an ITN; data from 2007 MIS and 2011 DHS
Iron folate supplementation	60.2	n/a	n/a	n/a	80.9	2003 DHS, 2011 DHS
Multiple micronutrient supplementation	n/a	n/a	n/a	n/a	n/a	Data not available
Balanced energy supplementation	n/a	n/a	n/a	n/a	n/a	Data not available
Diabetes case management	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST Model
Case management of malaria	n/a	n/a	n/a	n/a	n/a	Data not available
Fetal growth restriction detection and management	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST Model
PMTCT	n/a	n/a	n/a	n/a	n/a	Used defaults in AIM Model
Childbirth						
Skilled birth attendance (SBA)	47.7	58.4	55.3	n/a	54.3	2003 DHS, 2007 MIS, 2008 MICS, 2011 DHS
Institutional delivery (clinic or hospital)	47.6	n/a	58.0	n/a	54.8	2003 DHS, 2008 MICS, 2011 DHS
Place and level of delivery	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST Model
Interventions for all deliveries (clean birth practices, immediate assessment and stimulation, labor and delivery management, neonatal resuscitation, antenatal	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST Model

Intervention	2003	2007	2008	2009	2011	Data Source(s)/ Indicator Information
corticosteroids for preterm labor, antibiotics for pRPoM, MsSo4 management of eclampsia, AMSTL, and induction of labor for pregnancies 41+ weeks)						
Breastfeeding						
<1 month						
Exclusive	53.1	n/a	70.8	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Predominant	45.5	n/a	10.7	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Partial	1.4	n/a	14.0	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Not	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
1-5 months						
Exclusive	26.7	n/a	47.2	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Predominant	43.7	n/a	8.7	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Partial	28.8	n/a	17.2	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Not	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
6-11 months						
Any breastfeeding	98.4	n/a	84.8	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Not breastfeeding	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
12-23 months						
Any breastfeeding	82.7	n/a	70.9	n/a	n/a	Used recalculated figures in LiST that come from the 2003 DHS and 2008 MICS
Not breastfeeding	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Promotion of breastfeeding	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST

Intervention	2003	2007	2008	2009	2011	Data Source(s)/ Indicator Information
Preventive						
Postnatal care	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Complementary feeding – education only	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Complementary feeding – supplementation and education	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Vitamin A supplementation						Check these
Zinc supplementation	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST (0% coverage)
Improved water source	42.0	n/a*	45.8	43.7	44.7	2003 DHS, 2008 MICS, 2009 AIS, 2011 DHS *Note: for 2007 MIS, the data was not included since it was much higher in 2007 than any other year.
Water connection in home	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Improved sanitation – Utilization of latrines or toilets	n/a	9.3	17.4	22.5	23.3	2007 MIS, 2008 MICS, 2009 AIS, 2011 DHS
Handwashing with soap	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST based on a global average estimate
Hygienic disposal of children's stools	55.9	n/a	n/a	n/a	77.2	DHS 2003, DHS 2011
ITN/IRS	n/a	34.5 (31.4-37.8)	n/a	n/a	59.7 (57.7-61.6)	MIS 2007, DHS 2011 data used; interpolated data from 2003 to 2007, and then from 2007 to 2011
Vaccines						
BCG	87.4	n/a	87.3	n/a	91.1	2003 DHS, 2008 MICS, 2011 DHS
Polio	69.6	n/a	72.1	n/a	73.2	2003 DHS, 2008 MICS, 2011 DHS
Pentavent	71.6	n/a	73.2	n/a	76.2	2003 DHS, 2008 MICS, 2011 DHS
Pneumococcal	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST (0% coverage)
Rotavirus	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST (0% coverage)
Measles	76.7	n/a	73.7	n/a	81.5	2003 DHS, 2008 MICS, 2011 DHS
Curative Interventions						
Maternal sepsis case management	n/a	n/a	n/a	n/a	n/a	Data not available

Intervention	2003	2007	2008	2009	2011	Data Source(s)/ Indicator Information
KMC – Kangaroo mother care	n/a	n/a	n/a	n/a	n/a	Data not available
Oral antibiotics: case management of severe neonatal infection	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Injectable antibiotics: case management of severe neonatal infection	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Full supportive care: case management of severe neonatal infection	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Diarrhea – ORS treatment	48.5	n/a	37.9	n/a	55.0	DHS 2003, MICS 2008, DHS 2011
Diarrhea – Antibiotics treatment	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Diarrhea – Zinc treatment	n/a	n/a	n/a	n/a	n/a	Data not available
Oral antibiotics for pneumonia	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Vitamin A – treatment of measles	n/a	n/a	n/a	n/a	n/a	Used data in LiST Model: Years 2000-2004 (UNICEF Child info 2000-2004), Year 2005 (UNICEF SOWC 2008), Year 2006 (UNICEF Child info 2008), Year 2007-2010 (UNICEF Child info 2007-2010)
Antimalarials	Not included	Not included	Not included	n/a	Not included	Intervention not included in LiST model as coverage and efficacy still being work out for changing antimalarials. Due to the many changes in antimalarial policy in Mozambique, coverage also varied widely across the evaluation period.
Therapeutic feeding – for severe wasting	n/a	n/a	n/a	n/a	n/a	Data not available
Treatment for moderate acute malnutrition	n/a	n/a	n/a	n/a	n/a	Data not available
HIV – Cotrimoxazole	n/a	n/a	n/a	n/a	n/a	Used defaults in AIM
HIV – ART	n/a	n/a	n/a	n/a	n/a	Used defaults in AIM
Fertility						
Age and birth order	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST
Birth intervals	n/a	n/a	n/a	n/a	n/a	Used defaults in LiST

A.2.4 LiST Model Outputs

Figure A.2.4.1: Deaths prevented by ITN scale-up, children 1-59 months, 2003-2011

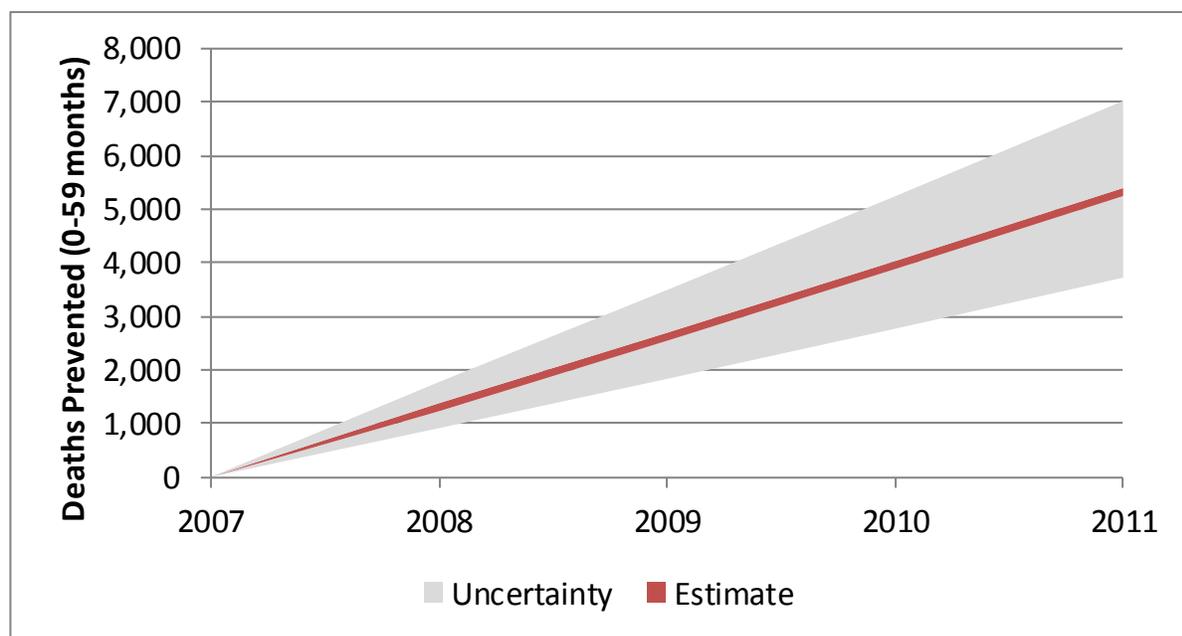


Table A.2.4.1: Annual deaths prevented* by ITN scale-up, children 1-59 months, 2003-2011

	Malaria deaths 2003	Estimate deaths prevented (1-59 months)									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Lower	28,998	0	0	0	0	0	911	1,831	2,768	3,721	9,231
Middle		0	0	0	0	0	1,302	2,618	3,957	5,321	13,198
Upper		0	0	0	0	0	1,699	3,417	5,167	6,948	17,231

*Deaths prevented are relative to 2007 coverage levels.

Table A.2.4.2 Annual deaths prevented by ITN use among pregnant women, children 0-59 months, 2003-2011

	Malaria deaths 2003	Estimated deaths prevented (0-59 months)									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
Lower	28,998	0	0	0	0	0	50	100	152	205	507
Middle		0	0	0	0	0	65	132	199	267	663

Upper		0	0	0	0	0	78	158	239	322	797
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*Deaths prevented are relative to 2007 coverage levels.

Annex 3: Data Tables with Values, 95% Confidence Limits and Sample Sizes

A.3.1 Population-Based Survey Data Tables (Table A.3.1.1-Table A.3.1.20)

Table A.3.1.1: Household possession of insecticide-treated nets

Percentage of households with at least one insecticide-treated net (ITN)* by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE
Residence										
Urban	3005	15.2	13.2	17.5	1.1	4,181	55.5	52.5	58.6	1.6
Rural	2740	17.5	15.8	19.3	0.9	9,738	49.7	47.2	52.1	1.3
Region										
Niassa	582	17.7	12.7	24.2	2.9	840	47.0	40.0	54.2	3.6
Cabo Delgado	529	19.6	15.1	25.0	2.5	1,167	61.5	56.8	66.0	2.3
Nampula	554	8.8	5.9	12.9	1.7	2,561	60.5	55.9	65.0	2.3
Zambezia	596	17.8	12.6	24.5	3.0	2,510	46.5	41.0	52.0	2.8
Tete	553	11.9	7.8	17.9	2.6	1,636	47.3	38.7	56.1	4.5
Manica	480	36.5	29.7	43.9	3.6	916	53.9	49.7	58.1	2.1
Sofala	551	21.8	15.0	30.5	3.9	1,109	56.8	49.7	63.7	3.6
Inhambane	560	10.4	7.2	14.8	1.9	874	53.9	47.5	60.1	3.2
Gaza	415	12.7	7.9	19.7	3.0	724	46.0	41.2	51.0	2.5
Maputo (Province)	532	5.7	3.8	8.5	1.2	943	37.6	33.7	41.6	2.0
Maputo City	393	10.2	6.8	14.9	2.0	638	43.2	38.8	47.6	2.2
Wealth Quintile										
1 (Poorest)	1144	14.1	11.3	17.5	1.6	2,972	45.0	41.3	48.8	1.9
2	1146	15.2	12.0	19.1	1.8	2,920	50.1	46.9	53.4	1.6
3	1151	15.8	13.0	18.9	1.5	2,884	52.0	49.1	54.9	1.5
4	1155	16.3	13.6	19.4	1.5	2,666	55.4	52.3	58.4	1.5
5 (Least Poor)	1149	19.5	16.2	23.4	1.8	2,477	55.9	53.0	58.8	1.5

Household Size										
<4	1718	11.3	9.4	13.5	1.0	5,582	44.1	42.0	46.3	1.1
4-5	1917	15.7	13.3	18.5	1.3	4,190	55.3	52.6	57.9	1.4
6-7	1270	18.5	15.4	22.1	1.7	2,740	57.7	54.8	60.5	1.5
8-9	489	20.8	15.9	26.7	2.7	987	57.0	53.1	60.8	2.0
10+	351	22.9	17.2	29.7	3.2	421	56.9	51.8	61.9	2.6
HH w/Child U5										
Yes	3412	18.5	16.4	20.9	1.1	7,688	58.7	56.4	60.9	1.1
No	2333	11.4	9.7	13.3	0.9	6,231	42.5	40.4	44.7	1.1
Total	5745	15.7	14.1	17.5	0.9	13,919	51.4	49.5	53.4	1

*An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

** WN = Weighted number of cases (denominator)

Table A.3.1.2: Use of insecticide-treated nets by children under five years of age

Percentage of children under five years of age who slept under an insecticide-treated net* (ITN) the previous night by background characteristics and survey year, Mozambique

	MIS 2007					MICS 2008***					DHS 2011				
	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE
Residence															
Urban	2421	8.1	6.7	9.8	0.8	3,243	21.9	19.3	24.8	1.4	3,043	42.2	39.4	45.1	1.5
Rural	2646	6.3	4.9	8.1	0.8	8,176	17.2	15.1	19.5	1.1	7,842	33.1	30.8	35.6	1.2
Region															
Niassa	615	8.6	4.9	14.7	2.4	663	13.3	9.7	17.9	2.1	694	38.9	32.8	45.3	3.2
Cabo Delgado	581	6.8	4.0	11.4	1.8	1,136	23.1	18.9	27.8	2.3	895	49.8	45.6	53.9	2.1
Nampula	520	3.4	1.8	6.3	1.1	1,771	24.2	18.2	31.4	3.4	1,673	51.1	46.2	55.9	2.5
Zambezia	509	13.7	9.1	20.0	2.7	1,996	18.2	14.6	22.4	2.0	2,213	31.6	26.4	37.2	2.8
Tete	511	3.2	1.7	6.2	1.1	1,134	14.2	9.9	20.0	2.5	1,378	31.5	25.4	38.3	3.3
Manica	405	12.9	9.5	17.1	1.9	587	12.2	7.5	19.1	2.9	766	38.0	33.9	42.3	2.2
Sofala	552	12.0	7.4	18.9	2.9	1,575	26.9	22.5	31.9	2.4	1,100	39.9	33.4	46.7	3.4
Inhambane	409	2.7	1.2	6.0	1.1	716	18.5	13.9	24.2	2.6	597	24.3	19.5	30.0	2.7
Gaza	311	1.8	0.7	4.3	0.8	735	8.9	5.9	13.1	1.8	589	9.7	7.0	13.3	1.6
Maputo (Province)	398	0.4	0.1	1.5	0.3	655	7.7	5.2	11.3	1.5	604	21.8	17.6	26.7	2.3
Maputo City	256	4.8	2.4	9.1	1.6	453	15.4	12.2	19.1	1.8	377	30.9	27.1	35.1	2.0
Wealth Quintile															
1 (Poorest)	1,090	6.7	4.7	9.5	1.2	2,574	15.3	12.8	18.3	1.4	2,505	32.4	28.6	36.5	2.0
2	1,037	7.8	5.2	11.5	1.6	2,523	16.8	14.0	20.1	1.6	2,326	35.7	32.1	39.4	1.9
3	1,103	6.3	4.5	8.7	1.1	2,255	20.8	17.4	24.6	1.8	2,192	35.9	32.7	39.2	1.7
4	945	6.2	4.1	9.2	1.2	2,267	18.2	15.5	21.3	1.5	2,199	36.1	32.8	39.6	1.8
5 (Least Poor)	892	5.8	4.0	8.3	1.1	1,799	23.1	19.5	27.0	1.9	1,663	39.6	36.1	43.2	1.8
Mother's Education															
None	2,589	6.2	4.9	7.8	0.8	3,730	17.6	15.1	20.4	1.3	3,834	29.5	26.8	32.4	1.4
Primary	1,550	8.0	5.8	11.0	1.3	6,861	17.4	15.5	19.4	1.0	5,210	39.1	36.8	41.5	1.2

Secondary +	512	7.9	5.5	11.2	1.4	825	32.4	27.8	37.4	2.5	1,045	49.5	45.3	53.7	2.2
											796	24.6	20.7	28.9	2.1
Household Size															
<4	516	7.1	4.4	11.4	1.7	n/a	n/a	n/a	n/a	n/a	1,208	41.0	37.3	44.9	1.9
4-5	1,763	6.2	4.6	8.3	0.9	n/a	n/a	n/a	n/a	n/a	3,780	38.9	35.9	41.9	1.5
6-7	1,515	7.0	5.1	9.5	1.1	n/a	n/a	n/a	n/a	n/a	3,421	34.9	32.2	37.8	1.4
8-9	703	7.7	4.3	13.5	2.3	n/a	n/a	n/a	n/a	n/a	1,542	32.1	28.3	36.2	2.0
10+	570	5.6	3.2	9.7	1.6	n/a	n/a	n/a	n/a	n/a	933	24.4	20.3	29.0	2.2
Age (in years)															
<1	911	9.5	6.8	13.0	1.6	2,509	26.1	23.4	29.1	1.4	2,360	42.1	39.4	44.9	1.4
1	844	7.3	5.4	10.0	1.2	2,449	16.9	14.7	19.5	1.2	2,268	38.6	35.7	41.6	1.5
2	873	7.0	5.3	9.4	1.0	2,207	16.8	14.6	19.3	1.2	2,029	35.3	32.6	38.1	1.4
3	782	4.6	3.2	6.7	0.9	2,232	17.1	14.8	19.6	1.2	2,197	30.9	28.3	33.7	1.4
4	618	5.3	3.6	7.7	1.0	2,021	14.4	12.3	16.7	1.1	2,031	30.4	27.5	33.4	1.5
Sex															
Male	2,547	6.1	4.9	7.6	0.7	5,658	18.5	16.5	20.7	1.1	5,448	35.9	33.6	38.2	1.2
Female	2,520	7.3	5.7	9.1	0.8	5,759	18.6	16.7	20.5	1.0	5,437	35.4	33.4	37.6	1.1
Number of ITNs per household															
0	4091	0.0	-	-	0.0	n/a	n/a	n/a	n/a	n/a	4,400	0.0	-	-	0.0
1	694	32.6	27.6	38.0	2.6	n/a	n/a	n/a	n/a	n/a	2,775	49.1	46.4	51.8	1.4
2	205	42.6	32.6	53.3	5.4	n/a	n/a	n/a	n/a	n/a	2,228	68.3	65.2	71.2	1.5
3	70	37.4	19.4	59.6	10.8	n/a	n/a	n/a	n/a	n/a	1,039	70.2	65.2	74.8	2.5
4	4	18.6	2.0	71.3	18.4	n/a	n/a	n/a	n/a	n/a	296	60.2	52.5	67.5	3.9
5+	3	100.0	-	-	0.0	n/a	n/a	n/a	n/a	n/a	147	61.1	50.9	70.4	5.0
Total	5,067	6.7	5.5	8.1	0.6	11,419	18.5	16.8	20.3	1.0	10,885	35.7	33.8	37.6	1.0

*An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

** WN = Weighted number of cases
(denominator)

*** Unable to replicate the results that are presented in the 2008 MICS report.

Table A.3.1.3: Household vector control measures

Percentage of households with indoor residual spraying† (IRS) in the last 12 months, by background characteristics and survey year, Mozambique

	DSH 2003					MIS 2007					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Residence															
Urban	1,741	40.0	33.6	46.7	3.4	3005	16.3	12.6	20.9	2.1	4,181	30.4	27.3	33.6	1.6
Rural	4,356	19.5	14.3	26.0	3.0	2740	42.7	38.5	47.0	2.2	9,738	13.4	10.9	16.2	1.3
Region															
Niassa	353	11.6	4.8	25.5	5.0	582	15.0	8.5	25.1	4.1	840	14.4	8.7	22.8	3.5
Cabo Delgado	538	26.7	16.6	40.0	6.0	529	6.3	2.7	14.0	2.7	1,167	24.5	16.9	34.1	4.4
Nampula	1,309	11.5	5.6	22.0	4.0	554	14.0	8.6	22.0	3.3	2,561	5.9	3.6	9.5	1.5
Zambezia	1,200	31.0	17.6	48.6	8.1	596	32.6	20.6	47.3	6.9	2,510	25.7	18.9	33.9	3.8
Tete	525	21.5	10.8	38.2	7.0	553	15.5	8.1	27.6	4.9	1,636	14.9	9.1	23.6	3.6
Manica	371	17.7	9.4	30.8	5.4	480	15.2	9.5	23.4	3.5	916	20.2	14.0	28.2	3.6
Sofala	445	24.9	14.3	39.6	6.5	551	16.3	9.8	25.8	4.0	1,109	21.2	15.8	27.8	3.1
Inhambane	377	12.4	5.0	27.7	5.5	560	7.6	4.5	12.7	2.0	874	7.8	5.1	11.8	1.7
Gaza	335	51.1	42.9	59.2	4.2	415	52.6	35.5	69.1	8.9	724	37.5	30.6	45.0	3.7
Maputo (Province)	354	59.1	49.7	67.8	4.6	532	56.4	48.7	63.9	3.9	943	19.6	15.9	23.7	2.0
Maputo City	293	41.4	35.0	48.2	3.4	393	49.1	41.7	56.6	3.8	638	28.2	25.5	31.1	1.4
Wealth Quintile															
1 (Poorest)	1,248	15.2	9.1	24.4	3.8	1144	12.6	8.4	18.4	2.5	2,972	14.3	10.4	19.3	2.3
2	1,316	18.2	12.8	25.4	3.2	1146	12.7	9.5	16.8	1.8	2,920	12.7	10.1	15.8	1.5
3	1,254	19.6	14.5	25.9	2.9	1151	20.5	16.3	25.4	2.3	2,884	13.4	10.9	16.3	1.4
4	1,218	34.9	28.9	41.5	3.2	1155	37.3	29.8	45.4	4.0	2,666	24.2	21.4	27.3	1.5
5 (Least Poor)	1,061	41.8	35.5	48.3	3.3	1149	46.0	41.1	50.9	2.5	2,477	30.1	27.6	32.7	1.3
Household Size															
<4	2,437	24.1	19.5	29.4	2.5	1718	19.8	16.4	23.7	1.9	5,582	14.2	12.2	16.5	1.1

4-5	1,930	23.9	19.6	28.8	2.3	1917	21.6	18.1	25.6	1.9	4,190	18.1	15.9	20.6	1.2
6-7	1,216	26.8	20.7	33.9	3.4	1270	24.7	20.8	29.2	2.2	2,740	22.3	19.3	25.5	1.6
8-9	384	27.8	21.4	35.4	3.6	489	27.5	21.8	34.0	3.1	987	27.4	23.3	31.9	2.2
10+	129	47.9	36.5	59.5	6.0	351	30.6	23.0	39.5	4.2	421	32.8	27.1	39.0	3.1
Total	6,097	25.3	21	30.2	2.3	5745	22.7	19.6	26.2	1.7	13,919	18.5	16.4	20.7	1.1

* WN = Weighted number of cases
(denominator)

Table A.3.1.4: Household vector control measures

Percentage of households with indoor residual spraying[†] (IRS) and percentage of households with at least one insecticide-treated net** (ITN) and/or IRS in the last 12 months, by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE
Residence										
Urban	3005	28.8	24.9	33.1	2.1	4,181	66.9	64.1	69.5	1.4
Rural	2740	52.4	48.8	55.9	1.8	9,738	56.6	54.1	59.0	1.2
Region										
Niassa	582	30.0	22.9	38.3	3.9	840	51.1	43.3	58.9	4.0
Cabo Delgado	529	24.4	18.6	31.4	3.3	1,167	69.7	64.5	74.5	2.6
Nampula	554	21.7	15.5	29.6	3.6	2,561	61.6	57.0	66.0	2.3
Zambezia	596	43.6	32.1	55.7	6.1	2,510	59.3	53.3	64.9	3.0
Tete	553	24.3	15.4	36.1	5.3	1,636	55.6	47.7	63.2	4.0
Manica	480	44.2	36.8	51.9	3.9	916	61.0	55.6	66.3	2.7
Sofala	551	33.5	25.2	43.0	4.6	1,109	63.1	55.8	69.9	3.6
Inhambane	560	17.0	12.6	22.6	2.5	874	57.4	51.3	63.3	3.1
Gaza	415	56.4	39.0	72.4	8.8	724	65.8	60.2	70.9	2.7
Maputo (Province)	532	58.7	51.4	65.6	3.6	943	50.9	46.8	54.9	2.1
Maputo City	393	54.0	47.1	60.8	3.5	638	57.7	53.9	61.4	1.9
Wealth Quintile										
1 (Poorest)	1144	25.3	20.3	31.0	2.7	2,972	53.9	49.9	57.9	2.0
2	1146	24.6	20.4	29.4	2.3	2,920	56.3	53.2	59.4	1.6
3	1151	33.2	28.6	38.1	2.4	2,884	58.4	55.3	61.5	1.6
4	1155	48.4	41.5	55.2	3.5	2,666	64.3	61.4	67.1	1.5
5 (Least Poor)	1149	55.2	51.0	59.4	2.1	2,477	66.9	64.4	69.2	1.2
Household Size										
<4	1718	28.8	25.1	32.8	1.9	5,582	51.7	49.4	54.0	1.2
4-5	1917	33.7	30.0	37.5	1.9	4,190	62.9	60.3	65.4	1.3

6-7	1270	38.0	33.5	42.6	2.3	2,740	66.4	63.5	69.1	1.4
8-9	489	42.1	35.8	48.7	3.3	987	68.7	64.8	72.2	1.9
10+	351	47.2	39.1	55.3	4.2	421	68.2	62.9	73.2	2.6
Total	5745	34.5	31.4	37.8	1.6	13,919	59.7	57.7	61.6	1.0

*An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

** WN = Weighted number of cases (denominator)

Table A.3.1.5: Use of insecticide-treated nets by pregnant women

Percentage of pregnant women who slept under an insecticide-treated net** (ITN) the previous night by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE
Residence										
Urban	301	7.9	5.1	11.9	1.7	375	46.5	40.8	52.3	2.9
Rural	288	7.2	4.6	10.9	1.6	1,075	30.1	25.9	34.6	2.2
Region										
Niassa	76	10.8	5.3	20.6	3.7	102	34.9	26.7	44.1	4.5
Cabo Delgado	80	10.4	4.2	23.3	4.6	114	38.4	28.1	49.9	5.6
Nampula	59	2.7	0.8	8.2	1.6	269	52.2	42.6	61.6	4.9
Zambezia	75	8.4	3.4	19.1	3.7	321	27.5	19.2	37.7	4.7
Tete	51	1.1	0.3	4.3	0.8	166	22.2	14.7	32.0	4.4
Manica	61	9.3	4.0	20.3	3.9	99	38.8	29.5	48.9	5.0
Sofala	53	15.8	8.3	28.2	5.0	135	40.8	29.7	52.9	6.0
Inhambane	36	1.4	0.2	9.8	1.4	65	33.5	23.2	45.6	5.8
Gaza	35	7.7	1.8	27.5	5.5	64	8.7	4.5	16.1	2.8
Maputo (Province)	28	0.0	-	-	0.0	66	23.9	16.8	32.9	4.1
Maputo City	35	1.6	0.2	11.7	1.7	49	33.4	25.1	42.8	4.5
Wealth Quintile										
1 (Poorest)	129	4.1	1.9	8.7	1.6	371	30.7	23.8	38.5	3.8
2	130	7.7	3.7	15.2	2.8	343	30.8	24.1	38.5	3.7
3	145	10.6	5.8	18.7	3.2	264	35.0	28.9	41.7	3.3
4	92	6.9	2.9	15.5	3.0	277	38.2	31.6	45.2	3.5
5 (Least Poor)	93	6.4	2.7	14.4	2.7	195	41.1	33.8	48.8	3.9
Education										
None	330	8.5	5.4	13.0	1.9	517	26.0	n/a	n/a	n/a
Primary	175	4.5	1.9	10.3	2.0	764	37.9	n/a	n/a	n/a

Secondary +	67	8.3	3.3	19.3	3.8	170	43.8	n/a	n/a	n/a
Household Size										
<4	142	6.4	3.1	12.7	2.3	455	39.2	33.5	45.3	3.0
4-5	212	5.9	3.0	11.1	1.9	457	34.8	29.2	40.8	3.0
6-7	144	9.2	4.8	16.8	2.9	321	33.7	26.8	41.3	3.7
8-9	53	9.3	2.7	27.3	5.6	144	27.5	19.5	37.3	4.6
10+	38	9.0	2.1	30.7	6.2	73	17.2	9.8	28.4	4.7
Number of ITNs per household										
0	481	0.0	-	-	-	635	0.0	-	-	-
1	81	41.8	29.1	55.7	6.9	392	51.8	45.3	58.3	3.3
2	23	31.7	11.1	63.3	14.4	261	72.8	66.2	78.6	3.2
3	4	12.7	-	-	-	114	63.2	52.2	72.9	5.4
4	0	-	-	-	-	34	68.8	48.3	83.9	9.4
5+	0	-	-	-	-	15	62.7	40.9	80.4	10.6
Age										
15-19	129	3.8	1.5	9.3	1.8	320	30.6	24.7	37.2	3.2
20-24	172	5.3	2.7	10.3	1.8	394	36.3	30.2	42.9	3.2
25-29	143	6.2	2.7	13.5	2.6	271	39.2	32.2	46.7	3.7
30-34	76	11.4	5.5	22.4	4.1	246	35.1	27.3	43.7	4.2
35-39	53	14.6	5.8	32.1	6.5	151	30.7	22.1	40.8	4.8
40-44	9	-	-	-	-	53	30.5	17.8	47.0	7.6
45-49	1	-	-	-	-	17	15.1	3.9	43.5	9.6
Total	589	7.3	5.2	10.3	1.3	1,450	34.3	30.8	38.0	1.8

*An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

** WN = Weighted number of cases (denominator)

Table A.3.1.6: Use of Intermittent preventive treatment during pregnancy

Percentage of women age 15-49 with a live birth in the two years preceding the survey who received Intermittent Preventive Treatment (IPTp)** for malaria during ANC visits during their last pregnancy, by background characteristics and survey year, Mozambique

	MIS 2007					MICS 2008					AIS 2009					DHS 2011				
	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE
Residence																				
Urban	956	24.7	21.5	28.2	1.7	1,493	54.2	50.0	58.4	2.1	507	46.3	40.8	51.9	2.8	1,356	26.0	22.6	29.7	1.8
Rural	1016	13.8	11.1	17.0	1.5	3,698	38.3	35.0	41.7	1.7	1517	27.6	23.0	32.8	2.5	3,557	15.7	13.8	17.9	1.0
Region																				
Niassa	233	1.7	0.7	4.2	0.8	318	35.4	28.2	43.4	3.9	94	36.5	26.4	48.0	5.6	301	0.9	0.4	2.3	0.4
Cabo Delgado	233	1.8	0.7	4.6	0.9	527	49.9	43.6	56.3	3.3	175	48.0	41.2	54.9	3.5	389	24.6	19.3	30.9	3.0
Nampula	180	5.0	2.3	10.4	1.9	895	34.1	27.7	41.3	3.5	412	22.5	15.3	31.9	4.2	728	35.6	30.0	41.6	3.0
Zambezia	211	12.5	7.0	21.2	3.5	912	22.5	17.6	28.4	2.7	459	20.5	13.2	30.3	4.3	1,030	5.9	3.6	9.8	1.5
Tete	201	26.2	18.9	35.1	4.1	535	28.8	22.3	36.3	3.6	187	19.3	14.6	25.2	2.7	678	8.1	5.8	11.1	1.3
Manica	162	35.7	26.0	46.7	5.3	260	61.1	53.3	68.4	3.9	141	32.3	24.0	41.8	4.6	371	32.5	26.8	38.7	3.0
Sofala	205	37.6	28.9	47.3	4.7	638	73.3	65.3	80.0	3.8	172	66.6	54.1	77.1	5.9	464	31.7	27.5	36.2	2.2
Inhambane	154	8.7	4.1	17.7	3.3	312	38.0	32.4	43.9	2.9	100	32.6	25.7	40.3	3.8	252	9.2	6.1	13.6	1.9
Gaza	120	26.2	15.1	41.4	6.8	325	65.3	58.9	71.2	3.2	133	31.8	26.2	38.0	3.0	268	19.6	14.9	25.5	2.7
Maputo (Prov)	161	25.6	18.7	33.9	3.9	277	50.2	42.7	57.6	3.8	83	55.4	38.3	71.4	8.7	263	26.4	20.5	33.2	3.2
Maputo City	112	34.4	26.8	42.8	4.1	191	46.6	39.8	53.5	3.5	68	45.7	38.7	52.8	3.6	170	15.4	11.9	19.8	2.0
Wealth Quintile																				
1 (Poorest)	416	9.8	6.1	15.5	2.4	1,209	33.4	29.1	38.0	2.3	456	19.2	12.7	28.1	3.9	1,145	16.6	13.4	20.4	1.8
2	407	12.7	9.3	17.2	2.0	1,144	37.9	33.2	42.8	2.5	434	30.3	23.9	37.5	3.5	1,067	14.4	11.5	17.9	1.6
3	426	17.4	12.9	23.1	2.6	1,041	42.0	37.5	46.7	2.3	420	21.2	24.9	38.2	3.4	1,025	17.5	14.6	20.8	1.6
4	369	21.2	16.9	26.4	2.4	1,018	49.9	45.6	54.2	2.2	414	39.5	32.9	46.4	3.5	941	21.7	18.3	25.5	1.8
5 (Least Poor)	354	28.0	21.7	35.2	3.4	778	57.0	52.5	61.4	2.3	300	46.7	40.6	52.8	3.1	736	25.1	21.6	29.0	1.9

Education																					
None	1061	11.6	9.1	14.6	1.4	1,624	40.2	35.6	44.9	2.4	632	25.9	19.5	33.4	3.5	1,747	14.6	12.5	17.0	1.1	
Primary	677	21.9	18.0	26.4	2.1	3,086	42.0	39.3	44.8	1.4	1,195	33.4	29.6	37.5	2.0	2,588	19.5	17.3	21.9	1.2	
Secondary +	224	29.4	21.6	38.6	4.3	439	58.7	52.3	64.8	3.2	197	46.0	38.2	54.1	4.1	578	26.6	23.0	30.5	1.9	
Missing	10	*	*	*	*	42	46.5	28.1	65.9	10.1	0	-	-	-	-	0	-	-	-	-	
Household Size																					
<4	257	15.7	11.3	21.4	2.5	n/a	n/a	n/a	n/a	n/a	360	28.5	22.4	35.5	3.3	757	16.1	12.8	20.0	1.8	
4-5	650	17.5	14.2	21.4	1.8	n/a	n/a	n/a	n/a	n/a	721	31.9	26.6	37.7	2.8	1,667	20.2	17.6	23.1	1.4	
6-7	562	12.0	9.2	15.6	1.6	n/a	n/a	n/a	n/a	n/a	583	30.4	35.3	36	2.7	1,455	19.2	16.7	21.9	1.3	
8-9	264	18.8	14.1	24.7	2.7	n/a	n/a	n/a	n/a	n/a	231	41.9	33.5	50.9	4.5	648	17.7	14.6	21.2	1.7	
10+	238	19.9	12.6	30.1	4.5	n/a	n/a	n/a	n/a	n/a	129	36.2	27.5	45.9	4.7	387	15.6	11.9	20.4	2.2	
Age																					
15-19	343	19.1	13.7	25.9	3.1	799	44.1	39.3	49.1	2.5	294	34.3	27.4	42.0	3.7	741	15.7	12.6	19.4	1.7	
20-24	555	19.3	15.4	23.8	2.1	1,434	42.1	38.5	45.9	1.9	590	34.7	28.7	41.3	3.2	1,274	21.5	18.1	25.4	1.9	
25-29	432	12.6	9.2	17.0	2.0	1,275	43.3	39.4	47.3	2.0	445	29.6	23.8	36.2	3.2	1,141	19.9	16.8	23.4	1.7	
30-34	332	13.1	9.4	17.8	2.1	849	43.0	38.7	47.4	2.2	386	29.2	22.6	36.7	3.6	859	18.6	15.7	21.9	1.6	
35-39	226	15.7	10.7	22.5	3.0	574	43.9	37.8	50.2	3.2	213	35.2	26.5	45.1	4.8	590	16.1	12.5	20.4	2.0	
40-44	63	19.4	10.4	33.5	5.8	176	41.8	33.2	50.9	4.6	59	34.6	20.9	51.4	8.0	222	14.7	9.3	22.4	3.3	
45-49	21	18.0	5.1	47.3	10.6	84	32.1	19.9	47.3	7.1	37	21.4	6.4	51.8	11.8	86	8.8	3.7	19.7	3.8	
Parity																					
1	466	19.0	14.3	24.6	2.6	1,092	43.6	39.4	47.9	2.2	n/a	n/a	n/a	n/a	n/a	1,094	16.8	14.1	19.8	1.4	
2+	1506	15.4	13.0	18.2	1.3	3,174	42.7	39.6	45.8	1.6	n/a	n/a	n/a	n/a	n/a	3,819	19.1	17.3	21.0	1.0	

Month Gestation of																					
<3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	591	27.0	22.6	31.9	2.4	
4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	987	22.9	19.7	26.4	1.7	
5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,279	18.9	16.1	22.0	1.5	
6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,076	18.8	15.6	22.6	1.8	
7+	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	980	8.4	6.2	11.2	1.3	
Total	1972	16.2	13.9	18.7	1.2	5,191	42.9	40.2	45.6	1.4	2024	32.3	28.4	36.4	2.0	4,913	18.6	17.0	20.3	0.8	

* WN = Weighted number of cases (denominator)

**IPTp: Intermittent Preventive Treatment during pregnancy is preventive treatment with two or more doses of SP/Fansidar

Table A.3.1.7: Use of insecticide-treated nets by general population

Percentage of individuals who slept under an insecticide-treated net** (ITN) the previous night by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE
Residence										
Urban	14770	5.9	5.0	6.8	0.5	18,814	35.3	32.8	37.9	1.3
Rural	13260	4.4	3.5	5.5	0.5	41,017	26.8	25.0	28.7	1.0
Region										
Niassa	2,957	6.9	4.4	10.7	1.6	3,541	34.3	28.6	40.5	3.0
Cabo Delgado	2565	5.5	3.9	7.8	1.0	4,766	36.7	32.9	40.6	2.0
Nampula	2395	3.0	2.0	4.7	0.7	9,264	44.0	40.4	47.7	1.8
Zambezia	2,707	10.0	6.8	14.5	1.9	11,299	28.6	24.0	33.6	2.5
Tete	2784	2.6	1.5	4.6	0.8	7,271	24.6	19.9	30.1	2.6
Manica	2291	8.4	6.5	10.9	1.1	3,953	30.7	27.1	34.6	1.9
Sofala	3030	7.7	5.0	11.7	1.7	5,652	34.4	29.0	40.3	2.9
Inhambane	2626	2.1	1.3	3.4	0.5	3,605	20.4	16.5	25.0	2.2
Gaza	2000	1.1	0.4	2.9	0.5	3,354	7.5	5.5	10.3	1.2
Maputo (Province)	2,558	0.5	0.2	1.2	0.2	4,062	17.2	13.9	21.1	1.8
Maputo City	2117	3.1	1.7	5.5	0.9	3,064	24.1	21.4	27.0	1.4
Sex										
Male	13,346	4.5	3.8	5.3	0.4	28,238	28.8	27.3	30.4	0.8
Female	14,684	5.0	4.2	5.9	0.4	31,593	30.1	28.5	31.7	0.8
Wealth Quintile										
1 (Poorest)	5,280	4.1	3.0	5.7	0.7	11,950	26.2	23.1	29.5	1.6
2	5,252	5.4	3.9	7.4	0.9	11,998	28.2	25.7	30.8	1.3
3	5,435	5.1	3.8	6.7	0.7	11,941	29.5	27.3	31.8	1.2
4	5,559	4.5	3.4	5.9	0.6	11,993	30.1	27.5	32.8	1.4
5 (Least Poor)	6,504	4.6	3.5	5.9	0.6	11,949	33.5	30.6	36.5	1.5

Household Size										
<4	4,190	5.1	3.9	6.7	0.7	11,714	30.9	28.9	32.9	1.0
4-5	8,701	4.7	3.6	6.0	0.6	18,226	31.8	29.7	34.0	1.1
6-7	8,098	4.9	3.8	6.4	0.7	17,088	30.3	28.1	32.5	1.1
8-9	4,090	5.1	3.2	8.1	1.2	8,068	25.6	22.8	28.7	1.5
10+	2,951	3.5	2.1	5.7	0.9	4,734	20.8	17.8	24.1	1.6
Number of Household ITNs										
0	23,169	0.0	-	-	0.0	27,061	0.0	-	-	0.0
1	3,346	24.0	21.3	26.8	1.4	13,776	40.5	38.9	42.2	0.8
2	1,079	31.7	24.7	39.7	3.8	10,689	61.7	59.4	64.0	1.2
3	367	37.7	23.4	54.6	8.2	5,660	66.6	62.9	70.0	1.8
4	39	26.3	6.5	64.5	16.0	1,786	64.0	58.0	69.7	3.0
5+	30	48.1	12.1	86.2	24.2	860	64.2	55.4	72.2	4.3
Total	28,030	4.8	4.0	5.6	0.4	59,831	29.5	28.0	31.0	0.8

*An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

** WN = Weighted number of cases
(denominator)

Table A.3.1.8: Universal Access of ITNs

Percentage of de facto household population who could sleep under an insecticide-treated net* (ITN) if each ITN in the household is used by two people, by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN**	%	LCI	UCI	SE	WN**	%	LCI	UCI	SE
Residence										
Urban	3005	11.0	9.7	12.3	0.7	18,814	41.3	38.6	43.9	1.4
Rural	2740	8.9	7.5	10.4	0.7	41,017	35.0	32.8	37.2	1.1
Region										
Niassa	582	12.1	6.7	17.6	2.8	3,541	34.0	27.3	40.6	3.4
Cabo Delgado	529	11.7	8.8	14.5	1.4	4,766	48.1	43.3	52.9	2.4
Nampula	554	4.4	2.8	6.0	0.8	9,264	48.6	43.8	53.3	2.4
Zambezia	596	10.6	7.1	14.0	1.7	11,299	30.6	25.8	35.4	2.4
Tete	553	6.7	3.0	10.5	1.9	7,271	33.2	26.2	40.3	3.6
Manica	480	18.3	15.5	21.1	1.4	3,953	35.5	31.3	39.7	2.1
Sofala	551	11.1	7.0	15.1	2.1	5,652	38.9	32.8	44.9	3.1
Inhambane	560	8.0	4.8	11.3	1.7	3,605	44.2	37.8	50.5	3.2
Gaza	415	8.2	4.1	12.2	2.1	3,354	31.6	27.3	35.9	2.2
Maputo (Province)	532	4.5	2.8	6.2	0.9	4,062	26.5	23.0	30.0	1.8
Maputo City	393	5.1	3.1	7.0	1.0	3,064	29.9	27.0	32.8	1.5
Wealth Quintile										
1 (Poorest)	1144	8.1	6.1	10.2	1.1	11,950	31.6	28.4	34.9	1.6
2	1146	8.7	6.7	10.6	1.0	11,998	34.7	31.9	37.4	1.4
3	1151	9.8	7.4	12.1	1.2	11,941	36.3	33.9	38.6	1.2
4	1155	9.1	7.0	11.1	1.0	11,993	40.9	38.2	43.7	1.4
5 (Least Poor)	1149	12.8	9.8	15.8	1.5	11,949	41.3	38.6	44.0	1.4
Household Size										
<4	1718	11.7	9.6	13.8	1.1	40,392	38.8	36.9	40.7	1.0

4-5	1917	8.8	7.1	10.4	0.9	10,189	34.9	32.8	37.1	1.1
6-7	1270	7.6	6.1	9.1	0.8	5,505	33.1	30.4	35.8	1.4
8-9	489	8.8	5.9	11.6	1.5	2,248	29.4	26.4	32.4	1.5
10+	351	13.5	8.7	18.2	2.4	1,497	26.3	22.2	30.4	2.1
Total	5745	9.4	8.3	10.6	0.6	59,831	37.0	35.2	38.7	0.9

*An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

** WN = Weighted number of cases (denominator)

Table A.3.1.9: Antimalarial treatment received by children with fever

Among children under five years of age with fever in the two weeks preceding the survey, the percentage who received any antimalarial treatment, by background characteristics and survey year, Mozambique

	DSH 2003					MIS 2007					MICS 2008					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Residence																				
Urban	731	12.7	9.6	16.6	1.8	528	23.8	20.0	28.2	2.1	760	38.4	32.6	44.5	3.0	388	24.9	20.0	30.6	2.7
Rural	1,778	15.8	13.2	18.9	1.4	740	22.8	18.8	27.5	2.2	1,926	36.1	32.0	40.4	2.1	1,069	31.7	27.4	36.3	2.3
Region																				
Niassa	74	8.1	4.1	15.4	2.7	118	20.0	11.2	33.1	5.5	92	26.4	17.1	38.4	5.5	75	43.6	33.2	54.5	5.5
Cabo Delgado	296	12.7	8.0	19.4	2.8	221	12.5	9.3	16.5	1.8	228	47.4	37.8	57.2	5.0	135	12.5	7.2	20.9	3.4
Nampula	755	14.6	10.1	20.6	2.7	93	31.2	17.9	48.5	8.0	474	57.6	49.6	65.2	4.0	213	42.9	29.2	57.9	7.5
Zambezia	267	14.9	9.1	23.5	3.6	217	15.5	10.0	23.4	3.4	520	16.9	12.2	22.9	2.7	369	35.4	28.6	42.8	3.6
Tete	135	26.6	19.7	34.9	3.9	116	30.1	19.3	43.5	6.2	231	31.7	23.5	41.3	4.6	175	16.8	12.0	22.9	2.8
Manica	148	13.8	7.3	24.6	4.3	65	45.7	29.1	63.3	9.1	101	39.7	29.4	50.9	5.5	100	40.1	31.0	50.0	4.9
Sofala	158	13.0	7.9	20.6	3.2	144	27.9	17.9	40.7	5.9	334	60.1	50.3	69.2	4.9	175	33.1	25.2	42.1	4.3
Inhambane	271	16.8	10.5	25.8	3.8	115	34.4	22.2	49.0	6.9	222	37.2	28.5	46.9	4.8	50	34.2	24.7	45.2	5.3
Gaza	138	17.3	11.5	25.4	3.5	67	27.0	12.3	49.4	9.7	244	26.4	19.7	34.4	3.8	63	23.6	16.1	33.2	4.4
Maputo (Province)	124	14.2	8.8	22.0	3.3	59	12.5	6.4	23.0	4.1	143	16.4	10.6	24.4	3.5	62	2.7	0.7	10.2	1.9
Maputo City	142	11.5	7.0	18.2	2.8	53	10.4	4.1	23.9	4.7	97	9.2	5.4	15.2	2.4	39	7.0	2.2	20.2	4.0
Wealth Quintile																				
1 (Poorest)	629	13.6	10.3	17.6	1.9	342	20.8	15.1	27.9	3.3	607	32.0	26.2	38.4	3.1	361	36.1	28.0	45.1	4.4
2	488	15.1	10.6	21.1	2.7	297	16.4	11.6	22.6	2.8	580	41.2	35.0	47.8	3.3	339	23.7	17.9	30.8	3.3
3	559	17.6	13.3	22.9	2.4	258	28.5	19.8	39.1	4.9	547	37.4	30.8	44.6	3.5	285	41.2	34.4	48.4	3.6
4	462	14.8	11.0	19.6	2.2	202	28.2	19.2	39.2	5.1	572	39.8	34.1	45.7	3.0	274	26.9	21.8	32.7	2.8
5 (Least Poor)	371	13.0	9.1	18.3	2.3	169	29.9	18.2	44.9	6.9	380	31.8	25.6	38.8	3.4	198	17.1	10.6	26.3	4.0

Mother's Education																				
None	1,087	13.5	10.5	17.1	1.7	750	18.4	14.6	22.9	2.1	816	38.0	32.7	43.6	2.8	507	29.7	23.7	36.5	3.3
Primary	1,331	16.3	13.8	19.2	1.4	416	32.1	25.8	39.2	3.4	1713	36.0	32.0	40.2	2.1	813	31.4	27.6	35.5	2.0
Secondary +	91	11.1	4.1	27.0	5.4	87	33.1	19.9	49.8	7.8	158	38.5	29.9	48.0	4.7	137	21.8	15.0	30.7	4.0
Age (in years)																				
<1	600	10.0	7.3	13.4	1.5	277	19.8	14.4	26.6	3.1	589	28.7	23.9	34.0	2.6	310	20.1	15.2	26.2	2.8
1	717	13.8	10.8	17.4	1.7	298	20.4	15.0	27.2	3.1	724	39.6	34.8	44.7	2.5	399	28.0	22.6	34.0	2.9
2	495	18.8	13.8	25.2	2.9	283	31.6	24.6	39.6	3.8	530	37.6	32.0	43.7	3.0	309	30.3	24.4	36.8	3.2
3	406	17.3	13.0	22.7	2.5	224	20.6	14.4	28.6	3.6	465	37.9	31.9	44.3	3.2	241	43.5	35.1	52.2	4.4
4	291	17.9	12.7	24.6	3.0	186	21.7	14.6	31.0	4.2	378	41.0	34.8	47.4	3.2	198	31.9	21.7	44.2	5.8
Sex																				
Male	1,237	17.1	14.1	20.4	1.6	690	24.3	20.0	29.2	2.3	1,384	37.6	33.7	41.7	2.0	747	30.7	26.3	35.4	2.3
Female	1,271	12.8	10.3	15.8	1.4	578	21.5	17.1	26.6	2.4	1,301	35.8	31.7	40.1	2.2	709	29.1	24.9	33.6	2.2
Birth Order																				
1	509	12.4	9.1	16.7	1.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	322	29.7	24.2	35.8	3.0
2	460	14.6	10.8	19.3	2.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	241	27.3	20.9	34.7	3.5
3+	1,540	15.8	13.4	18.6	1.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	894	30.7	25.8	36.0	2.6
Household Size																				
<4	251	13.9	8.6	21.8	3.3	134	26.9	17.0	39.8	5.9	n/a	n/a	n/a	n/a	n/a	218	26.9	20.8	34.0	3.4
4-5	749	13.6	9.9	18.4	2.1	440	22.7	18.1	28.1	2.6	n/a	n/a	n/a	n/a	n/a	486	30.7	25.1	37.0	3.0
6-7	732	16.2	13.1	19.9	1.7	374	22.1	17.3	27.7	2.7	n/a	n/a	n/a	n/a	n/a	462	30.1	23.0	38.2	3.9
8-9	388	14.5	10.7	19.5	2.2	166	19.3	11.9	29.8	4.5	n/a	n/a	n/a	n/a	n/a	201	30.5	22.0	40.7	4.8
10+	389	16.0	11.9	21.2	2.4	154	26.7	17.7	38.1	5.2	n/a	n/a	n/a	n/a	n/a	89	30.2	19.9	43.0	6.0

Source of Treatment**																				
Government	1,251	4.2	2.8	6.3	0.9	778	35.3	30.3	40.6	2.6	n/a	n/a	n/a	n/a	n/a	806	44.7	39.9	49.7	2.5
Private	193	51.0	40.6	61.3	5.4	7	44.7	10.2	85.2	24.7	n/a	n/a	n/a	n/a	n/a	63	32.1	18.4	49.7	8.2
Other	68	3.1	0.9	10.4	2.0	177	12.1	7.1	19.9	3.2	n/a	n/a	n/a	n/a	n/a	66	38.1	23.5	55.2	8.3
Total	2,509	14.9	12.8	17.3	1.2	1,268	23.0	19.6	26.9	1.9	2,686	36.7	33.4	40.2	1.7	1,457	29.9	26.5	33.6	1.8

* WN = Weighted number of cases (denominator)

** For source of treatment, the denominator is different as it only includes those that sought treatment.

Table A.3.1.10: First-line antimalarial treatment received by children with fever

Among children under five years of age with fever in the two weeks preceding the survey, the percentage who received treatment according to national policy (first-line treatment), by background characteristics and survey year, Mozambique

	DSH 2003					MICS 2008					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Residence															
Urban	779	12.7	9.6	16.6	1.8	760	34.7	29.3	405.5	2.9	388	24.9	20.0	30.6	2.7
Rural	1,543	15.7	13.1	18.8	1.4	1,926	33.0	28.9	37.5	2.2	1,069	31.7	27.4	36.3	2.3
Region															
Niassa	135	7.9	3.9	15.2	2.7	92	23.8	15.6	34.5	4.8	75	43.6	33.2	54.5	5.5
Cabo Delgado	251	12.7	8.0	19.4	2.8	228	42.4	33.0	52.4	5.0	135	12.5	7.2	20.9	3.4
Nampula	397	14.6	10.1	20.6	2.7	474	53.0	45.0	60.9	4.1	213	42.9	29.2	57.9	7.5
Zambezia	152	14.9	9.1	23.5	3.6	520	11.8	7.9	17.2	2.3	369	35.4	28.6	42.8	3.6
Tete	149	26.6	19.7	34.9	3.9	231	30.5	22.2	40.3	4.6	175	16.8	12.0	22.9	2.8
Manica	191	13.8	7.3	24.6	4.3	101	39.1	29.0	50.3	5.5	100	40.1	31.0	50.0	4.9
Sofala	213	13.0	7.9	20.6	3.2	334	59.6	49.7	68.7	4.9	175	33.1	25.2	42.1	4.3
Inhambane	275	16.4	10.2	25.4	3.9	222	31.9	22.5	43.0	5.3	50	34.2	24.7	45.2	5.3
Gaza	240	17.3	11.5	25.4	3.5	244	26.1	19.4	34.1	3.8	63	23.6	16.1	33.2	4.4
Maputo (Province)	134	14.2	8.8	22.0	3.3	143	13.0	8.5	19.4	2.8	62	2.7	0.7	10.2	1.9
Maputo City	185	11.5	7.0	18.2	2.8	97	7.1	3.9	12.6	2.1	39	7.0	2.2	20.2	4.0
Wealth Quintile															
1 (Poorest)	521	13.6	10.3	17.6	1.9	607	28.9	23.0	35.5	3.2	361	36.1	28.0	45.1	4.4
2	401	15.1	10.6	21.1	2.7	580	38.5	32.4	45.0	3.2	339	23.7	17.9	30.8	3.3
3	483	17.6	13.3	22.9	2.4	547	34.9	28.5	42.0	3.5	285	41.2	34.4	48.4	3.6
4	492	14.7	10.9	19.6	2.2	572	34.7	29.0	40.9	3.0	274	26.9	21.8	32.7	2.8
5 (Least Poor)	425	12.8	8.9	18.0	2.3	380	29.4	23.4	36.3	3.3	198	17.1	10.6	26.3	4.0
Mother's Education															
None	908	13.4	10.4	17.0	1.7	n/a	n/a	n/a	n/a	n/a	507	29.7	23.7	36.5	3.3

Primary	1,308	16.3	13.8	19.2	1.4	n/a	n/a	n/a	n/a	n/a	813	31.4	27.6	35.5	2.0	
Secondary +	106	11.1	4.1	27.0	5.4	n/a	n/a	n/a	n/a	n/a	137	21.8	15.0	30.7	4.0	
Age (in years)																
<1	575	10.0	7.3	13.4	1.5	589	26.2	21.6	31.3	2.5	310	20.1	15.2	26.2	2.8	
1	674	13.8	10.8	17.4	1.7	724	35.4	30.6	40.4	2.5	399	28.0	22.6	34.0	2.9	
2	438	18.8	13.7	25.2	2.9	530	36.8	31.1	42.8	3.0	309	30.3	24.4	36.8	3.2	
3	372	17.3	13.0	22.7	2.5	465	33.2	27.5	39.4	3.0	241	43.5	35.1	52.2	4.4	
4	263	17.5	12.3	24.3	3.0	378	37.2	31.1	43.7	3.2	198	31.9	21.7	44.2	5.8	
Sex																
Male	1,163	17.0	14.1	20.3	1.6	1,384	33.7	29.9	37.8	2.0	747	30.7	26.3	35.4	2.3	
Female	1,159	12.8	10.3	15.8	1.4	1,301	33.3	29.3	37.6	2.1	709	29.1	24.9	33.6	2.2	
Birth Order																
1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	322	29.7	24.2	35.8	3.0	
2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	241	27.3	20.9	34.7	3.5	
3+	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	894	30.7	25.8	36.0	2.6	
Household Size																
<4	197	13.9	8.6	21.8	3.3	n/a	n/a	n/a	n/a	n/a	218	26.9	20.8	34.0	3.4	
4-5	651	13.6	9.9	18.4	2.2	n/a	n/a	n/a	n/a	n/a	486	30.7	25.1	37.0	3.0	
6-7	644	16.2	13.1	19.9	1.7	n/a	n/a	n/a	n/a	n/a	462	30.1	23.0	38.2	3.9	
8-9	381	14.3	10.4	19.2	2.2	n/a	n/a	n/a	n/a	n/a	201	30.5	22.0	40.7	4.8	
10+	449	16.0	11.9	21.3	2.4	n/a	n/a	n/a	n/a	n/a	89	30.2	19.9	43.0	6.0	
Total	2,322	14.9	12.7	17.3	1.2	2686	33.5	30.1	37.1	1.8	1457	29.9	26.5	33.6	1.8	

* WN = Weighted number of cases
(denominator)

** For source of treatment, the denominator is different as it only includes those that sought treatment.

Table A.3.1.11: Timing of antimalarial treatment received by children with fever

Among children under five years of age with fever in the two weeks preceding the survey, the percentage who received antimalarial treatment according to national policy within 24 hours from onset of fever, by background characteristics and survey year, Mozambique

	DSH 2003					MICS 2008					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Residence															
Urban	731	4.3	2.7	6.9	1.0	760	20.4	16.3	25.2	2.3	388	11.8	8.6	16.1	1.9
Rural	1,778	6.9	5.5	8.7	0.8	1,926	20.8	17.6	24.4	1.7	1,069	16.7	13.5	20.5	1.8
Region															
Niassa	74	1.9	0.7	4.9	0.9	92	14.7	9.1	22.9	3.5	75	33.5	23.0	45.9	5.9
Cabo Delgado	296	5.4	3.0	9.4	1.6	228	29.4	20.6	40.0	5.0	135	9.8	5.1	17.8	3.1
Nampula	755	6.1	3.7	9.9	1.5	474	38.2	31.1	45.9	3.8	213	26.9	16.4	40.9	6.3
Zambezia	267	6.1	3.1	11.7	2.1	520	7.5	4.7	11.7	1.8	369	9.6	6.4	14.3	2.0
Tete	135	10.4	6.1	17.1	2.7	231	24.9	18.1	33.2	3.9	175	12.4	7.9	19.0	2.8
Manica	148	5.8	2.9	11.2	2.0	101	28.6	19.5	39.9	5.3	100	9.5	5.2	16.7	2.8
Sofala	158	6.8	3.3	13.3	2.4	334	12.2	7.2	19.8	3.1	175	25.6	18.1	34.8	4.3
Inhambane	271	7.1	4.5	11.2	1.7	222	25.5	16.0	38.0	5.6	50	13.6	7.1	24.4	4.3
Gaza	138	10.2	6.4	16.0	2.4	244	21.5	14.9	30.0	3.9	63	11.8	6.8	19.7	3.2
Maputo (Province)	124	5.4	2.0	13.7	2.7	143	9.3	5.6	15.0	2.3	62	0.0	-	-	0.0
Maputo City	142	1.2	0.3	4.6	0.8	97	6.0	3.0	11.6	2.1	39	7.0	2.2	20.2	4.0
Wealth Quintile															
1 (Poorest)	629	5.4	3.6	8.0	1.1	607	15.6	11.4	21.0	2.4	361	20.9	14.0	30.0	4.1
2	488	7.7	4.8	12.2	1.8	580	23.3	18.6	28.9	2.6	339	12.7	8.6	18.3	2.4
3	559	7.1	4.8	10.4	1.4	547	22.6	17.3	29.0	3.0	285	20.8	15.6	27.2	2.9
4	462	6.6	4.4	9.8	1.4	572	23.2	18.1	29.3	2.9	274	12.0	8.3	17.1	2.2
5 (Least Poor)	371	3.5	1.8	6.8	1.2	380	18.1	14.3	22.8	2.2	198	6.9	3.9	11.9	2.0
Mother's Education															
None	1,087	5.5	3.9	7.8	1.0	756	19.7	15.3	24.0	2.2	507	16.0	11.0	22.8	3.0
Primary	1,331	6.9	5.4	8.9	0.9	1,666	21.6	18.4	25.1	1.7	813	15.9	12.9	19.3	1.6

Secondary +	91	2.5	0.5	12.1	2.1	229	18.3	12.7	25.7	3.3	137	10.2	5.7	17.5	2.9	
Age																
<1	600	3.0	1.8	4.9	0.8	589	17.5	13.9	22.0	2.1	310	11.1	7.5	16.0	2.1	
1	717	6.8	4.9	9.4	1.1	724	23.2	18.9	28.1	2.3	399	14.1	10.2	19.3	2.3	
2	495	6.7	4.1	10.7	1.7	530	24.1	18.9	30.0	2.8	309	16.6	12.3	22.0	2.5	
3	406	7.8	5.0	12.0	1.7	465	20.0	15.6	25.2	2.4	241	20.3	13.9	28.7	3.8	
4	291	8.1	4.8	13.2	2.1	378	17.0	12.7	22.4	2.5	198	16.8	10.9	25.1	3.6	
Sex																
Male	1,237	6.9	5.3	8.8	0.9	1,384	21.8	18.5	25.6	1.8	747	14.6	11.8	18.0	1.6	
Female	1,271	5.5	4.1	7.4	0.8	1,301	19.5	16.4	23.0	1.7	709	16.2	12.7	20.4	1.9	
Birth Order																
1	509	4.2	2.6	6.7	1.0	n/a	n/a	n/a	n/a	n/a	322	17.9	13.1	23.8	2.7	
2	460	5.1	3.2	8.1	1.2	n/a	n/a	n/a	n/a	n/a	241	15.8	11.0	22.2	2.8	
3+	1,540	7.1	5.5	9.2	1.0	n/a	n/a	n/a	n/a	n/a	894	14.4	11.0	18.6	1.9	
Household Size																
<4	251	7.5	4.1	13.2	2.2	n/a	n/a	n/a	n/a	n/a	218	13.2	8.9	19.0	2.6	
4-5	749	6.2	4.0	9.3	1.3	n/a	n/a	n/a	n/a	n/a	486	15.3	11.4	20.2	2.2	
6-7	732	5.5	3.7	8.1	1.1	n/a	n/a	n/a	n/a	n/a	462	15.7	10.9	21.9	2.8	
8-9	388	6.3	3.8	10.2	1.6	n/a	n/a	n/a	n/a	n/a	201	15.7	9.7	24.6	3.8	
10+	389	6.6	4.2	10.1	1.5	n/a	n/a	n/a	n/a	n/a	89	19.2	12.1	29.2	4.3	
Source of Treatment**																
Government	1,251	1.1	0.6	2.0	0.3	n/a	n/a	n/a	n/a	n/a	806	24.9	20.8	29.4	2.2	
Private	193	21.1	14.7	29.3	3.7	n/a	n/a	n/a	n/a	n/a	63	11.0	5.2	21.5	4.0	
Other	68	0.7	0.1	4.8	0.7	n/a	n/a	n/a	n/a	n/a	66	20.1	8.3	41.3	8.4	
Total	2509	6.2	5.0	7.6	0.7	2,686	20.7	18.1	23.6	1.4	1457	15.4	12.8	18.4	1.4	

* WN = Weighted number of cases (denominator)

** For source of treatment, the denominator is different as it only includes those that sought treatment.

Table A.3.1.12: Care seeking in children with fever

Among children under five years of age with fever in the two weeks preceding the survey, the percentage who sought advice or treatment¹, by background characteristics and survey year, Mozambique

	DSH 2003					MIS 2007					MICS 2008					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Residence																				
Urban	779	70.8	66.8	74.5	2.0	528	69.2	65.2	72.8	1.9	760	73.7	69.6	77.5	2	388	72.4	65.9	78.1	3.1
Rural	1,543	56.0	52.1	59.7	1.9	740	58.5	53.2	63.5	2.6	1,926	61.9	58.3	65.4	1.8	1,069	50.1	45.2	54.9	2.5
Region																				
Niassa	135	51.4	35.3	67.1	8.4	118	47.5	39.7	55.5	4.0	92	68.8	59.3	77	4.5	75	51.3	38.1	64.2	6.8
Cabo Delgado	251	61.3	52.3	69.5	4.4	221	48.1	37.9	58.5	5.3	228	73.1	63.3	81.1	4.6	135	30.9	21.3	42.5	5.4
Nampula	397	56.8	50.1	63.2	3.3	93	76.7	60.8	87.5	6.9	474	73.4	65.9	79.7	3.5	213	84.3	72.8	91.5	4.7
Zambezia	152	47.5	36.6	58.7	5.7	217	47.2	35.1	59.7	6.4	520	54.7	46.2	62.9	4.3	369	45.6	37.4	54.1	4.3
Tete	149	64.6	54.1	73.9	5.1	116	82.3	72.8	88.9	4.1	231	48.6	38.6	58.6	5.2	175	37.3	27.2	48.7	5.6
Manica	191	68.8	58.0	78.0	5.2	65	82.3	68.4	90.8	5.6	101	74.3	66.1	81	3.8	100	52.7	40.5	64.5	6.2
Sofala	213	68.0	56.6	77.5	5.4	144	59.2	41.5	74.8	8.8	334	71.1	62.8	78.2	4	175	75.3	67.2	81.9	3.8
Inhambane	275	61.5	55.1	67.6	3.2	115	75.4	62.5	84.9	5.8	222	69.2	62	75.7	3.5	50	59.4	42.6	74.2	8.3
Gaza	240	72.7	64.0	80.0	4.1	67	66.5	54.7	76.5	5.6	244	64.6	58.8	70	2.9	63	67.4	57.9	75.6	4.5
Maputo (Province)	134	58.9	46.9	69.8	5.9	59	64.3	47.1	78.4	8.2	143	65.1	56.3	73.1	4.3	62	63.0	50.5	74.1	6.1
Maputo City	185	70.9	64.1	76.9	3.3	53	55.7	44.7	66.1	5.5	97	63.5	56.9	69.7	3.3	39	67.3	52.7	79.2	6.9
Wealth Quintile																				
1 (Poorest)	521	53.0	47.5	58.5	2.8	342	48.0	39.7	56.5	4.3	607	54.5	48.3	60.4	3.1	361	47.6	39.9	55.5	4.0
2	401	53.3	46.9	59.7	3.3	297	60.5	52.6	67.9	3.9	580	64.6	58.7	70.1	2.9	339	42.7	35.2	50.5	3.9
3	483	58.0	52.0	63.8	3.0	258	66.1	57.0	74.2	4.4	547	67.2	61.3	72.7	2.9	285	59.5	52.4	66.2	3.5
4	492	69.5	63.6	74.8	2.9	202	67.7	58.2	76.0	4.6	572	70.7	65.5	75.3	2.5	274	70.5	63.7	76.4	3.3
5 (Least Poor)	425	73.7	68.9	78.0	2.3	169	75.6	66.4	82.9	4.2	380	72.6	68	76.8	2.3	198	69.2	60.9	76.4	4.0

Mother's Education																					
None	908	55.3	50.4	60.0	2.4	750	54.6	48.9	60.2	2.9	n/a	n/a	n/a	n/a	n/a	507	45.4	38.8	52.0	3.4	
Primary	1,308	63.0	58.9	66.9	2.0	416	68.9	61.5	75.4	3.5	n/a	n/a	n/a	n/a	n/a	813	59.8	55.2	64.3	2.3	
Secondary +	106	81.3	70.6	88.7	4.6	87	77.6	66.9	85.6	4.8	n/a	n/a	n/a	n/a	n/a	137	72.8	63.8	80.2	4.2	
Age (in years)																					
<1	575	66.5	61.0	71.6	2.7	277	65.3	58.1	71.9	3.5	589	71.1	65.8	75.9	2.6	310	62.7	55.3	69.6	3.7	
1	674	61.2	56.5	65.6	2.3	298	64.3	57.3	70.7	3.4	724	66.7	61.8	71.4	2.5	399	55.1	48.9	61.1	3.1	
2	438	56.5	50.1	62.7	3.2	283	63.5	55.7	70.6	3.8	530	62.4	56.8	67.6	2.8	309	53.0	45.7	60.1	3.7	
3	372	57.2	50.4	63.8	3.4	224	45.9	36.8	55.2	4.7	465	61.4	55.4	67.1	3	241	56.6	48.5	64.3	4.1	
4	263	56.1	48.2	63.7	4.0	186	59.5	49.3	68.9	5.0	378	62.1	55.9	68	3.1	198	51.4	41.3	61.5	5.2	
Sex																					
Male	1,163	57.3	53.3	61.2	2.0	690	61.3	56.2	66.3	2.6	1,384	65.3	61.6	68.9	1.9	747	55.3	50.2	60.2	2.5	
Female	1,159	63.2	59.5	66.7	1.8	578	59.0	52.8	65.0	3.1	1,301	65.3	61.5	68.8	1.9	709	56.8	51.1	62.3	2.9	
Total	2,322	60.3	57.2	63.3	1.5	1,268	60.3	55.9	64.6	2.2	2,686	65.3	62.4	68.1	1.5	1,457	56.0	51.9	60.0	2.1	

* WN = Weighted number of cases (denominator)

Table A.3.1.13: Prevalence of severe anemia (Hemoglobin <8g/dL) in children

Percentage of children age 6–59 months with hemoglobin lower than 8.0 g/dL, by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Residence										
Urban	1448	7.9	6.3	9.9	0.9	1,334	6.0	4.7	7.7	0.8
Rural	1705	13.0	10.7	15.6	1.2	3,555	10.7	9.2	12.4	0.8
Region										
Niassa	393	6.8	3.7	12.3	2.1	308	9.3	6.2	13.7	1.9
Cabo Delgado	346	10.2	6.0	16.8	2.7	388	15.5	11.9	19.9	2.0
Nampula	299	16.5	10.1	25.9	4.0	751	12.6	8.8	17.7	2.2
Zambezia	394	23.9	18.4	30.3	3.0	1,031	14.9	11.8	18.7	1.8
Tete	365	9.2	6.2	13.5	1.8	602	5.0	2.9	8.6	1.4
Manica	234	8.3	5.0	13.5	2.1	358	8.3	5.1	13.1	2.0
Sofala	314	11.6	7.3	18.0	2.7	517	4.9	3.3	7.1	1.0
Inhambane	267	9.8	4.2	21.0	4.0	249	4.2	2.4	7.4	1.2
Gaza	207	12.1	7.3	19.5	3.0	244	5.3	3.4	8.3	1.2
Maputo (Province)	201	4.5	1.9	10.2	1.9	276	3.0	1.7	5.3	0.9
Maputo City	133	2.4	0.8	7.1	1.4	166	4.6	2.7	7.5	1.2
Wealth Quintile										
1 (Poorest)	712	17.2	13.5	21.5	2.0	1,127	15.2	12.5	18.3	1.5
2	656	12.0	8.9	16.1	1.8	1,083	12.5	10.2	15.3	1.3
3	698	12.3	8.4	17.6	2.3	952	8.3	6.4	10.7	1.1
4	609	7.6	5.3	10.8	1.4	1,006	5.2	3.9	6.9	0.8
5 (Least Poor)	478	5.2	3.0	8.8	1.4	720	3.2	2.2	4.5	0.6
Mother's Education										
None	1782	13.5	11.3	16.0	1.2	1,642	10.6	8.7	12.8	1.0
Primary	1025	10.5	8.0	13.7	1.5	2,307	10.2	8.6	12.1	0.9
Secondary+	302	6.1	3.4	10.6	1.8	506	4.5	2.8	7.3	1.1

Missing	44	3.0	0.6	14.4	2.5	429	6.5	4.1	10.1	1.5
Age										
6-11 months	386	18.5	13.7	24.5	2.8	576	14.6	11.2	18.7	1.9
12-23 months	739	17.2	13.7	21.3	1.9	1,146	15.0	12.2	18.3	1.5
24-35 months	771	10.7	8.0	14.3	1.6	1,035	10.1	7.8	12.9	1.3
36-47 months	681	9.4	6.7	13.0	1.6	1,106	7.0	5.0	9.7	1.2
48-59 months	576	5.9	3.8	9.0	1.3	1,024	2.4	1.5	3.8	0.6
6-23 months	1125	17.6	14.5	21.3	1.7	1,722	14.9	12.6	17.4	1.2
24-59 months	2028	8.9	7.2	10.9	1.0	3,166	6.5	5.3	7.9	0.7
Sex										
Male	1617	12.8	10.4	15.7	1.4	2,409	9.7	8.2	11.5	0.8
Female	1536	11.0	9.2	13.2	1.0	2,479	9.2	7.7	10.8	0.8
Altitude										
<1000m	2940	12.3	10.4	14.5	1.1	4,536	9.7	8.5	11.1	0.7
1000m+	213	7.2	3.6	13.9	2.5	353	5.5	3.0	10.0	1.7
Birth Order										
1	n/a	n/a	n/a	n/a	n/a	946	11.7	9.2	14.6	1.4
2	n/a	n/a	n/a	n/a	n/a	816	8.2	5.8	11.3	1.4
3+	n/a	n/a	n/a	n/a	n/a	2,640	9.4	8.0	11.0	0.8
Missing	n/a	n/a	n/a	n/a	n/a	487	7.4	4.8	11.3	1.6
Household Size										
<4	310	16.2	11.5	22.2	2.7	543	12.2	9.2	16.1	1.7
4-5	1136	12.2	9.8	15.1	1.3	1,759	9.9	8.2	12.0	1.0
6-7	971	10.1	7.7	13.3	1.4	1,515	8.9	7.1	11.1	1.0
8-9	405	11.2	7.8	15.7	2.0	659	8.4	6.0	11.6	1.4
10+	331	13.5	7.2	23.9	4.1	412	7.5	4.6	11.9	1.8

Slept Under an ITN** Last Night										
Yes	11.8	6.5	20.5	3.5	3,149	9.4	8.0	11.0	0.8	
No	12.0	10.1	14.1	1.0	1,739	9.5	7.8	11.5	1.0	
Total	3153	12.0	10.1	14.1	1.0	4,888	9.4	8.3	10.7	0.6

* WN = Weighted number of cases (denominator)

**An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Table A.3.1.14: Trends in anemia prevalence in children by malaria risk zone

Percentage of children age 6-59 months with hemoglobin lower than 8.0 g/dL, by age, malaria risk zone and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
High										
6-59 months	2378	12.9	10.7	15.5	1.2	3,845	10.5	9.1	12.1	0.8
6-23 months	821	19.8	15.9	24.3	2.1	1,343	41	36.6	45.5	2.3
24-59 months	1557	9.3	7.3	11.8	1.1	2,498	46.2	42.1	50.3	2.1
Medium										
6-59 months	441	10.6	7.3	15.0	1.9	601	7.1	4.9	10	1.3
6-23 months	172	13.8	8.9	20.7	3.0	222	21.8	15.5	29.7	3.6
24-59 months	269	8.5	5.1	14.0	2.2	380	27.8	22.1	34.4	3.2
Low										
6-59 months	334	4.0	1.9	8.2	1.5	442	3.6	2.5	5.3	0.7
6-23 months	132	4.2	1.7	10.3	2.0	154	2	0.8	4.7	0.9
24-59 months	202	3.9	1.2	11.4	2.2	288	2.9	1.4	6	1.1

* WN = Weighted number of cases (denominator)

Table A.3.1.15: Prevalence of malaria in children

Percentage of children age 6–59 months with malaria infection detected by RDT, by background characteristics and survey year, Mozambique

	MIS 2007**					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Residence										
Urban	1429	26.4	22.0	31.4	2.4	1,333	16.8	13.2	21.2	2.0
Rural	1737	57.5	52.9	62.0	2.3	3,552	46.3	42.5	50.2	2.0
Region										
Niassa	394	60.6	52.0	68.6	4.3	307	52.2	43.9	60.3	4.2
Cabo Delgado	372	71.3	57.8	81.9	6.2	388	47.1	39.4	54.9	4.0
Nampula	303	74.1	65.2	81.3	4.1	751	43.3	34.7	52.4	4.5
Zambezia	392	66.0	57.6	73.5	4.1	1,031	54.8	45.7	63.6	4.6
Tete	364	52.1	40.5	63.5	6.0	599	36.9	27.6	47.3	5.1
Manica	224	33.6	22.3	47.2	6.4	358	28.2	20.5	37.4	4.3
Sofala	331	44.8	33.5	56.7	6.0	517	30.7	22.8	39.8	4.4
Inhambane	267	47.2	35.3	59.5	6.3	249	36.8	27.6	47.1	5.0
Gaza	185	22.6	13.0	36.3	5.9	244	21.8	15.2	30.1	3.8
Maputo (Province)	201	6.0	2.8	12.4	2.3	276	3.2	1.5	6.9	1.3
Maputo City	133	2.2	0.5	8.4	1.5	166	1.5	0.6	3.5	0.7
Wealth Quintile										
1 (Poorest)	725	68.1	63.0	72.9	2.5	1,124	54.9	49.4	60.3	2.8
2	682	60.3	54.4	65.9	2.9	1,083	51.5	46.3	56.6	2.6
3	700	54.1	47.3	60.8	3.4	952	41.3	36.3	46.5	2.6
4	595	30.5	24.8	36.9	3.1	1,006	25.9	21.6	30.8	2.3
5 (Least Poor)	464	15.3	9.8	23.1	3.3	720	5.6	3.8	8.2	1.1
Mother's Education										
None	1816	59.8	55.7	63.8	2.1	1,639	46.6	42.4	51.0	2.2
Primary	1010	39.9	34.6	45.4	2.8	2,306	38.5	34.6	42.6	2.0
Secondary +	298	20.8	13.7	30.2	4.2	506	10.0	6.7	14.6	2.0

Age (in months)										
6-11 months	385	41.1	35.0	47.6	3.2	574	25.4	20.9	30.4	2.4
12-23 months	739	45.7	40.6	50.8	2.6	1,145	39.9	35.6	44.3	2.2
24-35 months	777	52.3	47.3	57.2	2.5	1,035	37.0	32.8	41.3	2.2
36-47 months	687	57.7	51.8	63.5	3.0	1,106	41.6	36.9	46.4	2.4
48-59 months	578	57.2	51.8	62.6	2.8	1,024	41.5	36.9	46.2	2.4
6-59 months	3166	51.5	47.7	55.3	1.9	4,885	38.3	35.1	41.5	1.6
6-23 months	1124	44.1	39.7	48.7	2.3	1,719	35.0	31.4	38.8	1.9
24-59 months	2042	55.5	51.4	59.6	2.1	3,166	40.0	36.7	43.5	1.7
Sex										
Male	1624	51.9	47.4	56.4	2.3	2,409	39.6	36.0	43.2	1.8
Female	1542	51.1	46.8	55.4	2.2	2,476	37.0	33.6	40.6	1.8
Birth Order										
1	n/a	n/a	n/a	n/a	n/a	943	33.4	29.4	37.7	2.1
2	n/a	n/a	n/a	n/a	n/a	815	34.4	29.9	39.2	2.4
3+	n/a	n/a	n/a	n/a	n/a	2,640	41.1	37.3	45.0	2.0
Missing	n/a	n/a	n/a	n/a	n/a	487	39.0	32.4	46.0	3.5
Household Size										
<4	315	51.7	43.6	59.7	4.1	543	38.4	33.3	43.8	2.7
4-5	1151	53.5	48.7	58.2	2.4	1,757	38.6	34.6	42.8	2.1
6-7	972	55.1	49.7	60.3	2.7	1,514	42.0	37.6	46.6	2.3
8-9	401	44.3	37.1	51.9	3.8	659	32.6	27.2	38.6	2.9
10+	327	42.5	32.6	53.0	5.3	412	31.9	24.1	40.8	4.3
Number of Household ITNs										

0	2574	52.4	48.4	56.3	2.0	1,969	38.6	34.6	42.8	2.1
1	423	52.6	45.5	59.6	3.6	1,302	38.2	34.0	42.5	2.2
2+	169	35.9	26.0	47.2	5.5	1,613	37.9	32.9	43.2	2.6
Slept under ITN previous night										
Yes	201	47.7	38.4	57.2	4.8	1,736	37.6	33.4	42.1	2.2
No	2965	51.8	47.9	55.6	2.0	3,149	38.6	35.2	42.2	1.8
Total	3166	51.5	47.7	55.3	1.9	4,885	38.3	35.1	41.5	1.6

* WN = Weighted number of cases (denominator)

** MIS 2007 results in the report are incorrectly reported for all children under five years of age, instead of for children 5-59 months.

Table A.3.1.16: Trends in malaria prevalence in children by malaria risk zone

Percentage of children age 6-59 months with malaria infection detected by RDT, by age, malaria risk zone, Mozambique

	MIS 2007					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
High										
6-59 months	2423	60.1	56	64.1	2.1	3,824	44.3	40.5	48.2	2.0
6-23 months	831	53.4	48.2	51.8	2.7	1337	41.0	36.6	45.5	2.3
24-59 months	1592	63.5	59.2	67.7	2.1	2,487	46.1	42.0	50.2	2.1
Medium										
6-59 months	409	27.3	19.3	37	4.6	600	25.6	20.2	31.9	3.0
6-23 months	162	19.9	12.7	29.7	4.3	222	21.8	15.6	29.7	3.6
24-59 months	247	32	21.8	44.3	5.8	379	27.9	22.1	34.5	3.2
Low										
6-59 months	334	5.1	2.5	9.9	1.8	440	2.6	1.4	4.8	0.8
6-23 months	131	3.7	1.5	8.9	1.7	153	2.0	0.8	4.7	0.9
24-59 months	203	5.9	2.7	12.2	2.3	288	2.9	1.4	6.1	1.1

* WN = Weighted number of cases (denominator)

Table A.3.1.17: Age-specific childhood mortality

Age-specific all-cause mortality (per 1,000 live births) for five-year periods preceding the survey, Mozambique

	DHS 2003			MICS 2008			DHS 2011		
	q	LCI	UCI	q	LCI	UCI	q	LCI	UCI
Age Group									
6-59 months	84.5	77.2	91.7	75.4	68.8	81.9	51	45.4	56.6
1-59 months	119.7	111.4	127.9	106.8	99.1	114.4	68.5	62.2	74.8
6-23 months	50.8	45.4	56.2	46.7	41.4	52.1	31.2	26.7	35.7
24-59 months	35.5	30.1	40.8	30.1	25.9	34.2	20.5	17	24
Neonatal (NN)	37.1	32.1	42.7	37.8	33.2	43	30.4	26.3	35.1
Postneonatal (PnN)	63.6	59.7	72.2	56.4	52.3	64.7	33.7	30.3	39.2
Infant (1q0)	100.6	92.8	108.4	94.1	86.6	101.6	64.1	58	70.1
Child (4q1)**	57.4	51.2	63.6	51.2	46.1	56.3	35	30.2	39.8
Under 5 mortality (5q0)	152.3	143	161.5	140.5	132	149	96.9	89.5	104.2

* WN = Weighted number of cases
(denominator)

**Child mortality (4q1) is mortality between exact age 1 and exact age 5, per 1,000 children surviving to 12 months of age.

Table A.3.1.18: Early childhood mortality

All-cause under five mortality (per 1,000 live births) for five-year periods preceding the survey, by background characteristics and survey year, Mozambique

	DHS 2003			MICS 2008			DHS 2011		
	5q0	LCI	UCI	5q0	LCI	UCI	5q0	LCI	UCI
Sex									
Male	152.1	139.6	164.3	145.4	133.8	156.9	104.2	93.2	115.1
Female	152.5	139.3	165.5	133.6	121.8	145.3	89.4	80.0	98.6
Residence									
Urban	138.1	122.2	153.8	131.9	116.8	146.8	90.6	77.0	103.9
Rural	158.0	146.7	169.3	143.9	133.5	154.2	99.3	90.4	108.1
Region									
Niassa	184.2	137.0	228.7	117.8	90.7	144.2	81.9	60.9	102.4
Cabo Delgado	208.7	176.1	240.1	141.3	114.6	167.2	72.4	49.4	94.8
Nampula	168.4	140.4	195.4	130.9	102.7	158.3	66.4	43.4	88.8
Zambezia	112.1	87.8	135.8	185.9	159.7	211.2	117.7	96.2	138.7
Tete	175.5	147.3	202.9	164.7	137.1	191.4	135.4	110.4	159.8
Manica	141.4	112.0	169.8	139.0	113.4	163.9	104.0	81.0	126.5
Sofala	177.5	150.5	203.6	114.0	92.1	135.5	97.3	75.3	118.8
Inhambane	134.5	105.9	162.2	118.9	92.8	144.3	62.7	39.7	85.1
Gaza	153.7	127.7	179.0	158.1	128.0	187.1	112.9	86.8	138.2
Maputo (Province)	107.5	77.2	136.8	97.2	72.5	121.2	79.7	58.0	100.9
Maputo City	88.7	63.7	113.0	102.3	75.7	128.1	80.2	59.0	100.9
Wealth Quintile									
1 (Poorest)	156.7	136.7	176.2	161.3	141.3	180.7	110.2	92.3	127.8
2	163.4	140.3	185.9	143.0	124.1	161.4	92.8	77.4	108.0
3	176.0	154.9	196.6	156.3	135.3	176.7	99.3	81.2	117.0
4	138.5	119.3	157.2	122.5	104.2	140.4	90.1	75.4	104.6
5 (Least Poor)	113.2	93.3	132.8	107.4	89.8	124.7	87.5	72.7	102.1

Mother's Education									
None	170.0	154.3	185.3	n/a	n/a	n/a	95.3	82.7	107.7
Primary	139.2	127.6	150.6	n/a	n/a	n/a	102.3	92.1	112.3
Secondary +	103.5	67.1	138.5	n/a	n/a	n/a	75.1	55.4	94.3
Birth Order									
1	190.5	169.8	210.6	n/a	n/a	n/a	119.0	102.6	135.2
2	153.2	132.3	173.5	n/a	n/a	n/a	90.5	73.6	107.1
3+	138.1	126.7	149.5	n/a	n/a	n/a	90.8	81.4	100.0
Household Size									
<4	345.6	306.3	382.6	n/a	n/a	n/a	212.1	183.4	239.8
4-5	158.8	141.4	175.9	n/a	n/a	n/a	101.5	87.2	115.7
6-7	104.8	90.5	118.8	n/a	n/a	n/a	78.4	66.8	89.9
8-9	118.8	98.6	138.5	n/a	n/a	n/a	51.9	37.7	66.0
10+	139.6	112.6	165.7	n/a	n/a	n/a	45.3	30.7	59.8
Number of Household ITNs**									
0	n/a	n/a	n/a	n/a	n/a	n/a	103.4	91.3	115.3
1	n/a	n/a	n/a	n/a	n/a	n/a	104.6	89.2	119.7
2	n/a	n/a	n/a	n/a	n/a	n/a	82.9	68.2	97.3
3+	n/a	n/a	n/a	n/a	n/a	n/a	85.3	63.6	106.5
Risk Zone									
Low	99.4	79.6	118.8	99.2	81.7	116.4	79.9	64.9	94.6
Medium	146.2	126.1	165.9	149.6	129.9	168.7	107.8	91.0	124.3
High	161.0	149.6	172.2	144.1	133.9	154.3	97.1	88.1	106.0
Total	152.3	143.0	161.5	140.5	132.0	149.0	96.9	89.5	104.2

* WN = Weighted number of cases
(denominator)

**An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Table A.3.1.19: Trends in mortality by malaria risk area

Age-specific mortality (deaths per 1000 births) stratified into terciles by parasitemia prevalence, Mozambique

	DHS 2003			MICS 2008			DHS 2011		
	q	LCI	UCI	q	LCI	UCI	q	LCI	UCI
High									
6-59 months	86.3	77.39	95.11	76.1	68.2	84.0	50.6	43.8	57.3
6-23 months	53.9	47.3	60.6	47.2	40.7	53.6	30.4	24.9	35.9
24-59 months	34.2	27.7	40.6	30.4	25.4	15.5	20.8	16.6	25.1
Neonatal (NN)	39.6	33.5	46.8	39.9	34.4	46.2	29.6	24.9	35.3
Postneonatal (PnN)	70.5	65.6	81.1	58.4	53.3	68.3	35.1	30.7	41.7
Infant (1q0)	110.1	100.4	119.6	98.3	89.1	107.3	64.8	57.4	72.1
Child (4q1)**	57.2	49.7	64.7	50.9	44.8	56.9	34.6	28.7	40.4
Medium									
6-59 months	89.1	72.3	105.5	91.0	75.5	106.3	65.0	52.2	77.6
6-23 months	49.1	37.3	60.7	56.5	44.6	68.3	40.6	30.9	50.3
24-59 months	42.0	29.0	54.9	36.6	25.5	47.5	25.3	16.4	34.2
Neonatal (NN)	35.4	27.3	46.0	31.0	22.1	43.4	33.0	23.6	46.0
Postneonatal (PnN)	49.6	38.7	63.9	57.3	46.6	71.6	28.5	21.6	37.2
Infant (1q0)	85.0	69.9	100.0	88.3	72.5	103.9	61.4	48.1	74.6
Child (4q1)**	66.9	51.4	82.1	67.1	53.1	81.0	49.4	37.8	60.9
Low									
6-59 months	68.3	50.9	85.3	50.7	38.3	63.0	35.5	25.0	46.0
6-23 months	32.5	21.1	43.7	31.2	21.3	40.9	24.7	16.3	33.0
24-59 months	37.0	23.1	50.6	20.0	12.1	28.2	11.1	4.5	17.8

Neonatal (NN)	21.4	14.0	32.9	28.6	21.1	38.9	33.6	25.1	44.8
Postneonatal (PnN)	31.5	20.7	43.6	37.3	26.1	50.5	28.4	20.3	38.4
Infant (1q0)	53.0	38.4	67.3	65.9	51.2	80.4	61.9	48.9	74.8
Child (4q1)**	49.1	34.1	63.8	35.7	24.7	46.5	19.1	11.0	27.1

* WN = Weighted number of cases (denominator)

**Child mortality (4q1) is mortality between exact age 1 and exact age 5, per 1,000 children surviving to 12 months of age.

Table A.3.1.20: Contextual Factors

	DHS 2000				DHS 2004				MICS 2006				DHS 2010			
	%	LCI	UCI	WN*	%	LCI	UCI	WN*	%	LCI	UCI	WN*	%	LCI	UCI	WN*
HOUSEHOLD ENVIRONMENT																
Access to improved sources of water	65.2	62.1	68.2	14,213	63.5	60.5	66.3	13,664	75.1	73.3	76.8	30,553	79.7	77.7	81.5	24,825
Drinking water <15 min	33.4	31.2	35.7	14,213	41.9	39.7	44.1	13,664	31.4	29.8	33.0	30,553	34.7	32.9	36.6	24,825
Household water piped into dwelling/yard/plot	7.1	5.7	9.0	14,213	6.2	4.6	8.4	13,664	5.0	4.2	5.9	30,553	6.6	5.6	7.9	24,825
Household flush toilet/VIP latrine	3.6	2.5	5.2	14,213	4.5	3.1	6.5	13,664	2.2	1.6	3.0	30,553	5.1	4.4	5.9	24,825
Household roof not grass thatch or mud	-	-	-	-	-	-	-	-	25.8	24.5	27.3	30,553	35.0	32.9	37.0	24,825
Household floor material not earth, sand or dung	18.8	16.5	21.4	14,213	20.7	17.9	23.8	13,664	18.6	17.3	19.9	30,553	23.3	21.3	25.3	24,825
Household has electricity	4.8	3.6	6.4	14,213	6.9	5.3	8.9	13,664	5.1	4.4	5.9	30,553	8.7	7.6	9.9	24,825
Household has telephone (landline or mobile)	-	-	-	-	5.1	3.8	6.9	13,664	7.3	6.6	8.1	30,553	39.3	37.6	41.1	24,825
HYGIENE																
Proportion of mothers whose youngest child under five's stools are contained	75.6	74.0	77.2	8,057	-	-	-	-	82.5	81.2	83.7	15,141	-	-	-	-
% washing hands with soap after toilet or after cleaning child after toilet	86.3	85.2	87.3	8,057	-	-	-	-	2.4			8,697	-	-	-	-
SOCIODEMOGRAPHIC FACTORS																
Proportion of women 15-49 with at least a primary school education	19.1	17.1	21.2	13,220	25.5	23.2	28.0	11,698	79.1	78.1	80.1	26,259	29.3	27.8	30.8	23,020
Proportion of women 15-49 literate	56.5	54.5	58.4	13,220	62.4	60.3	64.4	11,698	55.8	54.4	57.3	26,259	67.6	66.3	68.9	23,020

Proportion of women 15-49 married	71.5	70.2	72.8	13,220	71.1	69.6	72.5	11,698	72.4	71.3	73.4	26,259	67.5	66.4	68.5	23,020
FERTILITY-RELATED RISKS																
High risk birth*	57.3	56.2	58.5	12,201	54.3	52.8	55.7	10,771	-	-	-	-	56.6	55.4	57.7	19,697
Avoidable risk birth	56.0	54.8	57.2	12,201	53.3	51.8	54.7	10,771	47.3	45.9	48.6	10,552	55.5	54.3	56.6	19,697
Unavoidable risk birth**	16.5	15.7	17.3	12,201	16.8	15.9	17.8	10,771	16.6	15.7	17.5	10,552	14.4	13.7	15.1	19,697
Birth intervals <24 months	17.1	16.1	18.1	9,370	15.0	14.0	16.0	8,241	-	-	-	-	14.9	14.1	15.8	15,658
Fourth or greater birth	41.7	40.4	42.9	12,201	39.9	38.4	41.4	10,771	40.8	39.6	42.0	10,552	43.0	41.8	44.2	19,697
Mother age <18 yrs or >34 years	22.7	21.6	23.8	12,201	21.3	20.2	22.5	10,771	19.9	18.8	21.2	10,552	21.4	20.6	22.3	19,697
* Births to women <18 and >34 and births <2 years apart																
** First order births to women between the ages of 18 and 34																
EPI COVERAGE*																
BCG	92.4	90.7	93.8	2,238	91.4	89.4	93.1	2,194	95.7			5,080	97.2	96.4	97.8	3,774
DPT3	84.2	81.8	86.4	2,238	81.6	78.9	84.0	2,194	96.4			5,080	93.0	91.7	94.2	3,774
polio3	79.8	77.2	82.2	2,238	77.7	75.2	80.1	2,194	81.3			5,080	85.6	83.9	87.2	3,774
measles	83.2	80.9	85.3	2,238	78.7	76.4	80.8	2,194	84.4			5,080	93.0	91.8	94.0	3,774
Fully vaccinated	70.1	67.2	72.8	2,238	64.4	61.5	67.2	2,194	70.4			5,080	80.9	78.9	82.8	3,774
* Proportion of children 12-23 months with the recommended immunizations																
OTHER CHILDHOOD ILLNESS																
Suspected ARI (cough with rapid breathing) in past 2 weeks	26.7	25.3	28.1	10,559	18.8	17.5	20.2	9,777	26.3	25.3	27.2	22,994	15.4	14.5	16.3	18,013
Diarrhea in past 2 weeks	17.6	16.7	18.6	10,559	22.3	21.0	23.6	9,777	24.1	23.3	24.9	22,994	17.5	16.8	18.3	18,013
IMCI COVERAGE																
Care seeking for suspected ARI	26.7	24.4	29.1	2,816	36.5	33.5	39.6	1,840	20.9	18.8	23.2	6,040	65.4	62.9	67.9	2,774
Care seeking for diarrhea	28.3	25.7	31.2	1,859	31.9	29.2	34.6	2,177					62.4	60.0	46.7	3,158
ORS for diarrhea	47.9	45.0	50.7	1,859	61.1	58.6	63.6	2,177	51.4	48.9	53.8	5,532	69.0	66.7	71.2	3,158
NUTRITIONAL STATUS																

Small or very small at birth (mother's report)	16.6	15.7	17.6	12,201	15.6	14.6	16.6	10,771	14.2	13.2	15.3	10,552	15.5	14.8	16.3	19,697
Low birth weight (<2500 g)	4.9	4.4	5.5	12,201	5.3	4.7	5.8	10,771	5.1	4.5	5.7	10,552	8.2	7.6	8.8	19,697
Stunting	54.3	52.6	55.9	9,343	52.5	51.0	54.0	8,568	46.0	44.9	47.0	20,404	47.1	45.2	49.0	4,849
Underweight	20.5	19.2	21.7	9,343	17.3	16.3	18.5	8,568	20.5	19.3	21.7	20,404	12.8	11.6	14.2	4,849
Wasting	6.3	5.7	7.0	9,975	6.0	5.3	6.7	8,568	3.5	2.9	4.2	20,404	4.0	3.3	4.8	4,849
MICRONUTRIENTS																
Vitamin A supplementation	70.6	69.0	72.1	9,285	65.4	63.7	67.1	8,668	68.5	67.3	69.6	20,641	85.5	84.6	86.4	16,315
ANC COVERAGE																
Antenatal Care (>4 visits)	56.0	54.0	57.8	8,057	57.1	55.4	58.7	7,271	51.0	49.6	52.5	10,214	45.5	44.2	46.7	13,664
At least 1 dose of tetanus toxoid during pregnancy	81.5	80.3	82.7	8,057	84.6	83.4	85.8	7,271	85.5	84.4	86.6	10,214	87.3	86.5	88.1	13,664
At least 2 doses of tetanus toxoid during pregnancy	61.0	59.6	62.5	8,057	66.2	64.7	67.7	7,271	71.2	69.8	72.5	10,214	68.9	67.8	70.0	13,664
Postnatal vitamin A supplementation	41.7	39.8	43.6	8,057	41.0	39.4	42.6	7,271	45.7	44.0	47.3	10,214	56.5	55.3	57.7	13,664
Delivery in a health facility	55.3	52.7	57.9	12,201	57.2	54.8	59.6	10,771	53.8	51.8	55.8	10,552	73.2	71.3	74.9	19,697
Skilled attendant at birth	55.6	53.0	58.1	12,201	57.1	54.6	59.4	10,771	53.6	51.5	55.6	10,552	73.0	71.2	74.7	19,697
Postnatal checkup <2days after delivery in those w non-facility birth	43.8	37.2	50.7	231	50.9	43.9	58.0	250	48.2	42.5	54.0	522	43.2	38.8	47.8	1,154
BREASTFEEDING																
<1 month																
Exclusive	85.9	76.0	92.1	108	83.0	73.6	89.5	112	86.1	78.1	91.6	326	95.6	89.9	98.1	160
Predominant	8.4	4.4	15.6	108	8.4	4.5	15.2	112	9.6	5.2	16.9	326	2.4	0.8	6.7	160
Partial	5.7	1.9	15.6	108	6.8	2.7	16.1	112	1.3	0.4	4.7	326	2.1	0.5	7.7	160
Not	0.0			108	1.8	0.3	12.0	112	3.0	1.3	6.6	326	0.0			
1-5 months																
Exclusive	40.4	36.8	44.1	1154	49.5	45.9	53.0	983	52.0	49.0	55.0	2027	6.9	6.5	7.2	1496
Predominant	13.0	11.0	15.2	1154	23.6	20.7	26.9	983	17.6	15.6	19.9	2027	6.6	5.1	8.4	1496

Partial	46.6	43.0	50.2	1154	26.4	23.3	29.8	983	29.0	25.9	32.2	2027	24.0	21.1	27.2	1496
Not	0.0	0.0	0.2	1154	0.5	0.2	1.2	983	1.4	0.9	2.3	2027	0.7	0.3	1.4	1496
6-11 months																
Exclusive	2.0	1.4	3.0	1230	2.1	1.4	3.2	1181	3.0	1.9	4.5	2673	4.0	3.0	5.2	1992
Predominant	3.3	2.3	4.7	1230	12.9	10.7	15.4	1181	5.5	4.4	7.0	2673	4.5	3.5	5.7	1992
Partial	94.2	92.5	95.4	1230	83.8	81.3	86.1	1181	90.0	88.2	91.5	2673	89.8	87.9	91.4	1992
Not	0.6	0.3	1.3	1230	1.2	0.5	2.9	1181	1.5	1.0	2.4	2673	1.8	1.2	2.7	1992
12-23 months																
Exclusive	0.5	0.3	0.9	2165	0.4	0.2	0.9	2115	0.5	0.2	1.1	5080	17.5	16.4	18.7	3636
Predominant	1.0	0.6	1.6	2165	1.6	1.1	2.5	2115	3.3	2.6	4.1	5080	3.2	2.7	3.7	3636
Partial	87.9	86.2	89.4	2165	88.3	86.7	89.8	2115	83.7	82.1	85.2	5080	72.2	70.9	73.5	3636
Not	10.6	9.2	12.2	2165	9.6	8.3	11.1	2115	12.5	11.2	14.0	5080	7.1	6.3	7.9	3636
Early initiation of breastfeeding (within 1 hr of birth)	72.1	70.7	73.5	11991	69.8	68.3	71.3	10593	58.3	56.7	59.9	10,552	67.0	66.3	67.7	19,271
Exclusive breastfeeding <6 months	44.2	40.7	47.7	1,260	52.9	49.6	56.2	1,095	56.7	53.5	59.9	2353	71.4	68.0	74.6	1,656
% of 6-9 mo breastfeeding and consuming complementary foods	93.4	91.3	95.0	799	79.6	76.1	82.7	816	88.8	86.5	90.7	1755	87.4	84.9	89.5	1,352

* WN = Weighted number of cases (denominator)

A.3.2 Additional Population-Based Survey Data Tables (Data not included in core report)

Table A.3.2.1: Diagnostic tests in children with fever

Among children under five years of age with fever in the two weeks preceding the survey, the percentage who had a finger or heel stick, by background characteristics and survey year, Mozambique

	DHS 2011				
	WN*	%	LCI	UCI	SE
Residence					
Urban	388	40.6	34.7	46.8	3.1
Rural	1,069	25.8	21.8	30.3	2.1
Region					
Niassa	75	47.0	33.9	60.5	6.9
Cabo Delgado	135	9.6	4.9	18.0	3.2
Nampula	213	50.0	38.8	61.2	5.8
Zambezia	369	19.9	13.6	28.2	3.7
Tete	175	17.1	10.8	26.0	3.8
Manica	100	30.1	21.0	41.1	5.2
Sofala	175	44.5	36.6	52.8	4.1
Inhambane	50	35.8	24.0	49.6	6.7
Gaza	63	24.2	16.7	33.8	4.4
Maputo (Province)	62	28.8	18.7	41.5	5.9
Maputo City	39	41.1	30.9	52.0	5.4
Wealth Quintile					
1 (Poorest)	361	29.6	21.9	38.6	4.3
2	339	21.2	15.8	27.8	3.0
3	285	29.7	23.9	36.2	3.1
4	274	36.3	29.8	43.4	3.5
5 (Least Poor)	198	35.7	28.6	43.5	3.8

Mother's Education					
None	507	27.2	21.2	34.1	3.3
Primary	813	30.6	26.6	34.9	2.1
Secondary +	137	34.4	25.5	44.6	4.9
Age (in years)					
<1	310	30.7	24.6	37.6	3.3
1	399	26.8	21.0	33.4	3.2
2	309	28.9	23.3	35.3	3.1
3	241	35.5	27.6	44.3	4.3
4	198	28.6	21.7	36.6	3.8
Sex					
Male	747	29.7	25.5	34.3	2.2
Female	709	29.8	25.2	34.9	2.5
Birth Order					
1	322	30.1	24.2	36.7	3.2
2	241	42.2	34.8	49.9	3.9
3+	894	26.3	22.1	31.0	2.3
Household Size					
<4	218	28.8	22.1	36.6	3.7
4-5	486	34.9	29.9	40.3	2.7
6-7	462	23.7	18.4	29.9	3.0
8-9	201	31.4	23.7	40.3	4.3
10+	89	31.8	19.2	47.7	7.4
Total	1,457	29.8	26.3	33.5	1.8

* WN = Weighted number of cases (denominator)

Table A.3.2.2: Prevalence of severe anemia and parasitemia in children

Percentage of children age 6–59 months with hemoglobin lower than 8.0 g/dL and malaria infection detected by RDT, by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Age (in years)										
6-59 months	3706	10.3	8.7	12.2	0.9	4,864	6.5	5.5	7.7	0.6
6-23 months	1337	15.3	12.5	18.5	1.5	1,711	9.7	7.7	12.0	1.1
24-59 months	2369	7.6	6.2	9.5	0.8	3,153	4.9	3.8	6.2	0.6
Sex										
Male	1889	11.1	8.9	13.7	1.2	2,399	6.5	5.2	8.1	0.8
Female	1817	9.5	7.9	11.5	0.9	2,465	6.6	5.3	8.2	0.7
Residence										
Urban	1714	6.7	5.3	8.4	0.8	1,331	3.2	2.2	4.7	0.6
Rural	1992	11.2	9.3	13.6	1.1	3,533	7.8	6.5	9.3	0.7
Altitude										
<1000m	3445	10.7	9.0	12.7	0.9	4,518	6.8	5.7	8.0	0.6
1000m+	261	5.8	2.9	11.3	2.0	346	3.3	1.5	7.1	1.3
Region										
Niassa	474	5.5	3.0	10.0	1.7	306	6.0	3.6	9.7	1.5
Cabo Delgado	411	8.3	4.8	13.8	2.2	388	10.0	6.7	14.7	2.0
Nampula	345	14.6	8.8	23.3	3.6	751	10.0	6.9	14.3	1.9
Zambezia	438	21.9	16.7	28.1	2.9	1,019	11.2	8.3	14.9	1.7
Tete	402	8.4	5.7	12.2	1.6	596	3.3	1.7	6.2	1.1
Manica	274	7.4	4.4	12.1	1.9	358	6.3	3.6	10.9	1.8
Sofala	406	9.2	5.7	14.5	2.2	517	2.3	1.2	4.4	0.8
Inhambane	301	8.8	3.8	19.2	3.7	248	3.2	1.7	5.9	1.0
Gaza	222	11.5	6.9	18.3	2.8	243	3.3	1.6	6.3	1.1

Maputo (Province)	264	3.5	1.5	7.9	1.5	275	0.6	0.2	2.4	0.4
Maputo City	169	2.0	0.7	5.6	1.1	165	0.3	0.0	2.2	0.3
Wealth Quintile										
1 (Poorest)	829	14.9	11.7	18.8	1.8	1,116	12.0	9.5	15.1	1.4
2	778	10.1	7.5	13.6	1.5	1,078	8.7	6.8	11.1	1.1
3	809	10.7	7.3	15.4	2.0	950	5.8	4.3	7.9	0.9
4	691	6.8	4.7	9.7	1.3	1,002	3.1	2.1	4.5	0.6
5 (Least Poor)	599	4.3	2.5	7.2	1.2	718	0.6	0.3	1.4	0.3
Mother's Education										
None	2098	11.6	9.6	13.8	1.1	1,636	7.6	6.0	9.5	0.9
Primary	1193	9.2	7.0	12.0	1.3	2,296	7.1	5.7	8.8	0.8
Secondary +	362	5.3	2.9	9.3	1.5	502	1.6	0.6	4.5	0.9
Birth Order										
1	n/a	n/a	n/a	n/a	n/a	937	7.6	5.6	10.2	1.2
2	n/a	n/a	n/a	n/a	n/a	812	4.7	2.9	7.4	1.1
3+	n/a	n/a	n/a	n/a	n/a	2,633	6.9	5.6	8.4	0.7
Missing	n/a	n/a	n/a	n/a	n/a	483	5.7	3.3	9.7	1.6
Household Size										
<4	363	14.0	9.9	19.4	2.4	543	8.0	5.5	11.3	1.5
4-5	1352	10.5	8.4	13.0	1.2	1,750	7.0	5.4	9.0	0.9
6-7	1130	8.7	6.6	11.5	1.2	1,504	6.1	4.7	7.8	0.8
8-9	473	9.6	6.7	13.7	1.8	656	6.2	4.2	9.0	1.2
10+	388	12.0	6.4	21.5	3.7	412	5.1	2.5	10.0	1.8
Slept Under an ITN ** Last Night										
Yes	249	9.7	5.3	17.0	2.9	3,137	6.4	5.2	7.8	0.7
No	3457	10.4	8.7	12.3	0.9	1,727	6.9	5.4	8.7	0.9

Total	3706	10.3	8.7	12.2	0.9	4,864	6.5	5.5	7.7	0.6
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* WN = Weighted number of cases (denominator)

**An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Table A.3.2.3: Prevalence of fever in children

Percentage of children under five years of age with fever in the two weeks preceding the survey, by background characteristics and survey year, Mozambique

	DHS 2003					MIS 2007					MICS 2008					DHS 2011					
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE	
Age (in years)																					
6-59 months	8,318	37.6	35.1	40.2	1.3	3,498	36.0	33.5	38.5	1.3	10,202	24.5	23.2	25.9	0.7	9,653	14.1	12.9	15.3	0.6	
6-23 months	2,951	22.2	20.7	23.8	0.8	1,287	39.1	35.6	42.7	1.8	3,742	30.1	27.9	32.3	1.1	3,589	17.0	15.1	19.2	1.0	
24-59 months	5,367	27.7	26.2	29.1	0.7	2,211	34.2	31.4	37.1	1.5	6,461	21.3	19.9	22.7	0.7	6,064	12.3	11.2	13.6	0.6	
Sex																					
Male	4,622	26.8	25.0	28.6	0.9	2,015	36.1	33.1	39.2	1.5	5,658	24.5	22.9	26.1	0.8	5,460	13.7	12.4	15.0	0.7	
Female	4,778	26.6	24.9	28.4	0.9	1,876	33.8	30.8	37.0	1.6	5,759	22.6	21.0	24.3	0.9	5,375	13.2	11.8	14.7	0.7	
Residence																					
Urban	2,765	26.4	23.6	29.4	1.5	2,115	30.6	28.1	33.2	1.3	3,243	23.4	21.5	25.5	1.0	3,014	12.9	11.1	14.8	0.9	
Rural	6,636	26.8	25.1	28.6	0.9	1,776	36.1	33.2	39.2	1.5	8,176	23.6	22.0	25.2	0.8	7,820	13.7	12.4	15.1	0.7	
Region																					
Niassa	455	16.3	13.3	19.9	1.7	510	25.2	19.1	32.5	3.4	663	13.9	10.3	18.7	2.1	652	11.6	9.0	14.8	1.5	
Cabo Delgado	806	36.8	33.4	40.2	1.7	470	55.2	48.0	62.3	3.6	1,136	20.1	17.3	23.3	1.5	906	14.9	12.3	18.0	1.4	
Nampula	1,966	38.4	34.3	42.7	2.2	353	25.5	21.0	30.5	2.4	1,771	26.8	22.9	31.1	2.1	1,657	12.9	10.2	16.1	1.5	
Zambezia	1,473	18.1	14.7	22.1	1.9	459	48.4	42.2	54.7	3.2	1,996	26.0	22.6	29.8	1.8	2,224	16.6	13.2	20.7	1.9	
Tete	948	14.2	11.0	18.2	1.8	443	27.4	21.1	34.7	3.5	1,134	20.4	17.1	24.2	1.8	1,371	12.7	10.1	15.9	1.5	
Manica	740	20.0	17.2	23.1	1.5	271	20.9	16.3	26.4	2.6	587	17.3	14.2	20.8	1.7	793	12.7	10.2	15.7	1.4	
Sofala	688	23.0	19.9	26.5	1.7	443	33.7	26.8	41.3	3.7	1,575	21.2	18.2	24.5	1.6	1,061	16.5	13.6	19.8	1.6	
Inhambane	741	36.5	32.4	40.9	2.2	286	43.9	38.2	49.7	2.9	716	31.0	28.0	34.1	1.5	602	8.3	6.1	11.2	1.3	
Gaza	483	28.6	24.0	33.7	2.5	228	27.3	18.4	38.5	5.2	735	33.2	29.1	37.5	2.1	575	10.9	8.7	13.5	1.2	
Maputo (Province)	613	20.2	16.7	24.3	1.9	258	21.4	16.9	26.8	2.5	655	21.8	18.1	26.0	2.0	607	10.3	8.2	12.9	1.2	
Maputo City	487	29.2	24.3	34.5	2.6	170	30.3	22.1	39.9	4.5	453	21.4	17.4	26.0	2.2	387	10.2	8.0	13.0	1.3	

Altitude																					
<1000m	n/a	n/a	n/a	n/a	n/a	3611	36.4	33.9	39.0	1.3	n/a	n/a	n/a	n/a	n/a	10,043	13.5	12.4	14.7	0.6	
1000m+	n/a	n/a	n/a	n/a	n/a	280	16.5	10.2	25.5	3.9	n/a	n/a	n/a	n/a	n/a	792	13.2	9.8	17.6	2.0	
Wealth Quintile																					
1 (Poorest)	2,492	25.2	22.4	28.3	1.5	880	39.5	35.2	44.0	2.2	2,574	23.6	21.1	26.3	1.3	2,526	14.3	12.1	16.9	1.2	
2	1,780	27.4	24.6	30.4	1.5	839	38.9	33.8	44.3	2.7	2,523	23.0	20.5	25.6	1.3	2,323	14.6	12.5	16.9	1.1	
3	2,001	27.9	25.0	31.1	1.6	868	32.9	28.5	37.7	2.3	2,255	24.3	21.6	27.2	1.4	2,163	13.2	11.5	15.1	0.9	
4	1,589	29.1	26.5	31.8	1.4	707	28.7	24.3	33.6	2.4	2,267	25.2	23.1	27.5	1.1	2,168	12.6	10.7	14.9	1.1	
5 (Least Poor)	1,538	24.1	21.1	27.4	1.6	597	29.5	24.4	35.1	2.7	1,799	21.1	18.9	23.5	1.2	1,655	12.0	10.1	14.1	1.0	
Mother's Education																					
None	4,290	25.3	23.2	27.6	1.1	2231	35.9	33.0	38.9	1.5	3,730	21.9	20.0	23.8	1.0	4,030	12.6	11.1	14.3	0.8	
Primary	4,741	28.1	26.4	29.8	0.8	1226	35.8	32.3	39.5	1.8	6,861	25.0	23.3	26.7	0.9	5,638	14.4	13.0	15.9	0.7	
Secondary +	369	24.6	19.8	30.2	2.7	346	26.9	21.0	33.8	3.3	n/a	n/a	n/a	n/a	n/a	1,167	11.7	9.9	13.9	1.0	
Birth Order																					
1	1,944	26.2	23.8	28.7	1.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2,301	14.0	12.1	16.1	1.0	
2	1,732	26.6	24.0	29.3	1.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2,014	12.0	10.3	13.9	0.9	
3+	5,724	26.9	25.2	28.7	0.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6,520	13.7	12.4	15.1	0.7	
Household Size																					
<4	795	31.6	27.3	36.2	2.3	390	37.6	31.2	44.5	3.4	n/a	n/a	n/a	n/a	n/a	1,307	16.7	14.1	19.6	1.4	
4-5	2,907	25.8	23.4	28.3	1.3	1,354	35.7	32.0	39.6	1.9	n/a	n/a	n/a	n/a	n/a	3,770	12.9	11.5	14.4	0.7	
6-7	2,915	25.1	22.9	27.5	1.2	1,203	34.1	30.2	38.2	2.0	n/a	n/a	n/a	n/a	n/a	3,394	13.6	12.0	15.4	0.9	
8-9	1,369	28.3	25.2	31.6	1.6	507	31.7	26.0	38.0	3.1	n/a	n/a	n/a	n/a	n/a	1,484	13.5	11.3	16.1	1.2	
10+	1,414	27.5	24.7	30.5	1.5	437	37.4	29.7	45.8	4.1	n/a	n/a	n/a	n/a	n/a	881	10.1	7.5	13.6	1.6	

Slept Under an ITN ** Last Night																					
Yes	n/a	n/a	n/a	n/a	n/a	288	28.9	22.5	36.2	3.5	2,114	21.2	18.6	240	1.4	6,574	12.7	11.5	14.0	0.6	
No	n/a	n/a	n/a	n/a	n/a	3,575	35.6	33.0	38.3	1.4	9,305	24.1	22.7	25.5	0.7	4,261	14.6	13.1	16.2	0.8	
Total	9,400	26.7	25.3	28.1	0.7	3,891	35.4	33.0	37.9	1.3	11,419	23.5	22.3	24.8	0.7	10,835	13.4	12.4	14.6	0.6	

* WN = Weighted number of cases (denominator)

**An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

Table A.3.2.4: Prevalence of fever and parasitemia in children

Percentage of children age 6–59 months with fever in the two weeks preceding the survey and malaria infection detected by RDT, by background characteristics and survey year, Mozambique

	MIS 2007					DHS 2011				
	WN*	%	LCI	UCI	SE	WN*	%	LCI	UCI	SE
Age (in years)										
6-23 months	1337	5.9	4.4	7.9	0.9	1,653	7.5	5.8	9.5	0.9
24-59 months	2369	7.7	6.2	9.5	0.8	2,726	7.1	6.0	8.5	0.7
Sex										
Male	1889	7.5	5.9	9.6	0.9	2,175	7.3	6.0	8.7	0.7
Female	1817	6.5	5.1	8.2	0.8	2,205	7.3	5.7	9.3	0.9
Residence										
Urban	1714	2.9	2.1	4.0	0.5	1,158	3.1	2.0	4.8	0.7
Rural	1992	8.1	6.6	9.8	0.8	3,222	8.8	7.3	10.4	0.8
Altitude										
<1000m	3445	7.1	5.8	8.5	0.7	4,064	7.0	5.9	8.3	0.6
1000m+	261	6.9	3.5	13.0	2.3	315	10.6	6.4	17.0	2.6
Region										
Niassa	474	9.2	6.2	13.4	1.8	259	9.7	5.9	15.5	2.4
Cabo Delgado	411	6.7	4.0	10.9	1.7	364	11.3	8.1	15.7	1.9
Nampula	345	5.3	3.5	7.9	1.1	675	6.0	3.4	10.5	1.7
Zambezia	438	25.0	20.0	30.8	2.8	953	11.4	8.3	15.5	1.8
Tete	402	5.3	3.0	9.3	1.6	559	7.0	4.1	11.4	1.8
Manica	274	1.2	0.3	4.9	0.9	336	4.2	2.5	7.1	1.1
Sofala	406	0.0	-	-	0.0	434	7.3	4.9	10.7	1.5
Inhambane	301	5.5	3.6	8.2	1.1	209	3.2	1.4	7.0	1.3
Gaza	222	0.6	0.1	3.7	0.6	212	5.0	2.9	8.4	1.4
Maputo (Province)	264	0.0	-	-	0.0	233	0.3	0.0	2.2	0.3

Maputo City	169	0.0	-	-	0.0	147	0.0	-	-	0.0
Wealth Quintile										
1 (Poorest)	829	9.9	7.1	13.5	1.6	1,034	9.3	7.1	12.1	1.3
2	778	7.9	5.5	11.1	1.4	1,001	10.3	7.9	13.3	1.4
3	809	7.2	5.1	12.1	1.3	834	8.0	5.8	10.9	1.3
4	691	5.0	3.2	7.9	1.2	888	5.3	3.7	7.4	0.9
5 (Least Poor)	599	0.7	0.2	2.2	0.4	622	0.8	0.3	2.1	0.4
Mother's Education										
None	2098	8.2	6.6	10.1	0.9	1,609	7.9	6.2	9.9	0.9
Primary	1193	5.9	4.2	8.2	1.0	2,299	8.0	6.5	9.8	0.8
Secondary +	362	2.4	0.9	6.2	1.2	471	1.6	0.8	3.4	0.6
Birth Order										
1	n/a	n/a	n/a	n/a	n/a	935	6.1	4.5	8.2	0.9
2	n/a	n/a	n/a	n/a	n/a	812	5.0	3.4	7.4	1.0
3+	n/a	n/a	n/a	n/a	n/a	2,633	8.4	7.0	10.0	0.7
Household Size										
<4	363	4.6	2.6	8.1	1.4	481	10.3	7.3	14.5	1.8
4-5	1352	7.8	6.0	10.1	1.0	1,593	6.0	4.7	7.7	0.8
6-7	1130	8.2	6.2	10.8	1.2	1,385	8.5	6.6	10.8	1.1
8-9	473	4.3	2.6	7.1	1.1	566	6.7	4.4	10.0	1.4
10+	388	6.4	3.5	11.2	1.9	354	4.9	2.5	9.5	1.7
Slept Under an ITN ** Last Night										
Yes	249	14.9	9.9	21.9	3.0	2,784	6.9	5.8	8.2	0.6
No	3457	6.5	5.3	8.0	0.7	1,595	8.0	6.2	10.2	1.0
Total	3706	7.0	5.9	8.4	0.6	4,379	7.3	6.2	8.5	0.6

* WN = Weighted number of cases (denominator)

**An insecticide-treated net (ITN) is (1) a factory-treated net that does not require any further treatment (LLIN) or (2) a pretreated net obtained within the past 12 months or (3) a net that has been soaked with insecticide within the past 12 months.

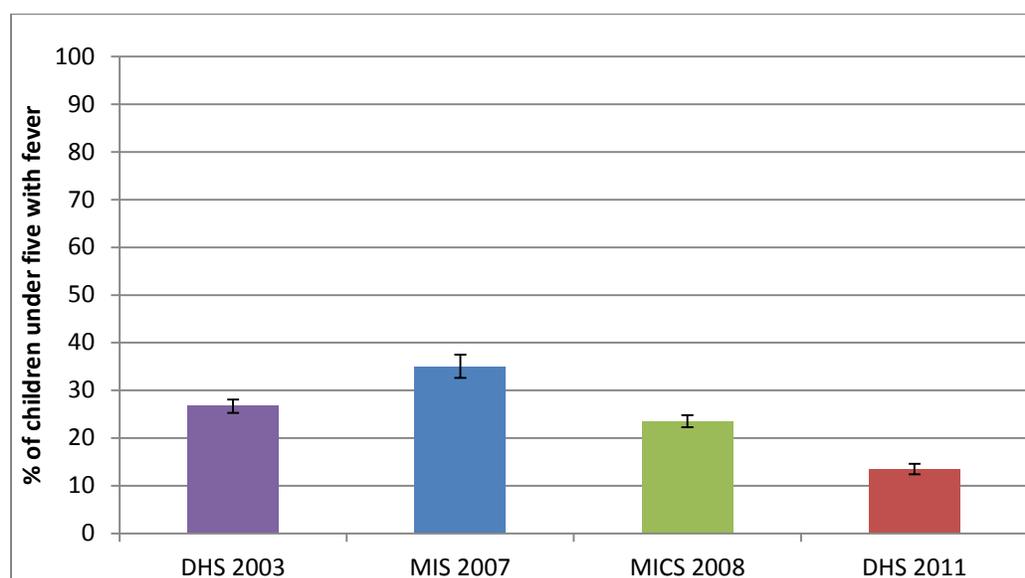
Annex 4: Additional Topics

4.1 Fever

In addition to the RBM-MERG morbidity indicators, this annex includes a description of trends in fever, defined as the proportion of children under five years of age whose mothers or care-takers (for the MICS survey only) reported had suffered fever within a two-week period preceding the survey. The reasons for including this indicator are because an association between fever prevalence and malaria control is biologically plausible, because national trend data is available for the entire study period, and because these data can supplement analyses of facility-based measures of “presumed malaria” that are plagued with several shortcomings including incomplete reporting and lack of diagnostic confirmation.

The DHS, MIS and MICS questionnaires requested mothers to report any incidence of fever among children under five years of age, during a two-week period preceding the survey. However, it should be noted that fever is an imperfect proxy of the burden of malaria disease because malaria is not the sole cause of fever. A systematic review¹ of 39 studies across 16 countries in sub-Saharan Africa between 2001 and 2009 found that just 22% of children (of various age groups) presenting with fever tested positive for malaria. In addition, no clinical diagnosis or testing was conducted, making the validity reliant on the accuracy of self-reported fever information. In addition, information on fever was only asked of interviewed mothers, a methodological strategy which may introduce selection bias. For analyses of correlation between the morbidity indicators, this outcome variable is limited to children aged 6–59 months.

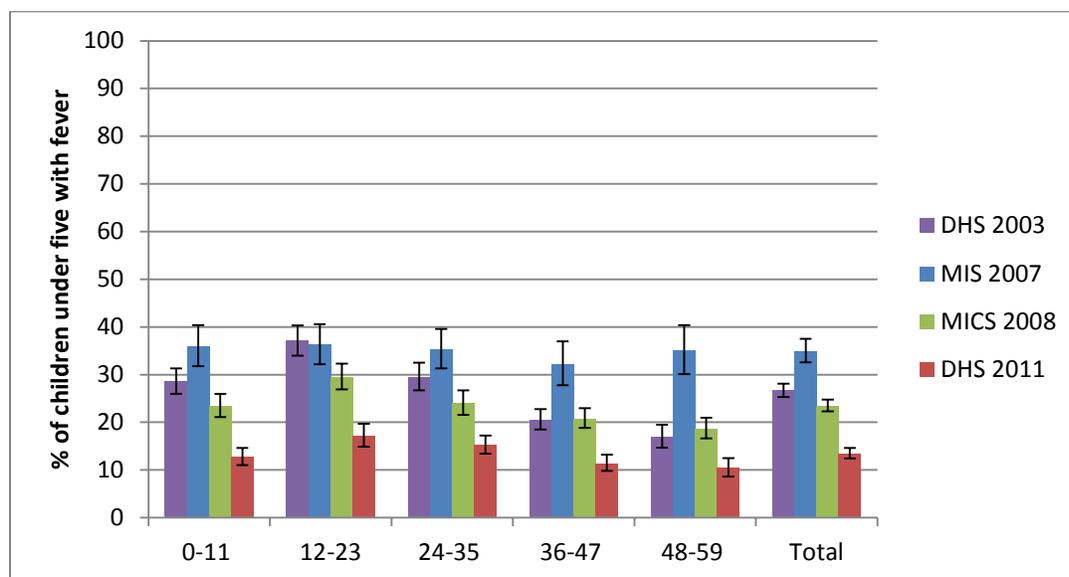
Figure 4.1: Fever during the two weeks prior to survey, children under five years of age, 2003–2011



¹ D'Acremont, V., Lengeler, Christian, & Genton, B. (2010). Reduction in the proportion of fevers associated with *Plasmodium falciparum* parasitaemia in Africa: a systematic review. *Malaria journal*, 9, 240. doi: 10.1186/1475-2875-9-240

Overall, the prevalence of fever in children under five years of age has decreased over the evaluation period (Figure 4.1). There was a slight increase in the prevalence between 2003 and 2007, but then a significant decline between 2007 and 2011. As fever has many etiologies not limited to malaria, this observed trend is challenging to interpret. Since most of the scale-up on malaria control interventions happened from 2007 to 2011, it could be in part due to these improvements observed in malaria control.

Figure 4.2: Fever during the two weeks preceding the survey, by age group, 2003–2011



Breaking down the trends in fever by age group reveals important declines in fever prevalence over the study period (Figure 4.2). An increase in fever prevalence was observed between 2003 and 2007 across all age groups, with the exception of those 12 to 23 months, but generally over the evaluation period, fever prevalence gradually declined across all age groups. The greatest relative declines are observed in children 0 to 11 months and 12 to 23 months from 2003 to 2011, 55.6% and 53.6% respectively. This is greater than any of the other age groups; however fever prevalence did significantly decline over the evaluation period in every age group. These results are consistent with the observed declines both in malaria parasitemia and severe anemia during the latter part of the evaluation period.

Figure 4.3 shows that the prevalence of children (6-59 months) who had experienced fever in the two weeks prior to the survey and also tested positive for malaria (RDT) on the day of the survey remained stable between 2007 and 2011. Younger children (6-11 months) and children between 48-59 months showed a small decline in prevalence of fever and malaria parasitemia between 2007 and 2011; while the other age groups (12-23 months, 24-35 months, 36-47 months) increased slightly or remained stable. Overall however, due to the small sample sizes, no significant differences between 2007 and 2011 were found.

Figure 4.3: Proportion of children 6–59 months of age with fever in the two weeks prior to the survey who tested positive via RDT on the day of survey, by age group, 2007 MIS and 2011 DHS

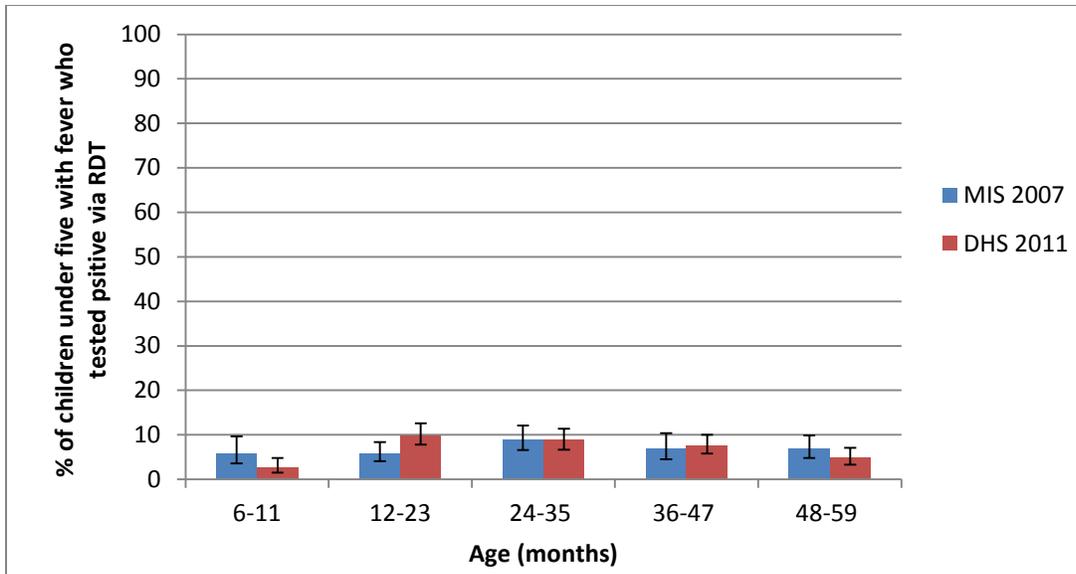


Figure 4.4: Fever during the two weeks prior to survey, children under five years of age, by place of residence, 2003 -2011

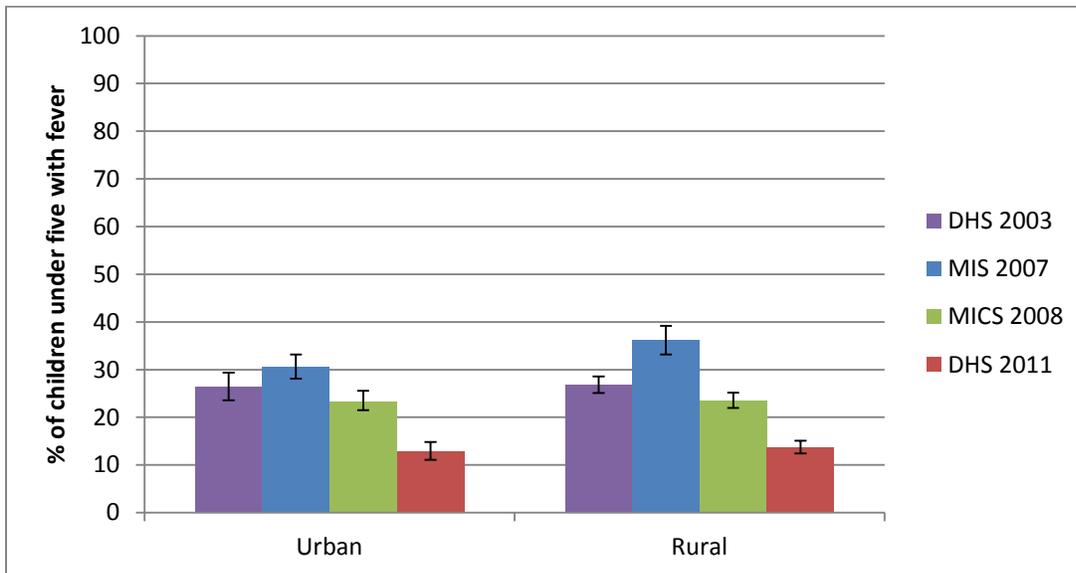


Figure 4.4 shows the percentage of children under five years of age that had a fever in the two weeks preceding the survey by place of residence. Fever prevalence in both urban and rural areas increased from 2003 to 2007, and then declined significantly by 2011. In rural areas, the decline was slightly higher, from 36% (95% CI: 33–39%) in 2007 to 14% (95% CI: 12–15%) in 2011 than in urban areas, which saw a decline from 31% (95% CI: 28–33%) to 13% (95% CI: 11–15%) in the same time period.

Figure 4.5: Fever during the two weeks prior to survey, children under five years of age, by malaria risk zones, 2003 -2011

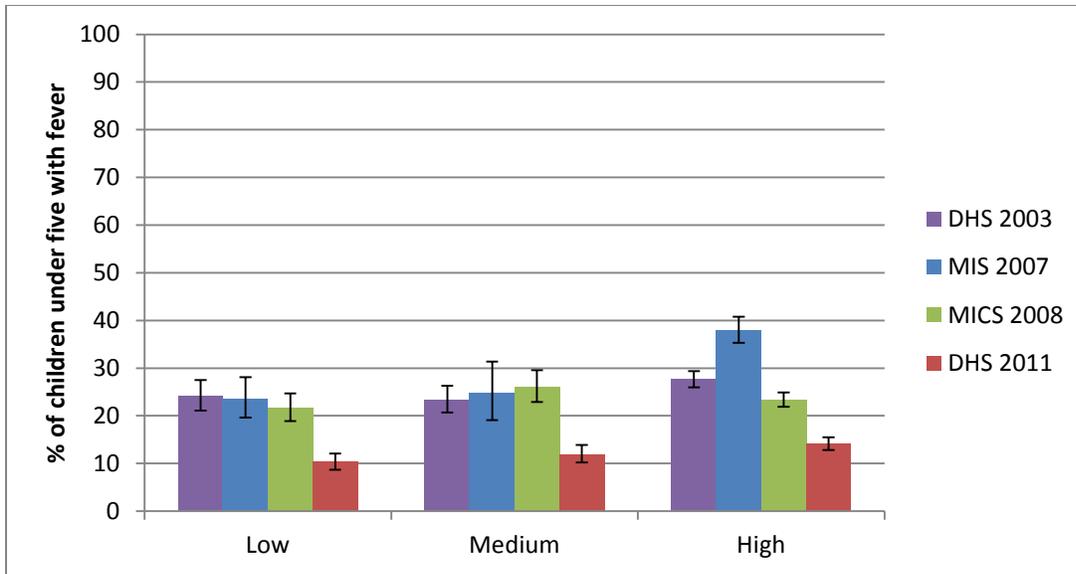


Figure 4.5 shows the percentage of children under five years of age that had a fever in the two weeks before the survey by malaria risk zones. In the low risk zones, fever prevalence stayed stagnant from 2003 (24%, 95% CI: 21-28%) to 2008 (22%, 95% CI: 19-25%), before seeing a significant decline in 2011 (10%, 95% CI: 9-12%). Similarly, in the medium risk zones, fever prevalence remained the same from 2003 (23%, 95% CI: 21-26%) to 2008 (26%, 95% CI: 23-30%), and then decreased to 12% (95% CI: 10-14%) by 2011. In the high risk areas, there was a significant decline observed between 2007 (38%, 95% CI: 35-41%) and 2008 (23%, 95% CI: 22-25%), and again by 2011 (14%, 95% CI: 13-16%).

Annex 5: List of Key In-Country Stakeholders Involved in Impact Evaluation Meetings

Table 5.1.1. List of Stakeholders that participated in the Mozambique Impact Evaluation Introduction Meeting, June 6th 2013

	ORGANIZATION/DEPARTMENT	NAME
1.	National Public Health Director	Mouzinho Saide
2.	Department of Epidemiology	Lorna Gujral
3.	Community Health Worker Program	Teresa Mapasse
4.	Global Fund Unit	Carla Silva Matos
5.	Directorate of Planning and Cooperation	Laerarimo Rivane
6.	Pharmaceutical Department	Merana Mussa
7.	NMCP Manager	Graça Matsinhe
8.	NMCP M&E	Guilhermina Fernandes
9.	NMCP Data Manager	Guidion Mathe
10.	NMCP IRS	Sergio Gomane
11.	NMCP Case Management	Rosalia Mutemba
12.	NMCP Case Management	Yasmin Cassam
13.	NMCP Case Management	Francisco Matsinhe
14.	NMCP Entomology	Albertina Chihale
15.	NMCP Entomology	Dulcisaria Marrenjo
16.	NMCP Entomology	Joao Alemanha
17.	NMCP IEC	Sergio Tsabete
18.	National Institute of Health	Crizolzo Silvack
19.	Manhiça Research Centre	Eusebio Macete
20.	National Institute of Statistics	Pedro Duce
21.	Ministry of Environment	Felix Paipe
22.	Ministry of Fisheries	Roselinah Chiconela
23.	National Institute of Disaster Management	Rita Almeida
24.	National Institute of Meteorology	Jose Sawanguane
25.	Mozambique RBM Initiative	Jacinta Magesso
26.	UNICEF	Frederico Brito
27.	USAID	Abuchahama Saifodine
28.	Malaria Consortium	Fernando Bantoo
29.	Malaria Consortium	Liliana de Sousa
30.	World Vision	Chandana Mendis
31.	PIRCOM	Carlos Miguel
32.	Deloitte FORSSAS	Sandy McGunegill
33.	HAI	Caroline Soi

Table 5.1.2. List of Stakeholders that participated in the Mozambique Impact Evaluation Dissemination of Results Meeting, July 22, 2014

	ORGANIZATION/DEPARTMENT	NAME
1.	Director Nacional de Saúde Publica	Francisco Mbofana
2.	Directora Nacional Adjunta de Saúde Publica	Benigna Matsinhe
3.	Departamento de Epidemiologia	Lorna Gujral
4.	Programa do APE	Stelio Alfredo Dimande
5.	Central de Medicamentos e Artigos Médicos	Sergio Sei
6.	PNCM Director do Programa	Baltazar Candrinho
7.	PNCM M&A	Elsa Nhatumbo
8.	PNCM Gestor de dados	Guidion Mathe
9.	PNCM Redes	Silvia Pedro
10.	PNCM PIDOM	Carlota Tembe
11.	PNCM Manejo de Caso	Rosalia Mutemba
12.	PNCM Manejo de Caso	Francisco Matsinhe
13.	PNCM Entomologia	Maria Pondja
14.	PNCM Administração	David Manjate
15.	Instituto Nacional de Saúde	Cynthia Baltazar
16.	Instituto Nacional da Meteorologia	Flavio Monjane
17.	UNICEF	Frederico Brito
18.	USAID	Abuchahama Saifodine
19.	USAID	Salman Jaffer
20.	FHI360	Armando Tiago
21.	Malária Consortium	David Wood
22.	Malária Consortium	Jorge Arroz
23.	JSI Deliver	Arturo Sanabria
24.	World Vision	Francisco Chirute
25.	CHAI	Lise Ellyin
26.	CHAI	Helder Mendes
27.	CHAI	Ocean Tabaiwa
28.	CHAI	Valdemira A. Jose
29.	KUTENGA	Goncalves Mandalate
30.	IOM	Levi Maluode
31.	NAIMA	Alain Kassa
32.	Embaixada Holanda	Fatima Aly
33.	Consultora Independente	Silvia Bignamini
34.	HAI	Caroline Soi
35.	HAI	Caroline De Schacht
36.	Direcção da Saúde da Cidade de Maputo	Lintao Cuamba