

The Zimbabwe Malaria Indicator Survey 2012



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Executive Summary

Malaria is a problem of public health importance in Zimbabwe. National Malaria Control Programme has been implementing activities aimed at achieving malaria control targets set in the Malaria Control Programme Strategy 2008-13. To assess how far the country has gone in achieving these targets a Malaria Indicator Survey was carried out in April-May 2012.

The MIS was based on a nationally representative two stage cluster sample of 6078 households surveyed from 327 enumeration areas randomly selected from 51 of 63 rural districts from all eight provinces in Zimbabwe. Field teams carried out data collection using standardized questionnaires pre-programmed on personal digital assistants (PDAs). The MIS collected data on major malaria interventions that include insecticide treated nets (ownership and use), indoor residual spraying (IRS), intermittent preventive therapy among women attending ANC services, management of children with fever (fever that potentially could be due to malaria) and malaria IEC issues. Malaria testing was carried out among children aged 6-59 months using rapid diagnostic tests (RDTs) and blood smears. Anaemia testing was carried out in the same age group using hand-held haemoglobinometers.

MIS found that in the 30 mosquito net target districts 55.7% of households had at least one net. Among households with nets 83.3% of them had at least one LLIN. LLIN coverage (among households with nets) was highest in Midlands (96.3%) and lowest in Manicaland (51.8%). Among 59.4% under fives that slept under a net night preceding the survey 85.7% had slept under a LLIN. Of 58.3% of women aged 15-49 years that slept under a net night preceding the survey 85.6% slept under a LLIN.

In 45 IRS target districts IRS coverage was 48.6%. IRS coverage was highest in Mashonaland East province (65.6%) and lowest in Masvingo (39.2%).

In 30 IPTp target districts coverage of two or more doses of SP/Fansidar among women attending ANC was 74.5%. IPTp coverage was highest in Mashonaland West (87.5%) and lowest in Mashonaland Central (47.4%).

68.8% of all 285 children that had had fever two weeks prior to the survey had sought care at public or private health facilities within 24 hours post onset of the fever while 31.2% were attended after two or more days. Of the 255 that got medicines for management of the fever only 9% got ACT (no other antimalarials were applied) while the rest got antipyretics, antibiotics and some other medicines.

Among 2588 under fives that had malaria RDT test only 25 or 0.96% had a positive result. Of 2826 under fives that had blood smears 11 or 0.39% had malaria parasites of *Plasmodium falciparum* species. RDT positive cases and malaria parasite slide positive cases were mostly from areas/districts known to have

high-moderate seasonal transmission of malaria. 1337 or 51.7% of 2588 children tested for anaemia had anaemia. With malaria prevalence rate of 0.39 % found among under fives it is unlikely that the high rate of anaemia in the same age group is associated with malaria.

Some 84.9% of households had heard about malaria with main information sources being health facility workers (61.4%), relatives (29.6%) community health workers (24.4%) and schools (14.8%). Forty-seven percent of households thought malaria was caused by bite of any mosquito while 33.3 % thought it was caused by a bite from an infected mosquito. Households indicated main signs and symptoms of malaria as fever/chills/hot body (74.9%), headaches (58.1%) and nausea/vomiting (43.6%). On the whole households seemed to have a poor understanding of issues surrounding malaria prevention.

The MIS has provided information and data that would be useful to the NMCP in planning and programming malaria control activities. A summary of indicators that were got from the 2012 MIS are shown in table below.

Summary of Findings on Key Indicators – Zimbabwe MIS 2012

Indicator	Percentage
Households that had at least one net	55.7%
Among households with nets - % that had at least one LLIN	83.3%
Under fives that slept under a net the night before the survey	59.4%
Of under fives that slept under a net -% that slept under LLIN	85.7%
Women aged 15-49 years that slept under a net the night before the survey	58.3%
Of women aged 15-49 years that slept under a net -% that slept under LLIN	85.6%
% of households sprayed in the past 12 months	48.6%
ANC mothers that had two or more doses of SP/Fansidar	74.5%
Children with fever that sought care within 24 hours of commencement of fever	68.8%
Under fives that had positive malaria blood slides (prevalence)	0.39%
Under fives that had anaemia (Hb <11gm/dl)	51.7%
Households that associated malaria with fever/hot body and chills	70.3%

List of Abbreviations

ACT	Artemisinin based Combination Therapy
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
CDC	Centres for Disease Control and Prevention (USA)
CHW	Community Health
GFATM	Global Fund to fight against HIV/AIDS, Tuberculosis and Malaria
GPS	Global Positioning Systems
HIV	Human Immune Deficiency Virus
IMCI	Integrated Management of Child illnesses
ITN	Insecticide Treated Net
DHE	District Health Executive
DHS	Demographic Health Survey
EAs	Enumeration areas
IPTp	Intermittent Preventive Therapy in pregnancy
LLIN	Long Lasting Insecticidal Net
IRS	Indoor Residual Spraying
NMCP	National Malaria Control Programme
NMSP	National Malaria Strategic Plan
MIS	Malaria Indicator Survey
MOHCW	Ministry of Health and Child Welfare
NIHR	National Institute of Health Research
PDA	Personal Data Assistants
PMD	Provincial Medical Director
PSI	Population Services International
PMI	Presidential Malaria Initiative
RBM	Rollback Malaria

RDT	Rapid Diagnostic Test
RHCs	Rural Health Centres
SP	Sulfadoxine Pyrimethamine
TB	Tuberculosis
TV	Television
UNICEF	United Nations Children’s Emergency Fund
UNDP	United Nations Development Programme
WHO	World Health Organization
ZMS	Zimbabwe Master Sample
ZIMSTAT	Zimbabwe Statistics Agency

CHAPTER 1 INTRODUCTION

1.1 Zimbabwe country profile

Zimbabwe is a landlocked country in the southern Africa lying wholly within the tropics. It straddles an extensive high inland plateau that drops northwards to the Zambezi valley where Zimbabwe shares the border with Zambia and southwards to the Limpopo valley where the country shares the border with South Africa. Zimbabwe also shares borders with Botswana, Mozambique and Namibia. Figure 1 shows the Map of Zimbabwe and its neighbouring countries.

Zimbabwe has a total surface area of 390 580 km². Much of the country is high plateau with higher central plateau (Highveld) forming a watershed between the Zambezi and Limpopo river systems. The eastern end of the watershed terminates in a north-south mountain spine, called the Eastern Highlands.

Figure 1: Map of Zimbabwe showing its geographical location, cities, main towns, rivers and selected archaeological sites



The climate is tropical, although markedly moderated by altitude. There is a dry season, including a short cold season during the period May to August when the whole country has very little rain. The dry hot season occurs during the period from September to early November, while the rainy season is typically a time of heavy rainfall from November to March when the whole country is under the influence of the Inter-tropical Convergence Zone in January. Rainfall varies from an average of 450mm to 1000mm annually.

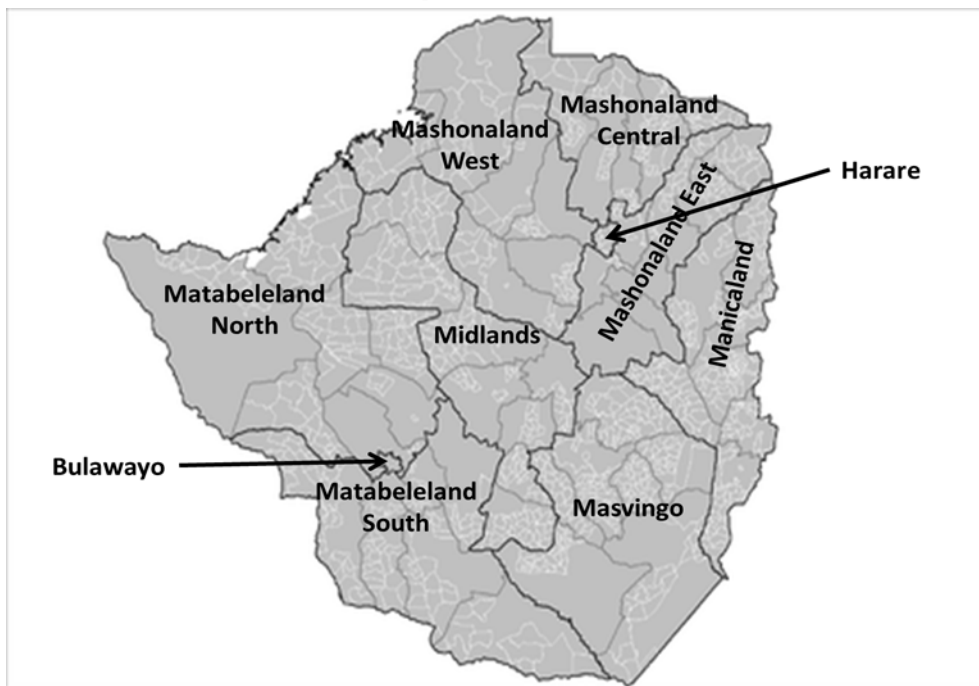
1.2 Administrative structures, demography and community Structure

1.2.1 Administrative structures

Zimbabwe is divided into 10 administrative provinces, 8 rural and the 2 metropolitan provinces of Harare and Bulawayo. Each of the provinces is divided into districts making a total of 63 administrative districts, which in turn are divided into wards.

In the rural areas these wards are further divided into villages. Each village comprises of at least 100 households headed by a village headman. Figure 2 shows the administrative boundaries of Zimbabwe. The bold lines represent provincial boundaries.

Figure 2: Zimbabwe`s 10 provinces, with district and ward boundaries



1.2.2 Population

The total population of Zimbabwe is estimated at 12,759,190 as projected from the 2002 population census, using an annual population growth rate of 1.1% to the year 2011.

1.3 Demographic and socio-economic indicators

These are shown in table 1.1 below.

Table 1.1

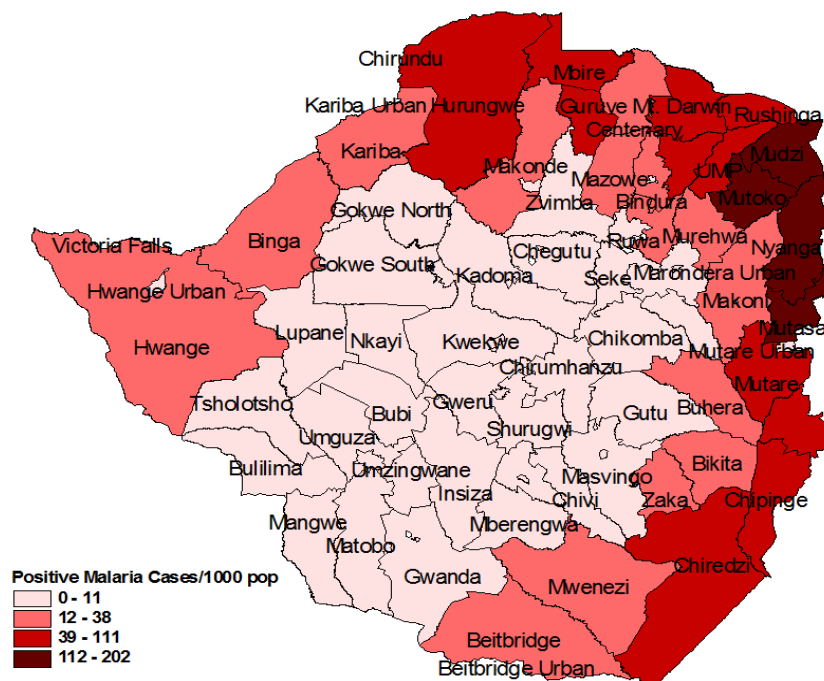
Selected demographic and socio-economic indicators ^{1,2,3,4}

	Indicator	Value
Demography	Population in 2010 (census projection from 2002)	12 759 190
	Life expectancy, males	40.8
	Life expectancy, females	46.2
	Population growth rate, %	1.1
	Population living in rural areas, %	70
	Population composed of women and children, %	70
	Population composed of children under 15 years, %	41
Child Mortality	Neonatal mortality rate (per 1000 live births)	30
	Infant mortality rate (per 1000 live births)	37
	Under five Mortality Rate (per 1000 live births)	94
Education	Primary school Net Attendance Ratio, %	91
Maternal Health	Antenatal care, %, women who received antenatal care	93
	Maternal mortality rate	725/100000 live births
	Total fertility rate, children per woman	3.7
Nutrition	Stunting prevalence, children 6-59 months, %	35
Water and sanitation	Use improved drinking water source, %	73
	Use improved sanitation facilities, %	60
	Safe disposal of child stool, %	54
Economy	Year on year Inflation, %	4.2
	Unemployment rate, %	70

1.4 Epidemiology of malaria in Zimbabwe

Malaria transmission in Zimbabwe is generally unstable, with a few high stable transmission foci along the northern and eastern borders. About 50% of the country's population resides in rural, malaria endemic areas, and are at risk of developing the disease. All age groups are at risk of severe malaria because transmission is unstable. . Every year, between 600,000 to 800,000 people suffer from this preventable disease which is the third leading cause of outpatient attendance in Zimbabwe, coming after HIV & AIDS and Tuberculosis. There are 62 rural districts in the country of which 51 have Malaria of varying levels of transmission intensity. Malaria transmission starts increasing from November with a peak from mid-February through to April/May. Of the districts with Malaria, 45 are in the low lying areas of the country characterized by high temperatures (up to 39 degrees Celsius). During the peak malaria transmission season, sporadic epidemics are reported in the high burdened districts. The population affected varies from year to year depending on the performance and coverage of the various malaria prevention and control interventions carried out by the National Malaria Control Program. The predominant Malaria parasite in Zimbabwe is *Plasmodium falciparum* which accounts for about 98% of all reported malaria cases whilst *Plasmodium ovale* and *P. malariae* account for the remainder. *Anopheles arabiensis* is the main vector for malaria transmission.

Figure 3 Malaria Incidence Map for Zimbabwe (2011)



The risk of severe malaria is high because of the higher prevalence of the parasite that causes severe malaria (*P. falciparum*) and the highly seasonal nature of malaria in Zimbabwe⁵.

The Zimbabwe National Malaria Control Programme (NMCP) has been implementing activities aimed at achieving malaria control targets set in the National Malaria Control Programme Strategy (NMSP) 2008-13. The NMCP has found it critical to put in place mechanisms to assess progress towards achievement of these NMSP targets. It is in this spirit that the Malaria Indicator Survey (MIS) was carried out March-May of 2012.

1.5 Objectives of the MIS

Main objective of the 2012 MIS was to measure progress towards achieving the goals and targets set in the National Malaria Strategic Plan 2008-2013.

Specific objectives of the survey were:

- (a) To collect up-to-date information on coverage of the core malaria interventions included in the NMCPSP 2008-2013;
- (b) To assess malaria parasite prevalence among children aged 6-59 months;

1.6 Methodology of the MIS

1.6.1 Survey organization

National Malaria Control Programme (NMCP) coordinated and managed all MIS activities. Major activities of NMCP included operating as secretariat and technical catalyst for development of MIS protocol, supervising day-to-day operations, hosting technical committee meetings, coordination of partner activities and spearheading training, data collection, data processing, report writing and dissemination of MIS report.

In executing the MIS the NMCP worked closely with partner organizations that provided various technical and material inputs. These partners included WHO, PSI, PMI, Plan International, UNDP/Global Fund and a few others. Equally, there were Zimbabwe government departments that partnered with NMCP in execution of the MIS. These included NIHR, ZIMSTAT, units and departments in MOHCW head office, PMDs offices and districts.

PMDs provided staff that included enumerators, field supervisors and provincial supervisors. Some of the PMDs supported training and provided supervision of field activities.

A MIS technical committee that included NMCP and partners ran a MIS command centre. This command centre provided technical support and guidance to MIS field operations. The technical committee met regularly to facilitate communication among partners, reviewed progress on MIS implementation and ensured that agreed targets were met. Members of the technical committee carried out field supervisory visits during MIS data collection.

1.6.2 Study Design Overview

Zimbabwe is administratively divided into eight rural and two urban provinces. Rural provinces are in turn subdivided into districts. Each district is further subdivided into wards and villages. Wards are subdivided into enumeration areas (EAs). An EA is the smallest working unit in any census or survey operation that can be easily covered by one interviewer or team in one day. The 2012 MIS utilized frame of EAs from the Zimbabwe Master Sample (ZMS2002) created after the 2002 population census. MIS was carried out among household populations of the eight rural provinces of Zimbabwe namely Manicaland, Mashonaland Central, Mashonaland East, Mashonaland West, Matabeleland North, Matabeleland South, Midlands and Masvingo. The survey was designed to be a representative probability sample to produce estimates for the country.

The MIS had two main activities. The first activity was that of administration of two questionnaires in 59 districts while the second activity was that of determining parasite prevalence among children aged 6-59 months in the same districts.

1.6.3 Target survey population

The target population for the 2012 MIS was women of child bearing age (i.e. 15-49 years) and all children aged 06-59 months living in malaria transmission areas.

MIS targeted all households selected in the EAs. In selected households the household heads were interviewed to provide information on household members, ages, socio-economic status and other malaria related information. Children aged under 5 years had blood obtained from them through a finger prick for testing Malaria parasite and anaemia. Women aged 15-49 years were interviewed (using a women's questionnaire) to collect information on their reproductive history, use of IPTp, management of fever in under5s, access to treatment for under 5s with fever etc.

1.6.7 Sample design

A two stage probability sampling design was used. In the first stage every EA within the malaria transmission areas was assigned a measure of size equal to the number of households or population in the EA. In each stratum a sample of EAs was selected independently with probability proportional to this measure of size. In the selected EAs a listing and mapping exercise was carried out for all dwellings and households. From the listed households or dwellings 20 households were selected by equal probability, systematic sampling in the second stage.

1.6.8 Sampling frame

EAs were utilized as the sampling frame for the 2012 MIS. The number of households in each EA was used as a measure of size for selecting primary sampling units. For the 2012 MIS the sampling frame was based on the complete frame of EAs from the Zimbabwe Master Sample (ZMS2002) created after the 2002 population census for each of the survey districts.

1.6.9 Frame stratification

In order to increase efficiency of the sample design for MIS 2012 the sampling frame of EAs was divided into strata that are as homogenous as possible. Districts within a province were stratified according to the following two level of malaria transmission:

1. Areas with malaria transmission

2. Areas free of malaria transmission

Districts with similar level of transmission were grouped into a single stratum. At the first sampling stage the sample EAs were selected independently within each explicit stratum. In the 2012 MIS all rural districts were categorized as Malaria transmission areas and therefore grouped into a single transmission stratum while urban areas were deemed Malaria free thus were excluded from the MIS.

1.6.10 Sample Selection

The sample selection methodology for the MIS 2012 was based on a two-stage sample design.

(a) Systematic selection of EAs

Using a systematic random sample selection of the 2002 census sampling frame ZimStat selected 327 EAs from rural provinces of Zimbabwe for inclusion in the MIS. Selection of the EAs within provinces was done proportionately to the provincial population.

The table below indicates EAs allocated per each of the rural provinces of Zimbabwe.

Table 1.2

Allocation of EAs per province

Province	No. of EAs
Manicaland	48
Mashonaland Central	40
Mashonaland East	46
Mashonaland West	38
Matabeleland North	33
Matabeleland South	33
Midlands	44
Masvingo	45
Total	327

(b) Systematic selection of households

Second stage sampling was conducted using personal digital assistants (PDAs) fitted with global positioning systems (GPS). In EAs included in the MIS all households were listed or mapped using PDAs. PDAs used equal probability systematic sampling selection procedure to identify households to be included in the MIS. A simple random sample of twenty (20) households per EA was selected for inclusion in the MIS. Every effort was made to ensure that interviews were conducted in all selected households.

Where there were no occupants in selected households or a household refused to be interviewed, the supervisor substituted the household with one of the alternative households selected.

1.6.11 Sample determination

Appropriate sample size for MIS was defined as the minimum number of persons (e.g. children aged under 5 years that had fever in two weeks preceding the survey) within malaria transmission areas for whom desired precision could be achieved for core indicators, at the national level.

1.6.12 Questionnaires

Two questionnaires were used for the MIS, the household questionnaire and the women's questionnaire. These questionnaires were based on the model questionnaires developed by MEASURE DHS+ programme and adopted and recommended for use by the RBM MERG Task Force on Household Surveys. They were further adapted for use in Zimbabwe by an NMCP technical subcommittee charged with this task.

The household questionnaire was used to list all usual members and visitors of the selected households. Characteristics of each person, included in the study, that were collected were age, sex, and level of education. Relationship of each person to the head of household was also sought. Household questionnaire also identified women that were eligible for inclusion in the study. Information on household characteristics was collected by use of household questionnaire. These characteristics were sources of water for domestic use, toilets, building materials used to erect dwellings etc. Malaria-specific issues covered in the household questionnaire included:

- a) Indoor residual house spraying; and
- b) LLINs, including household possession.

The women's questionnaire was used to collect information from all eligible women aged 15-49. The following topics were included:

- a) Demographic characteristics
- b) Reproduction, birth history, pregnancy status
- c) General malaria knowledge
- d) Intermittent preventive treatment for pregnant women; and
- e) Fever prevalence among children under five and treatment with antimalarials

Both questionnaires were translated into the local languages, Shona and Ndebele.

1.6.13 Personal digital assistants (PDAs)

In EAs that had been selected for the MIS PDAs were used for the second stage sampling procedure that included household listing and selection of households to be included in the study. A GPS navigation component of the PDA facilitated field staff to pinpoint selected households thus enabling return to selected households for interviews.

PDAs were used for recording of questionnaire and malaria parasite and anaemia testing results.

One type of PDAs was used: HP iPad. Programming of the questionnaire on the PDA was done for the Windows Mobile 5.0 operating system using Visual Basic by the Centers for Disease Control and Prevention, Atlanta, USA.

1.6.14 Community sensitization

To prepare communities for the MIS a series of community sensitization measures were undertaken. These included:

- Sensitization of national political and health leaders by the NMCP. Targets include Minister and Deputy Minister of Health and Child Welfare, Permanent Secretary, All Principal Directors, Directors, PMDs etc.
- Provincial and district meetings with political and community leaders. This effort was led by Provincial Medical Directors.
- Disseminating information on the MIS by DHE members during supervision visits to local communities
- A general information flyer for districts and local communities. Information covered in the flyer included purpose of the effort, the procedures and the need/ importance for the population to participate.
- The electronic media was also used to sensitize the population.

1.6.15 Training, pre-test activities and field work

Data collection was carried out in March and April 2012. Each enumeration team was made up of four health professionals. The health professionals were selected by PMDs from the districts represented within the sampling frame. These health professionals included registered nurses, laboratory scientists and EHTs and were responsible for conducting household interviews. Teams were assigned to each of the eight rural provinces in Zimbabwe.

Training was conducted by NMCP with technical inputs from World Health Organization (WHO), Population Services International (PSI), President's Malaria Initiative (PMI), National Institute of Health

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Research (NIHR), and Zim Stat. Training included sessions on survey background, methods on survey conduct, the questionnaires, testing procedures, and household sampling procedures. Participants had training and exposure on use of PDAs that were used for data collection. PDA training covered various aspects of use and maintenance, including procedures for daily backing up of data and battery charging. NIHR staff spearheaded training on RDT and anemia testing, and preparation of blood slides and their staining.

At the end of the training a field pre-test of all survey procedures was performed by all teams. The pretest was carried out in an EA that was not included in the MIS. In this EA teams performed household listing, selection and interviews. Children aged 06-59 months had RDTs and were tested for anaemia. Blood smears for testing Malaria parasites were made and stained. Various aspects of data extraction from PDAs and backup/storage were practiced.

1.6.16 Malaria parasite and Anaemia testing

All health professionals that carried out household interviews were trained to conduct anaemia and malaria parasite testing on children aged 6-59 months selected for the study. Blood for carrying out these tests was obtained through finger pricks. Three tests were performed on blood from a single finger prick. These were anaemia testing using HemoCue® photometer, and malaria parasite testing using both First Response rapid diagnostic tests (RDTs) and thick and thin blood smears. HemoCue® photometer and RDT testing were carried out according to manufacturers' recommendations. Thick and thin smears were fixed after drying and were both stained the same day using Giemsa stain. At the National Institute for Health Research all stained slides were read by two independent microscopists masked from RDT results. Parasite densities were calculated by counting the number of asexual stage parasites/100 white blood cells (WBCs), assuming 8000 WBCs/dl of blood. Blood smears were considered negative if no parasites were found after counting 100 fields.

1.6.17 Diagnostic and treatment algorithm

Children aged between 6-59 months in the selected households were bled to test for malaria parasites as well as anaemia, and those found to be RDT positive were treated with Artemether-Lumefantrine (Coartemether). RDT positive children that already had had treatment with Coartemether within two weeks preceding the survey and still had clinical signs of malaria were referred for further treatment with quinine. Both haemoglobin and RDT results were shared with the parents/guardians of the children. For children that had haemoglobin levels <8g/dl the parents or guardians were given written results and referred to a health centre for further management of the anaemia. Survey nurses referred children that

were found to be seriously ill as per IMCI guidelines to the nearest health facility using the field survey vehicle.

1.6.18 Data Processing

Data from the survey was stored in Access Data Base (Version 10) and analyzed using STATA (Version 12.0) and SPSS (Version 21.0) software.

1.7 Ethical Considerations

Ethical approval for the survey was obtained from the Medical Research Council of Zimbabwe.

Informed consent was sought from the head of the household to administer the questionnaires. Signed consent was also sought from the parents/guardians of children aged 6-59 months before obtaining blood from them for Hb, RDTs and Blood slide. Where consent was not obtained for either interviewer laboratory procedures, such interview and/or laboratory procedures were not carried out. Strict confidentiality was maintained in relation to information obtained from interviewees on this survey.

Children that were found to be ill due to low haemoglobin and/or had a positive RDT were treated for malaria immediately and also referred to a health facility for management of anemia.

CHAPTER 2

DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS OF THE POPULATION

The 2012 Zimbabwe MIS collected information on demographic and socio-economic characteristics of the population that was included in the study. Also collected was information on housing facilities and building materials which was used to construct asset-based wealth index.

The household questionnaire collected information on all persons that are usually resident in households that were included in the MIS and visitors that spent the night in these household in the night preceding the survey.

2.1 Population by age and sex

Tables 2.1 and 2.2 indicate age, gender and province of residence of population from households included in the survey while table 2.3 indicates age and gender of the whole of that same population. Figure 4 is a pyramid of this same population that was included in the survey. Women and men accounted for 52% and 48% of the population respectively; and thus there were more women than men. Children aged <5 years accounted for 13.9% of the population while those aged <15 years were 43.5%. In the ages 40-69 years the proportion of women was much higher than that of men. This is mostly pronounced in age groups 50-54 years and 55-59 years

Table 2.1: Percentage distribution by age and sex and by selected provinces

	Manicaland			Mashonaland Central			Mashonaland East			Mashonaland West		
	Gender			Gender			Gender			Gender		
Age group in years	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 -4 y	51%	49%	572	45%	55%	398	47%	53%	465	47%	53%	499
5 -9	55%	45%	586	53%	47%	388	47%	53%	531	48%	52%	489
10 -14	49%	51%	578	53%	47%	390	49%	51%	485	51%	49%	474
15 -19	58%	42%	391	52%	48%	301	52%	48%	378	56%	44%	384
20 -24	46%	54%	307	45%	55%	217	48%	52%	272	49%	51%	266
25 -29	50%	50%	261	52%	48%	241	49%	51%	264	44%	56%	251
30 -34	51%	49%	224	49%	51%	187	47%	53%	202	51%	49%	213
35 -39	49%	51%	170	50%	50%	152	46%	54%	178	51%	49%	171
40 -44	43%	57%	134	48%	53%	120	47%	53%	133	55%	45%	107
45 -49	44%	56%	95	39%	61%	62	53%	47%	100	42%	58%	69
50 -54	25%	75%	130	36%	64%	73	27%	73%	124	30%	70%	110
55 -59	36%	64%	121	38%	62%	91	35%	65%	115	30%	70%	94
60 -64	37%	63%	105	39%	61%	69	45%	55%	80	43%	57%	77
65 -69	34%	66%	83	51%	49%	45	51%	49%	77	53%	47%	57
70 -74	38%	62%	73	45%	55%	31	47%	53%	55	66%	34%	47
75 -79	44%	56%	52	52%	48%	25	53%	47%	38	48%	52%	44

>80	45%	55%	38	46%	54%	39	43%	57%	60	50%	50%	54
Total	49%	51%	3920	49%	51%	2829	47%	53%	3557	49%	51%	3406

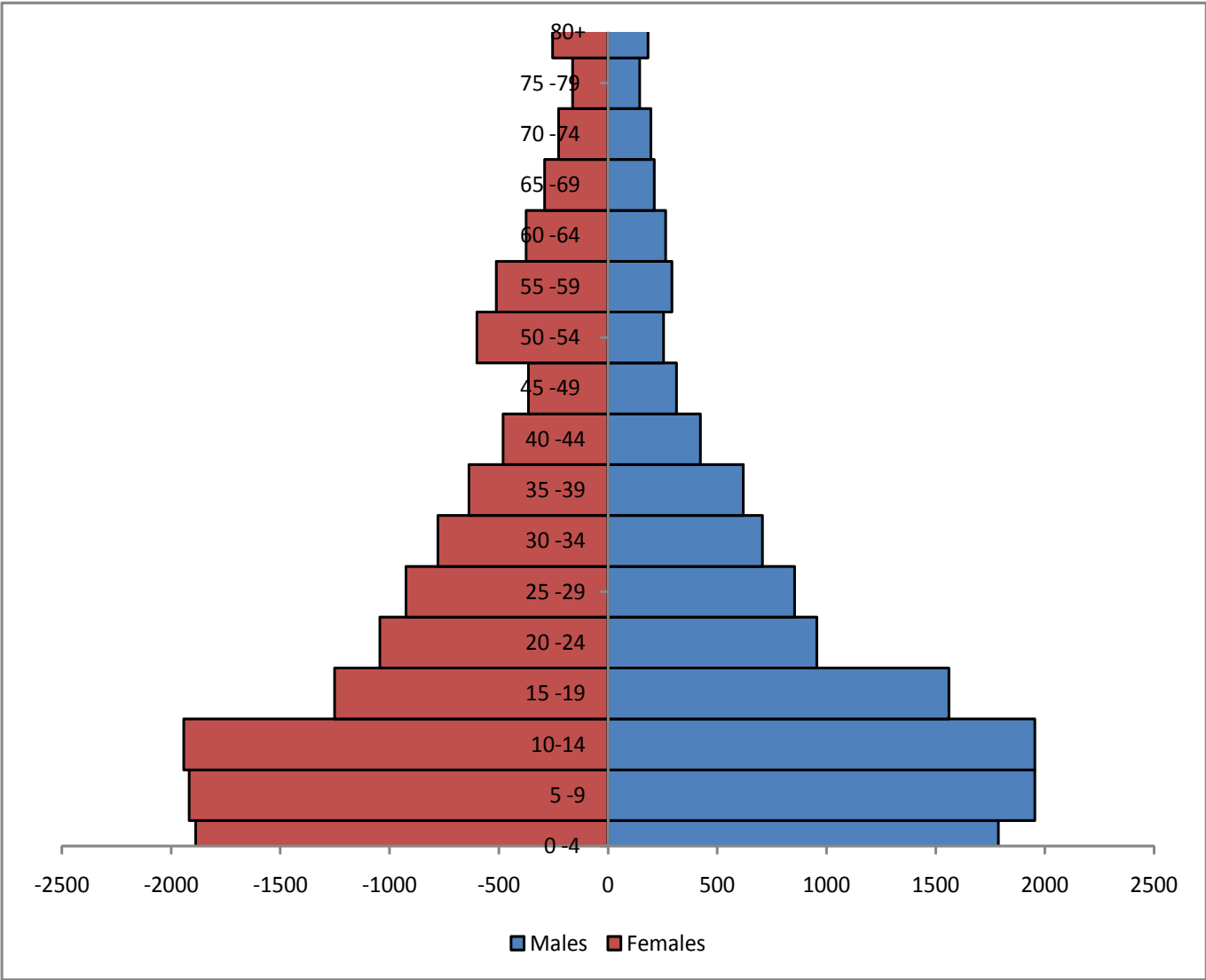
Table 2.2: Population by age and sex for selected provinces

	Matabeleland North			Matabeleland South			Midlands			Masvingo		
	Gender			Gender			Gender			Gender		
Age group (in years)	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 -4	50%	50%	529	51%	49%	294	44%	56%	418	54%	46%	499
5 -9	48%	52%	459	49%	51%	321	51%	49%	542	52%	48%	556
10 -14	50%	50%	458	54%	46%	333	47%	53%	579	50%	50%	599
15 -19	53%	47%	322	57%	43%	297	60%	40%	310	56%	44%	429
20 -24	46%	54%	258	51%	49%	191	48%	52%	245	50%	50%	244
25 -29	45%	55%	167	50%	50%	146	44%	56%	217	50%	50%	232
30 -34	46%	54%	164	58%	43%	80	44%	56%	219	40%	60%	197
35 -39	48%	52%	132	47%	53%	88	52%	48%	183	51%	49%	183
40 -44	49%	51%	89	32%	68%	77	52%	48%	127	45%	55%	116
45 -49	40%	60%	72	52%	48%	92	48%	52%	85	47%	53%	103
50 -54	25%	75%	97	26%	74%	73	34%	66%	143	36%	64%	105
55 -59	37%	63%	94	38%	62%	65	37%	63%	108	39%	61%	117
60 -64	44%	56%	86	39%	61%	57	44%	56%	78	40%	60%	87
65 -69	31%	69%	49	33%	67%	51	49%	51%	59	38%	62%	81
70 -74	57%	43%	47	47%	53%	53	30%	70%	54	47%	53%	62
75 -79	32%	68%	28	68%	32%	28	58%	43%	40	33%	67%	52
>80	43%	57%	61	38%	63%	48	35%	65%	71	40%	60%	65
Total	47%	53%	3112	49%	51%	2294	47%	53%	3478	49%	51%	3727

Table 2.3: Age and gender of the all population included in the survey

Age group (in years)	Gender		Population
	Male	Female	Total
0 -4	49%	51%	3674
5 -9	50%	50%	3872
10 -14	50%	50%	3896
15 -19	56%	44%	2812
20 -24	48%	52%	2000
25 -29	48%	52%	1779
30 -34	48%	52%	1486
35 -39	49%	51%	1257
40 -44	47%	53%	903
45 -49	46%	54%	678
50 -54	30%	70%	855
55 -59	36%	64%	805
60 -64	41%	59%	639
65 -69	42%	58%	502
70 -74	46%	54%	422
75 -79	47%	53%	307
>80 y	42%	58%	436
Total	48%	52%	26323

Figure 4: Pyramid of population included in the study



2.2 Household Composition

Table 2.4 indicates household composition by sex and province of residence while table 2.5 shows household size by province of residence. Both sex composition and household sizes are somewhat similar across all provinces.

Table 2.4: Sex Composition by province

Demographic Characteristic	Province								Total
	Manicaland	Mash Central	Mash East	Mash West	Mat North	Mat South	Midlands	Masvingo	
Sex									
Male	48.5%	48.8%	46.9%	48.5%	47.0%	49.2%	49.1%	47.4%	48.2%
Female	51.5%	51.2%	53.1%	51.5%	53.0%	50.8%	50.9%	52.6%	51.8%
Total	3920	2829	3557	3406	3112	2294	3727	3478	26323

Table 2.5: Household size by province

Household size	Province															
	Manicaland		Mashonaland Central		Mashonaland East		Mashonaland West		Masvingo		Matabeleland North		Matabeleland South		Midlands	
1	107	11.1%	48	7.0%	135	15.1%	40	5.4%	123	13.8%	42	6.6%	44	8.8%	42	5.5%
2	140	14.6%	81	11.8%	104	11.6%	90	12.1%	136	15.2%	70	11.1%	75	15.0%	81	10.6%
3	170	17.7%	157	22.9%	150	16.8%	130	17.5%	164	18.4%	93	14.7%	70	14.0%	111	14.5%
4	186	19.4%	141	20.5%	188	21.1%	146	19.6%	153	17.1%	98	15.5%	81	16.2%	144	18.8%
5	153	15.9%	119	17.3%	122	13.7%	116	15.6%	124	13.9%	96	15.2%	75	15.0%	104	13.6%
6	80	8.3%	71	10.3%	93	10.4%	95	12.8%	86	9.6%	79	12.5%	65	13.0%	119	15.5%
7	50	5.2%	41	6.0%	38	4.3%	48	6.5%	63	7.1%	64	10.1%	32	6.4%	76	9.9%
8 and above	75	7.8%	29	4.2%	63	7.1%	79	10.6%	44	4.9%	91	14.4%	59	11.8%	89	11.6%
Total	961	100.0%	687	100.0%	893	100.0%	744	100.0%	893	100.0%	633	100.0%	501	100.0%	766	100.0%

2.3 Household environment

Table 2.6: Housing characteristics

Water		
Tubewell/Borehole	2433	40.0%
Unprotected well	1530	25.2%
Protected well	1026	16.9%
River/stream/Dam/lake/pond/canal/ irrigation channel)	425	7.0%
Public tap/standpipe	245	4.0%
Unprotected Spring	161	2.6%
Piped into yard or plot	112	1.8%
Piped into dwelling	80	1.3%
Protected Spring	56	.9%
Other water sources e.g. Rain water collection, Tanker	10	.2%
Total	6078	100.0%
Toilet		
No facilities/bush/ field	2618	43.1%
Ventilated Improved Pit latrine (VIP)(Blair toilet)	1347	22.2%
Pit latrine with slab	1104	18.2%
Pit latrine without slab/open pit	749	12.3%
Flush to pit (latrine)	130	2.1%
Flush to piped sewer system	55	.9%
Flush to septic tank	38	.6%
Other, specify in comment	17	.3%
Flush to somewhere else	13	.2%
Flush to unknown place/not sure/ Flush to unknown place/not sure/DK where	6	.1%
Bucket toilet	1	.0%
Total	6078	100%

Tables 2.6 and 2.7 indicate characteristics of houses that were included in the survey. Table 2.6 describes sources of drinking water and sanitation facilities used by the survey population. Table 2.7 describes types of house floors and roofs, domestic fuel used in the houses, and availability of electricity in the houses. Commonest sources of drinking water are tube wells/boreholes (40%) and unprotected wells (25.2%). Most houses have no toilet facilities (43.1%). VIP and pit latrines are found in 22.2% and 18.2% of houses respectively. Floors in houses are mostly made of cement (54.5%) or earth/sand (43.2%) while

the commonest roof types are sticks and mud (48.4%), and calamine/cement fibre (36.9%). Wood is the commonest domestic fuel used and accounts for 96.3% of all fuels used in households. Electricity is available and in use in 7.2% of houses surveyed.

Table 2.7: Household Characteristics (continued)

Floor	Households	%
Cement	3314	54.5%
Earth/sand	2626	43.2%
Ceramic tiles	78	1.3%
Parquet or polished wood	21	.3%
Other	19	.3%
Wood planks	10	.2%
	10	.2%
Total	6078	100.0%
Roof Type		
Sticks and mud	2944	48.4%
Calamine/cement fiber	2243	36.9%
Corrugated iron	544	9.0%
Thatch/Leaf	101	1.7%
Cement/concrete	98	1.6%
	92	1.5%
Roofing shingles	30	.5%
Rustic mat/plastic sheet	14	.2%
Wood	6	.1%
Other	4	.1%
Wood planks	2	.0%
Total	6078	100.0%
Cooking fuel		
Wood	5856	96.3%
Electricity	186	3.1%
Kerosene/ Paraffin	12	.2%
Charcoal	7	.1%
Other, specify in comment	5	.1%
Gel	4	.1%
Straw/Shrubs/grass	3	.0%
Biogas	2	.0%
Natural Gas	1	.0%
Liquefied Petroleum Gas (LPG)	1	.0%
Animal waste	1	.0%
Total	6078	100.0%
Household has electricity		
Yes	436	7.2%
Total	6078	100.0%

2.4 Household possessions

Table 2.8 shows basic durable goods available in households that were surveyed. Majority of households had mobile phones (63.3%), radios (43%) and televisions (20%). Some 35% of households had solar panels.

Table 2.8: Household durable goods

Types of goods	Count	%
Radio	2645	43.5%
TV	1216	20.0%
Cell Phone	3849	63.3%
Fixed Phone	23	0.4%
Refrigerator	195	3.2%
Computer	47	0.8%
Solar Panel	2132	35.1%
Battery Generator	1901	31.3%

2.5 Wealth index

Table 2.9: Percent distribution of population by wealth quintiles in provinces

Province	Lowest	Second	Middle	Fourth	Highest	Population
Manicaland	15.9	22.3	26.0	18.5	17.4	3913
Mashonaland Central	12.3	20.5	23.1	20.0	24.1	2813
Mashonaland East	19.2	18.7	19.5	15.8	26.8	3548
Mashonaland West	17.8	18.1	20.1	21.8	22.2	3402
Masvingo	23.6	24.4	20.6	11.2	20.1	3474
Matabeleland North	20.5	25.7	24.5	16.4	12.9	3109
Matabeleland South	32.1	25.6	19.2	13.8	9.3	2285
Midlands	28.3	25.2	22.1	17.8	6.6	3717
Missing	0.0	0.0	0.0	0.0	0.0	62
Total	20.9	22.4	22.0	16.9	17.5	26323

Table 2.10: Percent distribution of households by wealth quintiles

Province	Lowest	Second	Middle	Fourth	Highest	Households
Manicaland	12.8	18.6	25.2	20.6	22.8	961
Mashonaland Central	10.8	19.4	20.5	20.8	28.5	687
Mashonaland East	15.6	16.5	17.5	15.7	34.8	893
Mashonaland West	14.7	15.1	19.6	22.8	27.8	744
Masvingo	18.8	21.3	18.3	12.7	29.0	893
Matabeleland North	17.7	21.5	24.5	18.0	18.3	633
Matabeleland South	27.1	23.0	19.4	17.0	13.6	501
Midlands	25.1	24.5	22.2	18.5	9.7	766
Total	17.3	19.7	20.9	18.2	23.9	6078

2.6 Characteristics of women respondents

2.6.1 General characteristics of women

Table 2.11: Demographic characteristics of women aged 15-49 years

Characteristics	Number of women	%
Age group		
15 -19 years	1190	21.6%
20 -24 years	1080	19.6%
25 -29 years	954	17.3%
30 -34 years	806	14.6%
35 -39 years	653	11.8%
40 -44 years	485	8.8%
45 -49 years	349	6.3%
Total	5517	100.0%
School Level		
Secondary	2744	49.7%
Primary	1813	32.9%
Tertiary	87	1.6%
Level of education not indicated	873	15.8%
Religion		
Christian	2227	40.4%
Pentecostal	1131	20.5%
Apostolic Masowe	740	13.4%
Not stated	707	12.8%
No Religion	385	7.0%
Apostolic Marange	139	2.5%
Other, specify in comment	104	1.9%
Traditional	70	1.3%
Moslem	14	.3%
Total	5517	100.0%
Province		
Manicaland	811	14.7%
Midlands	778	14.1%
Mashonaland East	767	13.9%
Mashonaland West	749	13.6%
Masvingo	717	13.0%
Mashonaland Central	624	11.3%
Matabeleland North	579	10.5%
Matabeleland South	492	8.9%
Total	5517	100.0%

Table 2.11 shows demographic characteristics of women respondents aged 15- 49 years. Majority of these women were aged 15-34 years (73.1%). Some 60% of these women were of Christian and Pentecostal religions. 82.6% of the women had had primary and secondary school level education.

2.6.2 Education attainment of women of child bearing age (15-49 years)

Table 2.12: Educational attainment of women aged 15-49 years

Demographic characteristics	Level of education				Number of women
	Primary (%)	Secondary (%)	Tertiary (%)	Level of education not indicated (%)	
Age group (in years)					
15 -19	13.6%	26.2%	1.1%	25.8%	1190
20 -24	18.6%	21.3%	17.2%	16.4%	1080
25 -29	17.0%	17.7%	25.3%	15.7%	954
30 -34	16.8%	13.6%	18.4%	12.9%	806
35 -39	14.0%	11.2%	23.0%	8.5%	653
40 -44	10.3%	7.6%	5.7%	9.9%	485
45 -49	9.8%	2.5%	9.2%	10.9%	349
Total	100.0%	100.0%	100.0%	100.0 %	5517
Religion					
Christian	41.0%	49.6%	64.4%	7.4%	2227
Pentecostal	20.2%	25.9%	29.9%	3.2%	1131
Apostolic Masowe	18.1%	14.1%	2.3%	2.6%	740
Not stated	0.0%	.1%	0.0%	80.8%	707
No Religion	11.4%	5.1%	3.4%	4.1%	385
Apostolic Marange	4.4%	2.1%	0.0%	.2%	139
Other, specify in comment	2.4%	2.0%	0.0%	.8%	104
Traditional	2.3%	.8%	0.0%	.8%	70
Moslem	.2%	.4%	0.0%	0.0%	14
Total	100.0%	100.0%	100.0%	100.0 %	5517
Province					
Manicaland	10.4%	14.0%	9.2%	26.2%	811
Midlands	12.2%	14.1%	4.6%	18.9%	778
Mashonaland East	11.8%	15.6%	35.6%	10.8%	767
Mashonaland West	14.6%	12.7%	8.0%	14.8%	749
Masvingo	12.5%	14.8%	20.7%	7.7%	717
Mashonaland Central	15.4%	9.8%	8.0%	7.8%	624
Matabeleland North	14.2%	10.8%	6.9%	2.2%	579
Matabeleland South	8.9%	8.1%	6.9%	11.7%	492
Total	100.0%	100.0%	100.0%	100.0 %	5517

Table 2.12 describes educational attainment of women aged 15-49 years. Tertiary level education was highest among women aged 20-39 years. Most women with no level of education were mostly aged 15-29 years. Provinces that had highest levels of no education were Manicaland and Midlands while Mashonaland East and Masvingo had women that had highest levels of tertiary education.

- (f) Factors that could affect ownership or use of nets

3.1.1 Ownership of mosquito nets by households

Table 3.1 (below) indicates ownership of mosquito nets in the 30 target districts. Some 55.7% of households had at least one net while 19.8% of households had more than one net. Average number of nets per household was 1.5. Net coverage was highest in Mashonaland East (70%) and Matabeleland North (64.4%) and least in Masvingo (43.4%) and Manicaland (49.7%).

Among households that had nets 83.3% had at least one LLIN while 31.5% had more than one LLIN. Average number of LLIN per household was 1.5. Among households that had nets all provinces had an LLIN coverage of more than 80% except Manicaland which had an LLIN coverage of 51.8%.

Overall LLIN coverage in the targets districts was far lower than the NMSP target of universal access to LLINs by all people in these districts. The 1.5 nets per household average found in these districts was also lower than the NM SP target of three LLINs per household.

Among households that had nets, coverage for conventional nets was 9.7%, a level of coverage that was far lower than that of LLINs.

In this study it was found that households of higher wealth quintiles had lower LLIN coverage compared to households of lower wealth quintiles. The explanation for this is that MoH and partners provide nets to target populations for free and so ownership of nets had probably nothing to do with levels of wealth.

Table 3.1: Ownership of mosquito nets in 30 target districts (weighted)

Province	No. of Households surveyed	No. of Households that had at least one net	% of households that had at least one net	No. of Households that had more than one net	% of households that had more than one net	Average number of nets per household	Among households that had nets						Number of bed nets
							% of households that had at least one LLIN	% of households that had more than one LLIN	Average number of LLIN per household	% of households that had at least one conventional net	% of households that had more than one conventional net	Average number of conventional nets per household	
Manicaland	660	328	49.7	86	13.0	1.3	51.8	13.9	1.3	20.7	16.3	1.2	438
Mashonaland Central	481	269	55.9	103	21.4	1.5	88.8	35.3	1.6	11.2	3.9	1.1	416
Mashonaland East	280	196	70.0	65	23.2	1.4	90.3	31.2	1.4	9.7	7.7	1.4	279
Mashonaland West	444	247	55.6	128	28.8	1.8	94.3	55.4	1.8	5.7	1.6	1.2	443
Masvingo	535	232	43.4	40	7.5	1.2	81.5	17.0	1.2	5.6	2.5	1.1	283
Matabeleland North	519	334	64.4	152	29.3	1.6	89.2	42.5	1.6	8.1	7.9	1.6	538
Midlands	402	244	60.7	83	20.6	1.5	96.3	32.2	1.5	3.7	1.2	1.1	368
Total	3321	1850	55.7	657	19.8	1.5	83.3	32.2	1.5	9.7	5.9	1.3	2765
Wealth quintiles													
Lowest	528	344	65.2	164	31.1	1.7	86.3	43.2	1.7	8.1	3.7	1.3	591
Second	701	445	63.5	174	24.8	1.6	80.7	36.4	1.6	10.1	8.0	1.4	691
Middle	765	442	57.8	150	19.6	1.5	84.6	29.0	1.5	8.4	4.7	1.2	645
Fourth	625	326	52.2	106	17.0	1.4	85.9	31.4	1.5	8.9	4.7	1.2	465
Highest	702	293	41.7	63	9.0	1.2	78.8	17.0	1.3	14.0	11.1	1.2	373
Total	3321	1850	55.7	657	19.8	1.5	83.3	32.2	1.5	9.7	5.9	1.3	2765

3.1.2 Sources of Nets for the 30 Target Districts.

Table 3.2: Distribution sites for nets in 30 target districts (weighted)

	Sources of mosquito nets (%)								
Province	Government health facility	CHW	Mission facility	Private facility	Retail shop	Workplace	Other	Don't know	Households that had nets
Manicaland	64.7	0.0	1.3	1.4	5.7	0.0	5.1	1.3	328
Mashonaland Central	74.5	0.0	0.0	1.2	3.6	0.0	0.2	0.0	269
Mashonaland East	70.1	0.0	0.0	1.1	2.3	0.0	0.0	0.0	196
Mashonaland West	42.7	0.0	0.0	0.0	5.2	0.0	1.1	0.0	247
Matabeleland North	94.1	0.3	0.0	0.2	1.9	0.0	0.6	0.5	232
Midlands	90.0	0.0	3.1	2.0	1.9	0.6	0.7	0.0	334
Masvingo	71.6	0.0	0.0	7.6	8.0	1.1	3.8	0.7	244
Total	72.3	0.0	0.7	1.7	4.1	0.2	1.8	0.4	1850
Wealth quintiles									
Lowest	80.3	0.0	0.7	1.6	3.3	0.4	1.2	0.0	344
Second	72.3	0.2	0.6	1.5	4.5	0.0	1.7	0.5	445
Middle	75.3	0.0	0.9	0.7	3.3	0.0	1.3	1.0	442
Fourth	70.8	0.0	0.8	1.8	1.2	0.0	1.6	0.0	326
Highest	58.7	0.0	0.8	4.1	9.6	0.9	4.3	0.3	293
Total	72.3	0.0	0.7	1.7	4.1	0.2	1.8	0.4	1850

In target districts government and partners distribute nets to the populace from specific sites. Table 3.2 indicates sites from which the population got their nets from. This MIS found that nets were predominantly accessed from government health facilities (72.3%). Some 18.5% of respondents that got nets during mass campaigns could not remember specific distribution sites from which they got their nets and are therefore not included in table 3.2. Exclusion of these respondents from this table means that the percentages do not add up to 100%. Table 3.3 below shows that 8% of households with nets purchased them. In Zimbabwe 99.9% of nets are provided to the population for free by government and its partners. A few years ago some of the partners that included UNICEF and others required recipients of nets to pay some minimal fee of sorts which would go into a revolving fund that

was meant to sustain costs of distribution of the nets. This is not a recent occurrence but some members of the population understood that to mean that they purchased their nets.

Table 3.3: Purchase of mosquito nets in 30 target districts (weighted)

	Mosquito net purchased			
Province	Yes	No	Don't know	Households
Manicaland	11.4	87.8	0.7	328
Mashonaland Central	7.2	92.8	0.0	269
Mashonaland East	12.2	87.8	0.0	196
Mashonaland West	5.2	94.8	0.0	247
Matabeleland North	3.7	95.7	0.6	232
Midlands	6.0	94.0	0.0	334
Masvingo	12.0	86.9	1.1	244
Total	8.0	91.6	0.4	1850
Wealth quintiles				
Lowest	7.1	92.9	0.0	344
Second	8.7	91.1	0.3	445
Middle	6.8	92.7	0.5	442
Fourth	6.0	94.0	0.0	326
Highest	12.9	85.8	1.3	293
Total	8.0	91.6	0.4	1850

3.1.3 Utilization of mosquito nets by children aged < 5 years

Table 3.4: Under fives that slept under a net the night preceding the survey in 30 target districts (weighted)

Age groups in months	No. of Under fives surveyed	No. of Under fives that slept under a net	% of under fives that slept under a net	Of the under fives that slept under a net		
				% that slept under LNIN	% that slept under a conventional net	% whose mothers don't know type of net under fives slept under
< 12	237	134	57.2	84.4	10.3	5.3
12-23	296	169	58.7	84.2	8.7	7.1
24-35	220	122	57.9	89.6	4.1	6.3
36-47	240	146	61.6	84.6	10.0	5.4
48-59	222	133	61.9	86.4	10.2	3.5
Total	1215	704	59.4	85.7	8.7	5.6
Sex						
Male	604	352	60.5	85.1	8.6	6.3
Female	611	352	58.3	86.3	8.9	4.9
Total	1215	704	59.4	85.7	8.7	5.6
Province						
Manicaland	210	104	53.2	52.1	19.0	28.9
Mashonaland Central	162	100	60.9	91.6	8.4	0.0
Mashonaland East	107	67	66.0	88.8	11.2	0.0
Mashonaland West	159	128	78.4	94.3	5.7	0.0
Matabeleland North	267	136	52.2	88.1	9.9	2.1
Midlands	171	113	65.9	98.1	1.9	0.0
Masvingo	139	56	38.4	88.7	6.6	4.7
Total	1215	704	59.4	85.7	8.7	5.6
Wealth quintiles						
Lowest	218	115	50.9	85.6	10.8	3.6
Second	282	160	61.5	86.0	9.4	4.7
Middle	306	182	59.5	87.6	6.1	6.2
Fourth	248	151	63.7	87.3	5.9	6.8
Highest	161	96	61.4	78.2	15.5	6.3
Total	1215	704	59.4	85.7	8.7	5.6

Table 3.4 shows use of mosquito nets among under fives in the 30 target districts on the night preceding the survey. Some 59.4% of under fives slept under a net the night before the survey. Proportions of under fives that slept under nets were just about the same in children of all age groups. Utilization of nets by under fives was over 60% in Mashonaland Central, Mashonaland East, Mashonaland West and Midlands while utilization was 52-53% in Matabeleland North and Manicaland. Masvingo had the lowest level of net utilization of 38.4%. Across all levels of mothers' education and household wealth quintile levels there seemed not to be major differences in the utilization of nets by under fives.

Among under fives that slept under the net night before the survey 85.7% slept under a LLIN while 8.7% slept under a conventional net. Among children that slept under a net over 85% of them slept under LLINs in all provinces except Manicaland where only 52.1% of the under fives slept under LLINs.

3.1.4 Utilization of nets by women of child bearing age

Table 3.5: Women of child bearing age that slept under a net the night preceding the survey in the 30 target districts (weighted)

Age groups in years	No. of Women of child bearing age surveyed	No. of Women that slept under a net	% of women that slept under a net	Of the women that slept under a net		
				% that slept under LLIN	% that slept under conventional net	% that don't know type of net they slept under
15-19	380	128	57.6	86.1	11.4	2.4
20-24	298	142	58.1	83.5	11.4	5.1
25-29	293	101	54.8	89.1	7.2	3.6
30-34	244	192	64.5	86.5	10.9	2.5
35-39	217	168	64.7	83.0	9.8	7.2
40-44	156	154	51.6	84.5	14.1	1.4
45-49	101	84	51.5	84.9	8.3	6.8
Total	1689	969	58.3	85.6	10.5	4.0
Level of education						
None	235	140	59.8	80.9	17.8	1.3
Primary	527	297	55.0	85.3	11.7	2.9
Secondary	762	438	60.2	86.4	8.3	5.3
Tertiary	29	16	57.5	64.7	18.6	16.8
education not indicated	136	78	57.5	94.8	3.2	2.0
Total	1689	969	58.3	85.6	10.5	4.0
Province						
Manicaland	293	214	46.9	48.1	28.2	23.7
Mashonaland Central	243	177	55.9	91.0	9.0	0.0
Mashonaland East	154	157	67.0	90.7	9.3	0.0
Mashonaland West	242	151	78.0	95.4	4.6	0.0
Matabeleland North	315	137	54.7	88.2	10.5	1.3
Midlands	237	80	64.9	95.8	4.2	0.0
Masvingo	205	53	39.6	84.3	12.4	3.3
Total	1689	969	58.3	85.6	10.5	4.0
Wealth quintiles						
Lowest	308	159	50.0	90.1	6.9	3.0
Second	414	235	59.8	87.7	9.8	2.5
Middle	433	259	59.3	85.0	10.3	4.8
Fourth	295	182	64.2	86.6	9.0	4.4
Highest	239	134	56.8	75.0	19.2	5.8
Total	1689	969	58.3	85.6	10.5	4.0

Table 3.5 shows utilization of mosquito nets by women aged 15-49 years in the 30 target districts. Some 58.3% of women slept under a net the night preceding the survey. Utilization of nets was highest

in Mashonaland West (78%) and Mashonaland East (67%) while it was lowest in Masvingo (39.6%) and Manicaland (46.9%).

Among women of women that slept under a net some 85.6% slept under LLINs while 10.5% slept under conventional nets. Among women that slept under a net use of LLINs was highest in Midlands (95.8%) and Mashonaland West (95.4%) and lowest in Manicaland (48.1%)

3.1.5 Utilization of Mosquito Nets by General Population

Table 3.6: Members of all population groups that slept under a net the night preceding the survey in 30 target districts (weighted)

Demographic characteristics	Population surveyed	Population that slept under a net	% of population that slept under a net	Of the population that slept under a net		
				% that slept under LLIN	% that slept under conventional net	% that don't know type of net they slept under
Sex						
Male	3898	2271	58.5	84.7	9.2	6.0
Female	4114	2333	57.4	84.7	10.1	5.3
Total	8012	4604	57.9	84.7	9.6	5.7
Provinces						
Manicaland	1403	632	47.5	45.0	24.0	31.0
Mashonaland Central	1105	678	58.9	88.6	11.4	0.0
Mashonaland East	795	519	67.2	89.8	10.2	0.0
Mashonaland West	1174	941	77.7	96.2	3.8	0.0
Masvingo	957	376	38.2	89.4	7.2	3.4
Matabeleland North	1349	686	51.2	84.4	11.8	3.8
Midlands	1229	772	62.2	96.9	3.1	0.0
Total	8012	4604	57.9	84.7	9.6	5.7
Wealth quintiles						
Lowest	1716	938	53.1	88.7	7.0	4.3
Second	2124	1199	58.1	84.9	9.7	5.4
Middle	1949	1177	59.9	81.9	10.9	7.2
Fourth	1309	775	61.8	86.0	8.2	5.8
Highest	914	515	56.5	80.7	14.5	4.8
Total	8012	4604	57.9	84.7	9.6	5.7

Table 3.6 shows use of mosquito nets by all population groups the night preceding the survey. Some 57.9% of the population slept under a net. Utilization of nets was highest in Mashonaland West (77.7%) and Mashonaland East 67.2%) and lowest in Masvingo (38.2%) and Manicaland (47.5%).

Among population that slept under a net 84.7% slept under LLINs while 9.6% slept under a conventional net. In all other provinces over 80% of population (that had slept under a net) slept under LLINs while in Manicaland only 45% of the population slept under LLINs.

In sections 3.1.1 (ownership of nets) and sections 3.1.3- 3.1.5 (utilization of nets) it has been show that:

- (a) Ownership of nets was lowest in Masvingo and Manicaland
- (b) Utilization of nets by underfives, women of child bearing age and members of all population groups was lowest in Masvingo and Manicaland.
- (c) Tables 3.4, 3.5 and 3.6 seem to show that utilization of mosquito nets by underfives was higher than that of other groups that included women of child bearing age and the general population.

3.1.6 Factors that could affect use or ownership of nets

3.1.6.1 Nets found hanging and reasons for not hanging nets

Table 3.7: Nets found hanging during the survey in 30 target districts (weighted)

Province	Number of households with at least one net	% of households that had nets hanged	% of households that had nets not hanged	Number of bed nets in the 30 target districts	% of bed nets found hanging	% of bed nets not found hanging
Manicaland	328	41.9	58.1	438	41	59
Mashonaland Central	269	78.7	21.3	416	82	18
Mashonaland East	196	56.7	43.3	279	53	47
Mashonaland West	247	67.4	32.6	443	71	29
Masvingo	232	51.0	49.0	283	49	51
Matabeleland North	334	53.7	46.3	538	54	46
Midlands	244	68.0	32.0	368	70	30
Total	1850	59.2	40.8	2765	61	39
Wealth quintiles						
Lowest	344	58.9	41.1	591	60	40
Second	445	57.8	42.2	691	58	42
Middle	442	59.6	40.4	645	63	37
Fourth	326	58.0	42.0	465	63	37
Highest	293	62.4	37.6	373	62	38
Total	1850	59.2	40.8	2765	61	39

Table 3.7 shows proportions of nets that were found either hanging or not in the households surveyed. Out of a total of 2765 nets found in this study 61% were found hanging while 39 % were not. Manicaland (59%) and Masvingo (51%) had the highest rates of nets found not hanging. Table 3.8 shows reasons why nets were not found hanging. In this MIS a major limitation that stood in the way of gaining a better understanding of why the population had nets that were not hanging was that 46.6% of respondents that had them not hanging did not state why nets were not hanging . Where respondents indicated reasons for hanging the nets four major reasons for this were that (a) not malaria season (16.3%), (b) no need to use net (8.4%), (c) nowhere to hang net 5.3% and (d) net difficult to hang (4.4%).

Under “other” reasons for not hanging net (14.5% of respondents) commonest reasons indicated included: net taken down for washing, net torn, house under refurbishment, net causes itchiness, net taken down daily and put up at night, net dirty, net too old to use, no mosquitoes here, one net inadequate for use by many people in one room, and no hook to hang net.

Table 3.8: Reasons why net was not hanging (weighted)

Province	Percentage of reasons indicated for not hanging the bed net										Number of households that did not hang the nets	Number of bed nets not hanged
	It is difficult to hang	No need to use it	Not malaria season	Nowhere to hang it	Traditional or religious beliefs	Used for multi purposes	User not present	Don't know how to use	Other	Reason for not hanging not stated		
Manicaland	9.1	7.0	18.9	9.1	0.0	0.3	2.5	3.5	10.9	38.7	197	265
Mashonaland Central	4.5	17.1	7.0	4.6	0.0	3.0	2.1	1.5	11.6	48.7	63	87
Mashonaland East	1.7	9.8	1.1	2.1	0.0	0.0	0.0	1.0	2.5	81.8	88	138
Mashonaland West	1.0	3.7	8.2	2.2	0.0	0.8	0.0	0.0	17.1	67.0	81	133
Matabeleland North	1.2	13.3	18.5	1.6	0.0	0.0	0.0	0.3	17.3	47.7	113	142
Midlands	1.8	7.6	21.1	3.5	0.9	1.4	0.7	4.5	37.9	20.5	156	256
Masvingo	5.4	4.6	26.4	8.4	3.3	0.0	2.3	2.2	4.8	42.6	78	106
Total	4.4	8.4	16.3	5.3	0.6	0.6	1.3	2.1	14.5	46.6	776	1127
Wealth quintiles												
Lowest	2.9	11.3	17.9	5.8	0.0	1.1	0.0	0.9	14.3	45.7	145	245
Second	3.1	7.8	14.1	4.4	1.8	0.4	0.9	0.5	15.2	51.6	198	311
Middle	4.1	7.7	17.5	4.2	0.0	0.7	2.7	3.6	13.4	45.9	178	242
Fourth	6.1	7.3	17.4	4.4	0.6	0.0	0.7	2.0	15.3	46.2	140	182
Highest	6.7	8.2	14.7	9.2	0.0	0.7	2.0	3.9	14.3	40.2	115	147
Total	4.4	8.4	16.3	5.3	0.6	0.6	1.3	2.1	14.5	46.6	776	1127

3.1.6.2 Preferred net colours and shapes

Table 3.9 : Preferred net colours in 30 target districts (weighted)

Province	Net colours					Households that had nets
	Blue	Green	White	Other	Missing	
Manicaland	54.81	27.21	15.60	0.85	1.53	328
Mashonaland Central	52.62	32.95	8.76	2.31	3.35	269
Mashonaland East	51.58	27.36	15.39	3.47	2.21	196
Mashonaland West	40.77	29.39	22.61	2.73	4.50	247
Matabeleland North	40.60	35.11	16.06	6.57	1.66	232
Midlands	43.87	20.59	28.17	3.27	4.11	334
Masvingo	58.35	19.40	19.12	2.39	0.74	244
Total	48.67	27.62	18.10	2.97	2.63	1850
Wealth quintiles						
Lowest	48.1	29.9	15.7	4.0	2.3	344
Second	48.1	25.7	22.1	2.3	1.9	445
Middle	44.9	30.6	18.5	2.6	3.4	442
Fourth	51.6	26.5	14.1	3.8	4.0	326
Highest	52.9	24.4	19.1	2.3	1.3	293
Total	48.67	27.62	18.10	2.97	2.63	1850

Table 3.10: Preferred net shapes (weighted)

	% of preferred shapes				
Province	Conical	Rectangular	Preferred shape not indicated	Other	Number of households
Manicaland	86.0	12.4	1.5	0.0	328
Mashonaland Central	88.4	8.2	3.4	0.0	269
Mashonaland East	78.9	18.9	2.2	0.0	196
Mashonaland West	76.0	19.3	4.5	0.2	247
Matabeleland North	82.1	15.7	1.7	0.6	232
Midlands	78.5	17.4	4.1	0.0	334
Masvingo	89.6	9.7	0.7	0.0	244
Total	82.9	14.4	2.6	0.1	1850
Wealth quintiles					
Lowest	82.2	15.1	2.3	0.5	344
Second	83.3	14.8	1.9	0.0	445
Middle	82.2	14.3	3.4	0.1	442
Fourth	79.1	16.9	4.0	0.0	326
Highest	89.2	9.5	1.3	0.0	293
Total	82.9	14.4	2.6	0.1	1850

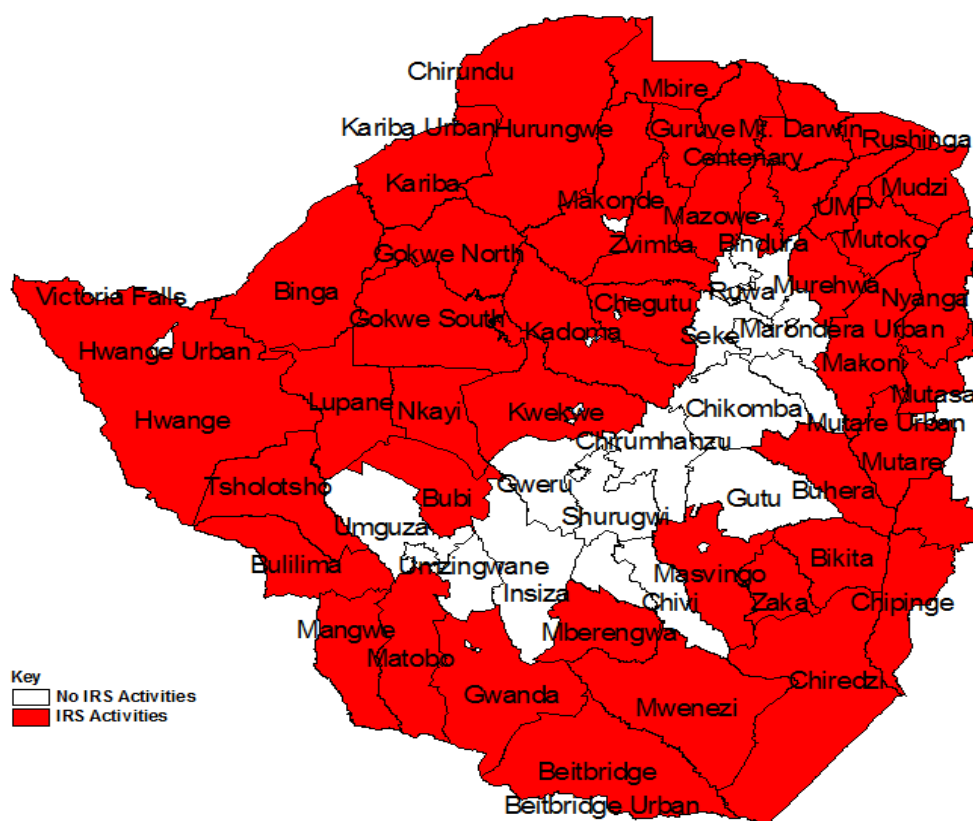
Table 3.9 shows net colours preferred by households that had nets. Three commonest colours that householders preferred were blue (48.67%), green (27.62%) and white 18.10%.

Table 3.10 shows net shapes preferred by households that had nets. Households overwhelmingly preferred nets with a conical shape (82.9%) while nets that are rectangular (14.4%) were a lesser preference.

3.2 INDOOR RESIDUAL INSECTICIDE SPRAYING

Indoor insecticide residual spraying (IRS) is one of the major facets of vector control in Zimbabwe. In the eight provinces of Zimbabwe IRS is focused in 45 target districts shown in figure 6. In these districts the NMSP 2008-2013 target for IRS is to rapidly scale up implementation of IRS to cover 90% of the population at risk. In this MIS levels of IRS coverage in the target districts were investigated, including who the providers of IRS were in these same districts.

Figure 6: 45 IRS target districts in Zimbabwe



3.2.1 Households sprayed

Table 3.11: Households sprayed in the last 12 months in the 45 IRS target districts (weighted)

Province	% Households that had houses sprayed	% Households whose houses where not sprayed	% Households where respondents didn't know whether houses had been sprayed or not	Total number of households surveyed
Manicaland	50.2	43.5	6.4	961
Mashonaland Central	47.6	43.4	9.1	687
Mashonaland East	65.6	32.2	2.2	399
Mashonaland West	36.3	59.7	3.9	761
Matabeleland North	61.0	37.0	2.0	539
Matabeleland South	51.8	44.2	4.0	368
Midlands	53.8	45.3	0.9	526
Masvingo	39.2	55.7	5.1	674
Total	48.6	46.7	4.7	4915
Wealth quintiles				
Lowest	49.8	46.5	3.7	848
Second	53.8	44.1	2.1	983
Middle	52.4	44.4	3.2	1072
Fourth	47.9	46.6	5.6	903
Highest	40.1	51.7	8.3	1109
Total	48.6	46.7	4.7	4915

Table 3.11 (above) shows the coverage of IRS in the 45 target districts. Target districts IRS coverage was 48.6%. Highest coverage rates were found in Mashonaland East (65.6%) and Matabeleland North (61.0%) while lowest coverage was found in Mashonaland West (36.3%) and Masvingo (39.2%).

3.2.2 Providers of IRS in the target districts

Table 3.12: Providers of IRS in the 45 IRS target districts (weighted)

Province	Providers of IRS				Houses sprayed
	Government programme (%)	Private company (%)	Other (%)	Don't know (%)	
Manicaland	95.4	0.7	0.0	3.9	473
Mashonaland Central	97.6	0.4	0.8	1.2	320
Mashonaland East	100.0	0.0	0.0	0.0	259
Mashonaland West	99.6	0.0	0.0	0.4	268
Matabeleland North	95.4	0.0	0.0	4.6	309
Matabeleland South	98.8	1.2	0.0	0.0	172
Midlands	90.7	0.0	0.4	8.9	298
Masvingo	78.8	14.5	0.0	6.7	267
Total	94.3	1.9	0.2	3.7	2366
Wealth quintiles					
Lowest	95.3	0.7	0.4	3.6	417
Second	96.4	0.2	0.0	3.4	512
Middle	95.5	0.3	0.0	4.2	555
Fourth	95.7	0.7	0.4	3.2	429
Highest	88.0	8.2	0.2	3.7	453
Total	94.3	1.9	0.2	3.7	2366

Table 3.12 indicates providers of IRS in the 45 target districts. Government programmes accounted for 94.3% of all IRS provided in the target districts. In all provinces government programmes provided 95.4 -100.0% of IRS services except in Midlands and Masvingo where government provided 90.7% and 78.8% of IRS services respectively. In Masvingo a private company in the Lowveld provided IRS in that region. This explains why 14.5% of IRS coverage is attributed to private company in that province.

3.3 Intermittent Presumptive Treatment in Pregnancy (IPTp)

In the 2008-2013 NMSP IPTp is focused in 30 target districts that are indicated in figure 4 below. In these districts it is anticipated that pregnant women would receive three doses of Sulfadoxine/Pyrimethamine (SP) at specific intervals during pregnancy. The target is to achieve at least 85% of IPTp two doses in pregnant women attending ANC in the 30 districts. In this MIS information was collected on ANC attendance by pregnant women and IPTp coverage among these ANC attendees.

Figure 5 IPTp target districts in Zimbabwe

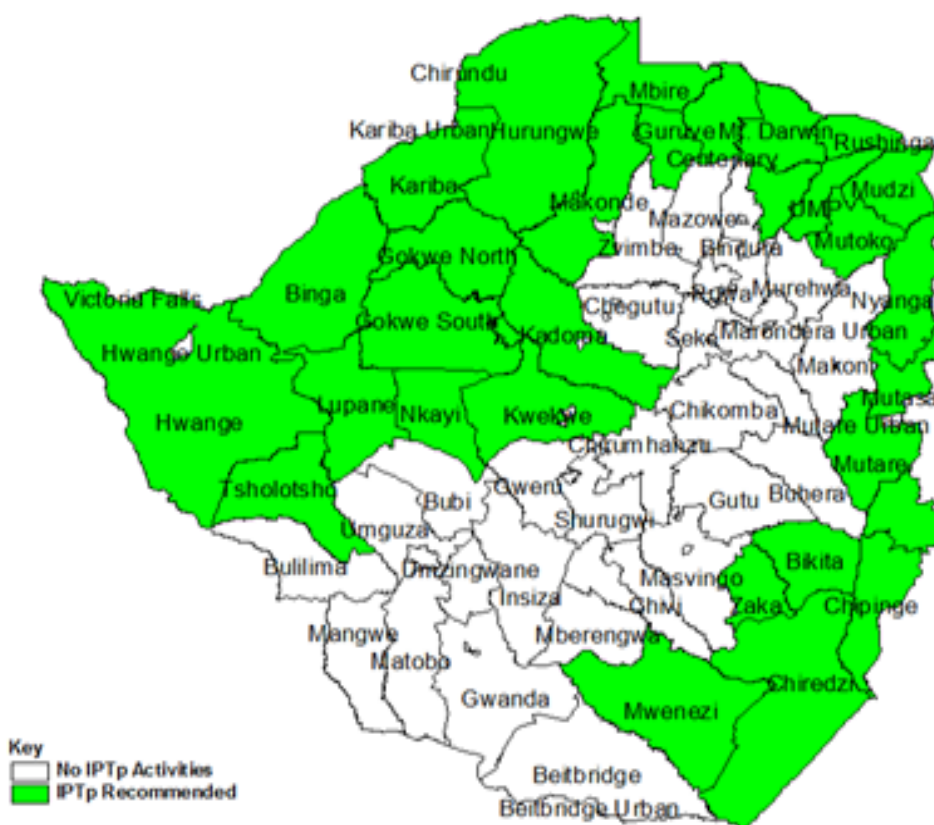


Table 3.13: Providers of ANC in the 30 target IPTp districts (weighted)

Demographic characteristics	Percentage of pregnant women that had ANC from cadres indicated below					Pregnant women that attended ANC
	Doctor	Nurse/Midwife	Traditional birth attendant	Others	Qualified health worker	
Age groups in years						
15-19	6.0	94.0	0.0	0.0	100	74
20-24	5.3	94.2	0.0	0.5	99.5	226
25-29	1.6	96.9	0.7	0.8	98.5	220
30-34	5.9	93.3	0.8	0.0	99.2	182
35-39	2.1	96.1	0.9	0.9	98.2	107
40-44	15.0	85.0	0.0	0.0	100.0	39
45-49	0.0	100.0	0.0	0.0	100.0	10
Total	4.6	94.5	0.5	0.5	99.1	858
Province						
Manicaland	1.8	97.3	0.0	0.9	99	189
Mashonaland Central	0.0	100.0	0.0	0.0	100	20
Mashonaland East	1.8	98.2	0.0	0.0	100	75
Mashonaland West	9.2	89.2	1.6	0.0	98	146
Masvingo	5.6	93.4	1.1	0.0	99	155
Matabeleland North	4.7	95.3	0.0	0.0	100	138
Midlands	3.8	95.0	0.0	1.2	99	135
Total	4.5	94.5	0.5	0.5	99	858
Level of education						
None	0.0	100.0	0.0	0.0	100	31
Primary	4.7	93.3	0.9	1.0	98	320
Secondary	4.8	94.9	0.2	0.1	100	494
Tertiary	3.3	96.7	0.0	0.0	100	13
Total	4.6	94.5	0.5	0.5	99	858
Wealth quintiles						
Lowest	7.9	91.4	0.0	0.8	99	126
Second	5.3	93.2	0.9	0.6	100	173
Middle	1.8	97.9	0.0	0.3	98	216
Fourth	3.5	94.7	1.3	0.5	98	189
Highest	6.3	93.7	0.0	0.0	100	154
Total	4.5	94.5	0.5	0.05	99	858

¹ If more than one source of ANC was mentioned only the provider with the highest qualifications is considered in this tabulation

² Skilled provider/qualified health worker includes Doctor, Nurse and midwife

Table 3.13 shows providers of ANC in the IPTp target districts. High use of qualified health workers for ANC services occurred across all age groups, in all provinces and all levels of education.

Table 3.14: IPTp by women attending ANC in 30 target districts (weighted)

Demographic characteristics	Percentage of ANC mothers who took drugs	Percentage of ANC mothers who took any antimalarial	Percentage ANC mothers who took other medicines	Percentage of ANC mothers who do not know the medicine they took	Percentage of ANC mothers who took SP/Fansidar during an ANC visit	Percentage of ANC mothers who took 2+ doses of SP/Fansidar during an ANC visit	Pregnant women that attended ANC
Age groups in years							
15-19	48.0	82.5	0.0	17.6	100	63.0	189
20-24	59.5	77.4	1.2	21.5	100	69.0	20
25-29	61.2	86.9	0.4	12.7	100	78.7	75
30-34	64.0	80.9	2.0	17.2	100	67.4	146
35-39	59.1	81.5	0.0	18.5	100	88.9	155
40-44	60.7	64.7	4.3	31.0	100	87.8	138
45-49	48.8	63.4	0.0	35.4	100	100.7	135
Total	59.9	80.7	1.1	18.2	100	74.5	858
Province							
Manicaland	65.4	83.3	0.4	16.3	100	69.5	74
Mashonaland Central	53.7	91.7	8.2	0.0	100	47.4	226
Mashonaland East	70.1	91.9	0.0	8.1	100	78.2	220
Mashonaland West	62.0	98.5	0.0	1.5	100	87.5	182
Masvingo	39.7	54.9	1.2	43.9	100	63.0	107
Matabeleland North	75.0	56.2	2.2	41.5	100	58.5	39
Midlands	54.5	91.9	1.6	6.4	100	81.1	10
Total	59.9	80.7	1.1	18.2	100	74.5	858
Level of education							
None	39.0	52.0	5.1	43.7	100	78.5	31
Primary	63.0	77.9	1.0	21.1	100	75.7	320
Secondary	59.0	83.7	1.0	15.4	100	73.8	494
Tertiary	71.8	88.1	0.0	12.3	100	71.3	13
Total	59.9	80.7	1.1	18.2	100	74.5	858
Wealth quintiles							
Lowest	53.0	75.6	3.9	20.6	100	76.9	126
Second	59.0	77.6	0.6	21.7	100	76.3	173
Middle	67.1	81.9	0.0	18.1	100	74.1	216
Fourth	57.0	85.9	0.6	13.5	100	70.9	189
Highest	60.3	79.6	1.6	18.8	100	76.7	154
Total	59.9	80.7	1.1	18.3	100	74.5	858

Table 3.14 describes coverage of IPTp coverage among pregnant women that attended ANC in the 30 target IPTp districts. All pregnant women that attended ANC had at least a single dose of SP/Fansidar

during ANC. Some 74.5% of pregnant women that attended ANC had two or more doses of SP/Fansidar. Among women attending ANC access to two or more doses of SP/Fansidar tended to increase with age. In the provinces access to two or more doses of IPTp was highest in Mashonaland West (87.5%) and Midlands (81.1%) and while least access was found in Mashonaland Central (47.4%).

Some 18.2% of women that attended ANC could not tell the type of medicines that they got during ANC visits. Other than antimalarials other medicines that women got during ANC included paracetamol, ferrous sulphate, and folic acid.

3.4 Prevalence and prompt treatment of fever

In the 2008-2013 NMSP one of the critical targets is to provide access to appropriate malaria treatment within 24 hours of onset of fever to 85% of all suspected malaria cases. The implications of this would be that in areas of high to medium malaria transmission all cases of fever in under fives need to be attended to promptly to enable early diagnosis and institution of treatment.

On this MIS information was collected to gain a better understanding of how mothers handled and or dealt with under fives that had fever. The information collected included:

- (a) Sources of care for children with fever.
- (b) Timing of care/treatment for a child with fever.
- (c) Medicines applied to children with fever.

3.4.1 Sources of care for children with fever

Table 3.15: Children with fever that sought care and the sources of care (weighted)

Demographic characteristics	Public Health Sector						Private Health Sector				Others			Number of children with fever that sought care
	Government Hospital	RHC	Mission Hospital	Mobile Clinic	Community Worker	Other Public	Private Hospital/Clinic	Pharmacy	Private Doctor	Other, private	Shop	Traditional Practitioner	Others	
Age groups in months														
< 12	8.0	82.6	7.8	0.0	3.1	2.6	8.9	1.0	0.9	0.0	1.0	1.6	3.4	69
12-23	12.1	78.6	6.0	0.0	0.8	3.7	1.3	3.4	0.0	0.0	6.5	0.0	2.5	68
24-35	4.9	58.6	20.3	0.0	7.0	9.3	9.6	0.0	0.0	3.3	3.7	0.0	3.3	46
36-47	1.5	75.9	8.8	1.0	4.9	4.6	15.1	0.0	0.0	0.0	0.0	0.0	7.5	35
48-59	1.4	89.5	4.3	0.0	4.7	0.0	12.7	0.0	0.0	0.0	4.7	0.0	0.0	23
Missing	14.8	70.4	3.6	0.0	3.3	8.0	13.0	0.0	0.0	5.6	6.8	0.0	8.9	44
Total	7.8	75.9	8.9	0.1	3.5	4.6	8.6	1.1	0.2	1.1	3.6	0.4	3.9	285
Provinces														
Manicaland	9.2	80.5	6.9	0.0	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	1.7	58
Mashonaland Central	0.0	72.9	17.9	0.0	9.3	0.0	0.0	0.0	0.0	0.0	9.3	0.0	0.0	12
Mashonaland East	4.9	88.7	0.0	0.0	0.0	3.8	2.5	2.5	0.0	0.0	0.0	3.8	3.6	37
Mashonaland West	3.6	69.5	21.6	0.0	5.7	9.1	30.7	1.9	0.0	0.0	11.3	0.0	4.2	46
Masvingo	19.6	69.1	5.3	0.0	6.0	0.0	6.3	5.3	0.0	0.0	8.0	0.0	0.0	28
Matabeleland North	5.5	79.1	0.0	0.0	15.5	0.0	15.5	0.0	0.0	0.0	7.3	0.0	15.5	11
Matabeleland South	15.2	62.2	14.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	8.5	18
Midlands	7.3	76.7	4.2	0.5	2.4	7.9	1.6	0.0	1.0	4.6	0.0	0.0	5.6	55
Missing														20

Total	7.8	75.9	8.9	0.1	3.6	4.6	8.6	1.1	0.2	1.1	3.6	0.4	3.9	285
Mothers' level of education														
None	0.0	69.5	11.4	0.0	0.0	19.0	9.5	12.4	0.0	0.0	19.0	0.0	0.0	13
Primary	5.1	80.7	4.6	0.0	5.8	3.3	2.5	2.1	0.7	0.0	4.6	1.2	1.6	105
Secondary	8.8	74.2	11.4	0.2	2.5	4.7	12.3	0.0	0.0	1.9	2.4	0.0	5.6	162
Tertiary	40.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
Missing	78.6	7.1	7.1	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1
Total	7.8	75.9	8.9	0.1	3.6	4.6	8.6	1.1	0.2	1.1	3.6	0.4	3.9	285
Wealth Quintiles														
Lowest	7.8	74.2	4.5	0.0	4.3	4.1	0.0	5.4	0.0	0.0	3.5	0.0	5.8	34
Second	9.4	72.3	3.5	0.0	12.0	1.4	9.4	0.0	1.4	0.0	3.7	0.0	6.6	44
Middle	5.6	74.3	10.3	0.0	2.1	7.8	12.4	0.0	0.0	4.3	5.1	0.0	6.3	70
Fourth	2.6	91.6	7.5	0.0	0.0	3.7	11.8	0.0	0.0	0.0	0.0	1.9	0.0	58
Highest	14.9	65.9	15.9	0.6	1.6	4.6	5.9	1.9	0.0	0.0	5.7	0.0	1.6	59
Missing	0.0	75.0	10.0	0.0	10.0	0.0	15.0	0.0	0.0	0.0	10.0	0.0	20.0	20
Total	7.8	75.9	8.9	0.1	3.5	4.6	8.7	1.1	0.2	1.1	3.7	0.4	3.9	285

*Percentages in each row may add up to more than 100% because children sought care from several sources leading to multiple responses.

Table 3.15 describes sources of care for children with fever. All the 285 under fives that had fever were attended at either public and or private health facilities. Some 7.9% of children sought care or treatment from shops, traditional healers and spiritual healers prior to their use of private or public health facilities. High use of public sector facilities by children with fever was the norm across all ages, and provinces. Use of these public sector health facilities was mostly pronounced for rural health centres (RHCs) that were utilized by 75.9% of children with fever.

3.4.2 Timing of care/treatment for children with fever

Table 3.16: *Children that sought care and how soon they sought care post commencement of fever

Demographic characteristics	No. of Children with fever that sought care	No. of Children with fever that sought care same day or next day	No. of Children with fever that sought care after two days or more	Percentage of children with fever who sought care same day or next day	Percentage of children with fever who sought for care after 2 days or more
Age in months					
< 12	69	48	21	69.6	30.4
12-23	68	51	17	75.0	25.0
24-35	46	32	14	69.6	30.4
36-47	35	24	11	68.6	31.4
48-59	23	17	6	73.9	26.1
Missing	44	24	20	54.5	45.5
Total	285	196	89	68.8	31.2
Province					
Manicaland	58	45	13	77.6	22.4
Mashonaland Central	12	10	2	83.3	16.7
Mashonaland East	37	29	8	78.4	21.6
Mashonaland West	46	30	16	65.2	34.8
Masvingo	28	18	10	64.3	35.7
Matabeleland North	11	5	6	45.5	54.5
Matabeleland South	18	10	8	55.6	44.4
Midlands	55	39	16	70.9	29.1
Missing	20	10	10	50.0	50.0
Total	285	196	89	68.8	31.2
Mothers' level of education					
None	13	6	7	46.2	53.8
Primary	105	70	35	66.7	33.3
Secondary	162	116	46	71.6	28.4
Tertiary	4	4	0	100.0	0.0
Not stated	1	0	1	0.0	100.0
Total	285	196	89	68.8	31.2
Wealth quintiles					
Lowest	44	31	13	70.5	29.5
Second	70	57	13	81.4	18.6
Middle	58	36	22	62.1	37.9
Fourth	59	36	23	61.0	39.0
Highest	20	10	10	50.0	50.0
Missing	34	26	8	76.5	23.5
Total	285	196	89	68.8	31.2

**Only care sought from public and private health sector is indicated in this table thus excluding children that sought care from shop, traditional practitioner or other*

Table 3.16 describes how soon children with fever were attended at private and public health facilities post commencement of the fever. Some 68.8% of children were attended same day or next day post commencement of fever while 31.2 % were attended after two or more days.

3.4.3 Medicines Given to Children with Fever

Table 3.17: Medicines Given to Children with Fever

Demographic characteristics	ACT	Quinine/ other antimalarials	Aspirin	Paracetamol	Other Medicines	Do not know	Type of medicine taken not indicated	Children with fever that took medicines
Age in months								
< 12	4.6	0	1.3	58.4	26.4	6.5	0.0	61
12-23	8.7	0	0.0	63.7	22.3	4.2	2.6	61
24-35	15.6	0	2.8	46.1	37.9	8.9	1.9	42
36-47	19.5	0	4.1	59.8	17.5	3.8	0.0	29
48-59	2.5	0	0.0	64.4	30.5	0.0	0.0	20
Missing	3.9	0	0.0	56.9	34.4	8.7	0.0	42
Total	9.0	0	1.3	58.1	27.5	5.7	1.0	255
Province								
Manicaland	11.8	0	0.0	50.5	28.3	12.8	1.6	50
Mashonaland Central	0.0	0	0.0	21.4	78.6	0.0	0.0	12
Mashonaland East	9.0	0	7.5	60.3	11.0	0.0	0.0	35
Mashonaland West	10.3	0	2.3	74.7	17.9	0.0	1.6	41
Masvingo	2.5	0	0.0	74.7	17.5	7.7	0.0	26
Matabeleland North	35.6	0	0.0	76.7	6.7	0.0	0.0	9
Matabeleland South	16.4	0	0.0	65.0	19.3	8.6	0.0	13
Midlands	5.2	0	0.0	47.1	40.5	7.3	1.3	49
Missing	50.0	0	0.0	50.0	50.0	50.0	0.0	20
Total	9.0	0	1.3	58.1	27.5	5.7	1.0	255
Mothers' education								
None	3.8	0	0.0	52.4	24.8	14.3	0.0	13
Primary	9.3	0	1.1	61.9	22.9	5.5	2.1	91
Secondary	8.8	0	0.8	56.7	30.7	5.4	0.5	146
Tertiary	0.0	0	42.9	28.6	11.4	0.0	0.0	4
Missing	80.0	0	0.0	73.3	6.7	13.3	0.0	1
Total	9.0	0	1.3	58.1	27.5	5.7	1.0	255
Wealth quintiles								
Lowest	1.4	0	0.0	67.4	20.0	9.2	0.0	32

Second	21.0	0	0.0	61.3	22.7	5.6	1.9	40
Middle	8.7	0	0.0	57.8	27.3	8.7	0.0	64
Fourth	10.1	0	2.4	48.0	35.8	2.6	1.7	48
Highest	3.5	0	4.1	58.7	29.4	2.5	1.6	51
Missing	40.0	0	0.0	20.0	20.0	20.0	0.0	20
Total	9.0	0	1.3	58.1	27.5	5.7	1.0	255

*Table's only for medicines sought from public and private health sectors

Table 3.17 shows medicines that were applied to children with fever when they were attended at private or public health facilities. Some 9.0% of children got ACT. Given that malaria RDT is universally in use at health facilities and by community health workers it would be safe to say that the 9.0% that got ACT would have had a positive diagnosis of malaria. There is no indication that any of the children with fever got any other antimalarial other than ACT. There would be two reasons for this. Firstly, it is likely that the cases of malaria that got ACT were not complicated because if they had been they would have had quinine which is the second line drug for management of complicated malaria. Secondly, the current policy on treatment of malaria is that uncomplicated malaria is treated by use of ACT and no other antimalarials should be applied. Given that over 90% of children with fever were attended to at public sector health facilities, most of which are run by the government, cases of uncomplicated malaria would only receive the recommended ACT.

Asprin and paracetamol were provided to 60% of children with fever. These are known antipyretics and therefore it would be logical that they were applied to children with fever.

“Other medicines” that were applied to children with fever accounted for 27.55% of all medicines given to these children. Medicines that dominated this group included cough mixtures, pain killers and antibiotics (mostly co-trimoxazole, amoxicillin, erythromycin and flucloxacillin).

CHAPTER 4

MALARIA PARASITE AND ANEMIA PREVALENCE AMONG UNDER FIVES

4.1 Malaria RDT results

Table 4.1: Under fives that had RDT positive results (weighted)

Demographic characteristics	Children tested	Children with positive RDT result	% of children with positive RDT result
Age (in months)			
< 12	295	2	0.7
12-23	668	5	0.7
24-35	570	5	0.9
36-47	535	8	1.5
48-59	519	5	1.0
Missing	1	0	0.0
Total	2588	25	0.96
Provinces			
Manicaland	388	5	1.3
Mashonaland Central	293	9	3.1
Mashonaland East	298	2	0.7
Mashonaland West	341	7	2.1
Masvingo	274	0	0.0
Matabeleland North	447	2	0.4
Matabeleland South	205	0	0.0
Midlands	339	0	0.0
Missing	3	0	0.0
Total	2588	25	0.96
Wealth quintiles			
Lowest	444	2	0.5
Second	521	5	1.0
Middle	630	7	1.1
Fourth	515	6	1.2
Highest	475	5	1.1
Missing	3	0	0.0
Total	2588	25	0.96

Table 4.1 indicates malaria RDT positive results among under fives. Out of 2588 children that had RDT for malaria some 25 or 0.96% had a positive result. Although RDT positive cases were reported from all under five age groups, the proportions of cases reported for each age group seem to suggest that occurrence of cases increased with age. Positive cases were reported from Manicaland (5), Mashonaland Central (9), Mashonaland East (2) Mashonaland West (7) and Matabeleland North (2). Figure 7 shows the distribution of RDT positive and negative cases in Zimbabwe. Comparison of malaria stratification map (figure 3) and distribution of RDT positive cases (figure 7) shows that the RDT positive cases were mostly found in districts or areas of high-moderate seasonal malaria transmission in Zimbabwe.

Figure 3: Malaria incidence map for Zimbabwe (2011)

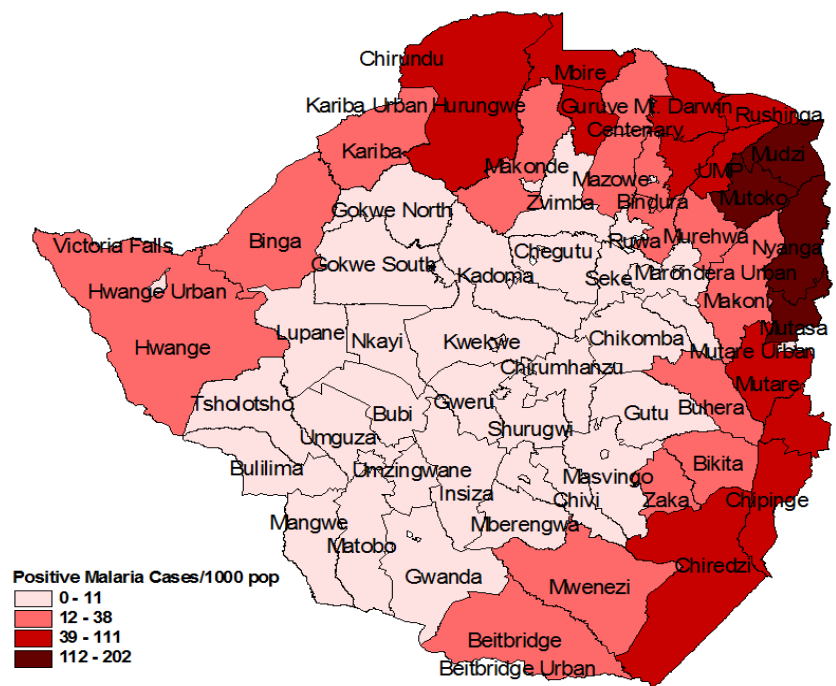
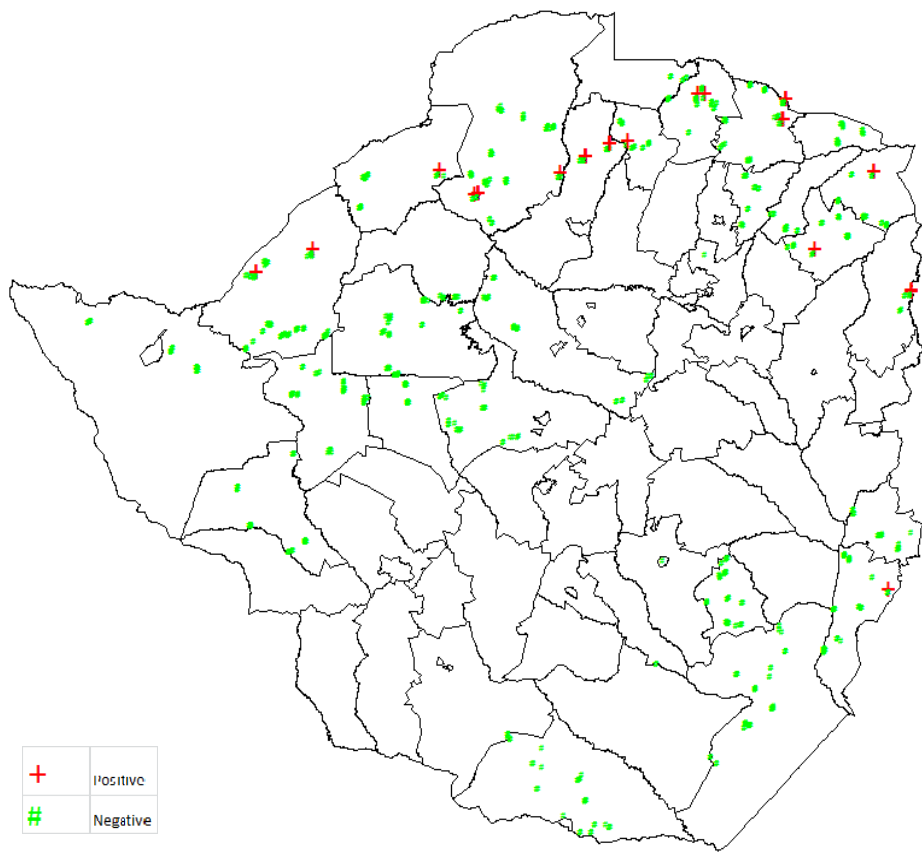


Figure 7: Distribution of RDT positive and negative results- MIS 2012



4.2 Malaria blood slides

Figure 8: Malaria slides parasite test results

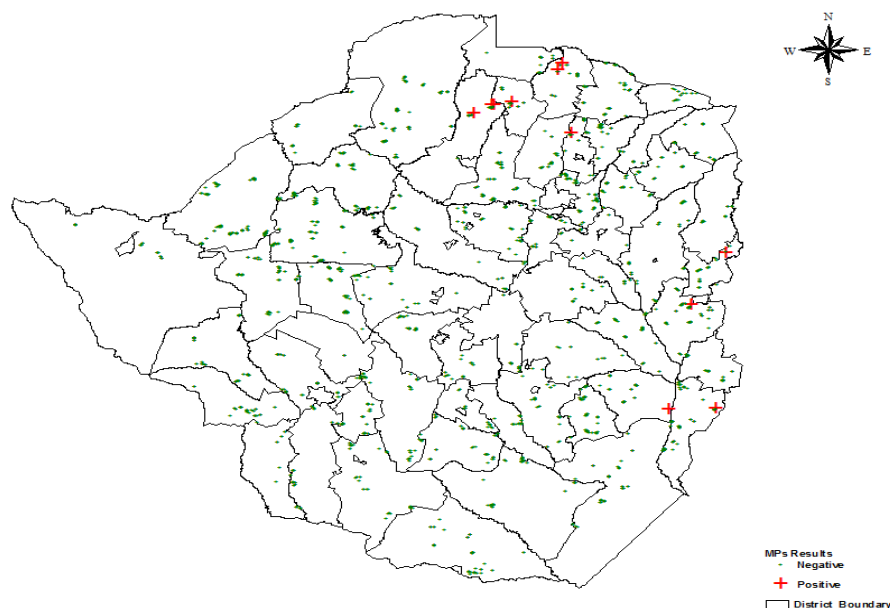


Table 4.2: Children that had positive malaria blood slides

Province	Children tested for malaria	Number that had positive slides	Positivity rate
Manicaland	385	4	1.04%
Mashonaland Central	363	4	1.10%
Mashonaland East	300	0	0
Mashonaland West	349	3	0.86%
Masvingo	270	0	0
Matabeleland North	472	0	0
Matabeleland South	289	0	0
Midlands	409	0	0
Total	2826	11	0.39%

Table 4.2 shows malaria slide positive results while figure 8 shows distribution of slide positive and negative malaria test results among 2826 under fives that had blood slides for malaria tests in the MIS. Of the 2826 under fives tested only 11 or 0.39% were positive. All the positive cases had *Plasmodium falciparum* parasites species which are the predominant malaria parasites in Zimbabwe⁸.

A comparison of malaria stratification map of Zimbabwe (figure 3) and map showing malaria parasite slide positive tests results (figure 8) shows that slide positive cases occurred mostly in districts or areas of high-moderate seasonal malaria transmission.

In this MIS findings of Malaria RDT and slide tests showed that distribution of RDT positive test results and slide positive malaria results correlated with districts and areas of high-moderate transmission of malaria in Zimbabwe. Prevalence of malaria among under fives (as shown by a malaria RDT positivity rate of 0.96% and a malaria slide positivity rate 0.39%) was low. In Zimbabwe malaria surveillance data consistently show that reported cases of malaria among under fives are far lower compared to cases reported for higher age groups. Thus the low figure of malaria prevalence among under fives found in this MIS is in keeping with findings of malaria surveillance data. There could be a number of reasons for this low occurrence of malaria among under fives. Tables 3.4,3.5 and 3.6 seem to show that utilization of mosquito nets by under fives was higher than that of other groups that included women of child bearing age and the general population. Higher use of nets by this age group might explain low prevalence of malaria in this group. Unfortunately there is no way of validating this observation because prevalence of malaria in other age groups was not measured and hence a comparison of malaria between under fives and these other groups is not possible. Another possible reason for low prevalence of malaria among under fives could be that culturally under fives are a protected population and might have far less exposure to malaria transmission compared to other age groups. As indicated earlier (section 4.1) in this MIS it was found that occurrence of RDT positive cases among under fives increased with age. This could be suggestive of the fact that the level of protection from infection afforded these children declines with age, meaning that exposure to infection increases with age.

4.3 Prevalence of anaemia among under fives

Table 4.3: Prevalence of anaemia among under fives

Demographic characteristics	Children tested for anaemia	Number of children with anaemia	Percentage of children with anaemia	Mean Hb value
Age (in months)				
< 12	295	217	73.6	10.78
12-23	668	431	64.5	10.35
24-35	570	310	54.4	10.76
36-47	535	216	40.4	11.12
48-59	519	162	31.2	11.60
Missing	1	1	100.0	11.20
Total	2588	1337	51.7	10.82
Manicaland	388	205	52.8	10.80
Mashonaland Central	293	187	63.8	10.49
Mashonaland East	298	159	53.4	10.59
Mashonaland West	341	178	52.2	10.45
Masvingo	274	137	50.0	10.74
Matabeleland North	447	201	45.0	11.06
Matabeleland South	205	95	46.3	11.08

Midlands	339	174	51.3	10.84
Missing	3	1	33.3	10.87
Total	2588	1337	51.7	10.82
Wealth quintiles				
Lowest	444	209	47.1	10.86
Second	521	244	46.8	10.92
Middle	630	332	52.7	10.75
Fourth	515	286	55.5	10.69
Highest	475	265	55.8	10.67
Missing	3	1	33.3	10.87
Total	2588	1337	51.7	10.82

*anaemia was defined as Hb of 11g/dl and less

Table 4.3 (above) indicates under fives that had anaemia. Out of 2588 under fives tested for anemia some 1337 or 51.7% were found to be anaemic. Anaemia was highest among children aged <12 months and least among children age 48-59 months and thus occurrence of anemia among under fives declined with age. Among under fives anemia was highest in Mashonaland Central (63.8%) and lowest in Matabeleland North (45%). In the other provinces occurrence of anemia was quite similar and was of a range 50-53.4%.

This MIS found that prevalence of malaria among under fives (going by blood slides parasites results) was only 0.96% which was low. It is therefore unlikely that prevalence of anaemia among under fives of 51.7% would be associated with this low level of occurrence of malaria.

CHAPTER 5

GENERAL MALARIA KNOWLEDGE

Information was collected from household heads about:

- (a) What they perceived to be main health problems in their areas
- (b) Main sources of information about malaria
- (c) Preferred media for receiving malaria information
- (d) Knowledge on causes of malaria
- (e) Knowledge on signs and symptoms of malaria
- (f) Knowledge on methods of prevention of malaria

This information was considered to be important in that the NMCP wanted to gain a better understanding of gaps in the people's knowledge about malaria so that mechanisms could put in place to appropriately arm the population against malaria.

5.1 Perceived main health problems

Table 5.1: Perceived main health problems in the areas surveyed (weighted) **

	% of respondents indicating health problems that they perceived to be main health problems in the areas surveyed							
Demographic characteristics	Diarrhoea	Malaria	TB	HIV/ AIDS	Malnutrition	Others	Don't know	Respondents (heads of households)
Sex								
Female	45.7	63.8	13.2	28.1	1.0	11.6	4.1	2602
Male	44.8	64.4	12.1	30.1	0.2	11.8	3.6	2775
Missing	45.4	65.0	12.6	28.8	1.9	12.8	5.0	701
Total	45.2	64.1	12.7	29.1	0.6	11.7	3.9	6078
Province								
Manicaland	37.6	83.9	1.9	19.1	0.4	6.4	3.4	848
Mashonaland Central	48.0	78.3	6.1	5.9	0.5	8.1	3.0	623
Mashonaland East	54.4	45.4	14.7	25.5	0.7	11.8	6.7	823
Mashonaland West	44.7	64.1	6.2	21.6	0.4	18.0	2.7	646

Masvingo	58.0	64.9	15.2	33.1	0.1	1.2	5.2	778
Matabeleland North	32.2	68.4	20.5	39.8	0.3	31.2	2.0	554
Matabeleland South	36.9	26.3	33.2	63.3	2.1	15.2	3.3	446
Midlands	43.6	61.3	17.2	41.9	1.2	12.3	3.6	653
Missing	45.4	65.2	12.4	28.7	1.8	12.7	5.0	707
Total	45.2	64.1	12.7	29.1	0.6	11.7	3.9	6078
Level of education								
None	36.7	64.5	10.1	28.8	0.5	8.0	5.4	715
Primary	43.9	62.9	14.0	30.5	0.8	12.2	3.5	2762
Secondary	49.0	65.8	12.1	28.0	0.6	11.9	3.5	2445
Tertiary	45.7	55.3	10.3	24.4	0.0	15.3	9.0	156
Total	45.2	64.1	12.7	29.1	0.6	11.7	3.9	6078
Wealth quintile								
Lowest	45.0	59.7	17.9	36.3	1.1	11.2	2.5	929
Second	41.3	65.4	13.2	30.6	0.4	12.6	3.0	1053
Middle	45.4	68.6	12.3	29.1	0.5	11.7	2.7	1107
Fourth	42.9	66.5	10.2	27.6	0.5	12.5	4.7	975
Highest	50.4	60.3	10.5	23.7	0.7	10.7	6.0	1307
Missing	45.4	65.2	12.7	30.3	0.6	14.0	2.8	707
Total	45.2	64.1	12.7	29.1	0.6	11.7	3.9	6078

** Multiple responses

Table 5.1 describes household heads' perception of main health problems in their areas. Both males and females perceived malaria to be the main health problem followed by diarrhoea while HIV/AIDS and TB were perceived to be third and fourth main health problems respectively. This same picture obtained across all levels of respondents' education. Equally, same perceptions obtained in all provinces except in Mashonaland East and Matabeleland South. In Mashonaland East main health problem was perceived to be diarrhoea followed by malaria, HIV/AIDS and TB – in that order while in Matabeleland South main health problem was perceived to be HIV/AIDS followed by diarrhoea, TB and malaria – in that order.

5.2 Sources of information about malaria

Table 5.2 below indicates sources of information about malaria. Some 84.9% of household had heard about malaria. While in both Manicaland and Matabeleland North only slightly over 69% of households had heard about malaria, in the other provinces 83-97.6% of households had heard about malaria.

Among households that had heard about malaria the main source of information was Health facility workers followed by relatives, community health workers, schools, radio and books/pamphlets - in that order.

Table 5.2: Sources of information about malaria (weighted)**

Demographic characteristics	Ever heard about malaria		Households in survey	% sources of information by respondents that had heard about malaria										Respondents that had heard about malaria
	Yes	No		Health facility workers	Community health workers	Relatives	Radio	TV	Newspaper	Schools	Books/pamphlets/posters	Others	Do not know	
Sex														
Female	85.9	14.1	2602	61.7	26.0	29.4	12.7	2.0	3.8	15.1	11.2	1.3	0.8	2229
Male	83.9	16.1	2775	61.0	22.9	29.9	12.6	2.0	4.0	14.5	11.5	1.5	0.6	2320
Missing	87.6	12.4	701	64.0	23.6	26.9	14.2	1.8	2.3	12.5	9.8	1.0	0.8	614
Total	84.9	15.1	6078	61.4	24.4	29.6	12.7	2.0	3.9	14.8	11.4	1.4	0.7	5163
Provinces														
Manicaland	69.9	30.1	848	65.5	31.4	10.0	6.8	1.3	6.2	16.3	15.1	0.0	0.2	589
Mashonaland Central	83.0	17.0	623	69.7	33.8	16.4	7.9	2.4	2.1	10.9	8.8	0.0	2.2	519
Mashonaland East	90.6	9.4	823	67.5	28.1	37.0	24.6	3.3	5.0	19.6	14.0	0.6	0.2	741
Mashonaland West	86.6	13.4	646	60.5	29.2	45.9	13.1	2.6	3.2	14.9	13.5	2.3	0.6	557
Masvingo	90.4	9.6	778	53.6	18.3	27.0	10.1	1.9	5.9	18.1	12.9	0.2	0.5	698
Matabeleland North	69.4	30.6	554	58.1	13.8	27.4	5.0	0.8	1.4	10.0	9.3	9.8	1.1	388
Matabeleland South	93.3	6.7	446	60.1	15.9	36.3	16.1	2.0	2.0	10.7	4.4	2.1	0.8	418
Midlands	97.6	2.4	653	56.9	19.7	37.1	14.6	1.6	3.0	12.9	8.6	0.8	0.5	634
Missing	87.6	12.4	707	63.8	23.6	27.0	14.1	1.8	2.3	12.6	9.7	1.0	0.8	619
Total	84.9	15.1	6078	61.4	24.4	29.6	12.7	2.0	3.9	14.8	11.4	1.4	0.7	5163
Level of education														
None	75.7	24.3	715	59.5	23.2	43.1	6.3	0.3	0.3	2.0	0.9	1.5	1.4	547
Primary	81.8	18.2	2762	64.3	25.3	32.6	12.2	1.1	1.6	6.4	6.8	1.5	1.0	2257
Secondary	90.3	9.7	2445	58.9	23.8	24.8	13.8	2.5	6.1	24.3	16.0	1.1	0.2	2212
Tertiary	93.6	6.4	156					14.						
				61.1	26.0	12.2	24.2		17.5	40.9	45.9	3.4	0.0	147
Total	84.9	15.1	6078	61.4	24.4	29.6	12.7	2.0	3.9	14.8	11.4	1.4	0.7	5163
Wealth quintiles														
Lowest	88.4	11.6	929	64.2	21.8	31.4	13.5	1.7	4.2	13.4	9.1	0.7	0.7	823
Second	87.0	13.0	1053	61.8	23.7	29.2	11.8	1.2	3.1	13.7	11.2	1.5	0.8	918
Third	85.9	14.1	1107	61.7	24.6	29.9	11.9	1.5	2.9	14.2	10.1	1.5	0.6	941
Fourth	84.0	16.0	975	60.5	25.5	31.0	12.4	1.8	3.2	14.8	11.2	1.8	0.8	809
Highest	80.3	19.7	1307	59.1	26.4	27.1	13.7	3.8	6.1	17.5	14.7	1.4	0.4	1053
Missing	87.6	12.4	707	63.8	23.6	27.0	14.1	1.8	2.3	12.6	9.7	1.0	0.8	619
Total	84.9	15.1	6078	61.4	24.4	29.6	12.7	2.0	3.9	14.8	11.4	1.4	0.7	5163

****Multiple sources of information leading to multiple responses**

5.3 Preferred media for receiving malaria information

Table 5.3: Preferred media for receiving information on malaria (weighted)**

Demographic characteristics	% of respondents indicating preferred sources of information									Respondents (households Heads)
	Radio	TV	One on one	Meeting	Drama	Road show	Posters and pamphlets	Others specify	Do not know	
Sex										
Female	16.4	3.7	63.9	67.4	5.7	2.8	21.4	2.1	6.5	2602
Male	16.2	4.3	64.9	66.5	5.9	1.7	20.2	2.3	6.3	2775
Missing	15.3	3.3	66.6	68.2	5.3	1.6	18.8	2.0	5.1	701
Total	16.3	4.0	64.4	66.9	5.8	2.2	20.8	2.2	6.4	6078
Provinces										
Manicaland	9.0	1.7	65.7	74.8	6.0	2.3	20.2	0.4	4.4	848
Mashonaland Central	13.5	4.4	53.3	52.3	9.0	1.8	13.9	0.4	17.2	623
Mashonaland East	28.1	5.8	64.6	73.8	10.7	3.5	21.0	1.0	0.9	823
Mashonaland West	14.0	5.4	66.1	53.1	4.6	2.6	22.3	7.8	6.9	646
Masvingo	15.7	4.4	64.5	72.4	3.3	0.9	20.6	0.1	7.4	778
Matabeleland North	7.8	2.7	74.1	76.5	2.5	2.1	17.1	5.9	7.7	554
Matabeleland South	16.3	1.6	70.3	58.3	3.5	0.9	21.8	0.2	6.4	446
Midlands	24.2	5.0	60.9	67.5	5.4	3.0	27.1	2.9	3.3	653
Missing	15.3	3.3	66.6	68.2	5.2	1.6	18.8	2.0	5.1	707
Total	16.3	4.0	64.4	66.9	5.8	2.2	20.8	2.2	6.4	6078
Level of education										
None	8.7	2.6	66.8	61.0	4.5	0.6	6.8	2.0	17.2	715
Primary	14.4	2.4	68.2	69.5	4.8	1.7	16.6	1.6	6.5	2762
Secondary	19.5	5.2	60.2	66.0	6.9	3.0	28.0	2.8	3.5	2445
Tertiary	31.3	18.0	54.5	63.5	12.6	5.0	40.8	4.9	1.1	156
Total	16.3	4.0	64.4	66.9	5.8	2.2	20.8	2.2	6.4	6078
Wealth quintiles										

Lowest	19.1	4.3	65.1	68.0	5.4	2.4	21.8	3.3	4.2	929
Second	15.0	2.8	66.9	69.5	5.3	1.2	20.3	2.7	6.1	1053
Third	14.2	3.4	66.1	69.1	5.4	2.3	20.0	2.2	6.0	1107
Fourth	15.9	3.3	64.1	66.7	5.6	2.6	20.4	1.2	7.3	975
Highest	17.6	5.8	60.4	62.2	7.1	2.4	21.5	1.8	7.9	1307
Missing	15.3	3.3	66.6	68.2	5.2	1.6	18.8	2.0	5.1	707
Total	16.3	4.0	64.4	66.9	5.8	2.2	20.8	2.2	6.4	6078

****Multiple preferences leading to multiple responses**

Table 5.3 indicates preferred media for receiving malaria information. Four most preferred media for receiving malaria information included meetings, one-on-one, posters/pamphlets and radio - in that order. This pattern of preferences obtained across sexes, levels of education and wealth quintiles. This same pattern of preferences was repeated in the provinces. Media that included TV, drama, road shows, and others were far less preferred.

5.4 Perceived causes of malaria

Table 5.4: Perceived causes of malaria (weighted)

Demographic characteristics	% of respondents indicating what they perceive as causes of malaria								Respondents (household heads)
	Bite from infected mosquito	Bite from any mosquito	Dirty water	Food	Water Melons /Sugar cane	Harmful spirits	Others	Do not know	
Female	33.4	48.1	14.4	4.6	4.6	0.0	2.7	7.6	2602
Male	33.2	47.3	15.6	4.9	5.1	0.1	3.9	7.4	2775
Missing	30.1	50.4	16.0	3.9	5.3	0.0	3.7	7.8	701
Total	33.3	47.7	15.0	4.8	4.8	0.1	3.3	7.5	6078
Provinces									
Manicaland	26.5	53.3	13.3	7.8	8.5	0.1	3.6	7.8	848
Mashonaland Central	55.5	34.5	10.8	3.2	1.3	0.0	3.0	4.0	623

Mashonaland East	26.3	58.6	13.3	3.1	1.0	0.1	1.5	6.9	823
Mashonaland West	35.0	50.4	15.5	5.5	4.7	0.0	5.6	5.7	646
Masvingo	13.7	66.6	16.0	3.4	3.1	0.1	0.2	6.5	778
Matabeleland North	15.8	56.3	18.1	4.5	6.0	0.1	7.6	9.7	554
Matabeleland South	15.0	59.0	20.9	2.7	6.2	0.0	2.1	14.2	446
Midlands	67.6	10.1	15.9	5.7	7.1	0.2	4.0	8.3	653
Missing	30.3	50.1	16.3	4.0	5.4	0.0	3.7	7.9	707
Total	33.3	47.7	15.0	4.8	4.8	0.1	3.3	7.5	6078
Level of education									
None	19.4	41.8	22.3	7.9	4.4	0.0	4.4	21.8	715
Primary	28.5	47.2	18.2	5.9	6.0	0.2	4.2	8.6	2762
Secondary	40.6	50.5	10.3	2.9	3.9	0.1	2.2	2.7	2445
Tertiary	60.0	39.0	2.6	0.5	2.9	0.0	0.8	0.9	156
Total	33.3	47.7	15.0	4.8	4.8	0.1	3.3	7.5	6078
Wealth quintiles									
Lowest	31.3	47.4	18.4	5.4	4.9	0.0	2.8	7.5	929
Second	31.8	50.7	14.1	4.4	4.4	0.1	3.7	6.9	1053
Third	33.7	47.5	13.8	3.5	4.7	0.0	3.2	8.5	1107
Fourth	35.3	46.0	15.3	6.1	6.1	0.2	3.2	7.5	975
Highest	33.9	47.1	14.2	4.6	4.3	0.2	3.5	7.0	1307
Missing	30.3	50.1	16.3	4.0	5.4	0.0	3.7	7.9	707
Total	33.3	47.7	15.0	4.8	4.8	0.1	3.3	7.5	6078

Table 5.4 describes perceived causes of malaria. Commonest perceived causes of malaria were bite from any mosquito and bite from infected mosquito- in that order. Dirty water, food, water melons/sugar cane, harmful spirits and others were perceived to be of far less importance in causing malaria. This pattern of perception obtained across sexes, provinces (except Midlands), all levels of education (except respondents with

tertiary education) and all wealth quintiles. The implications of this would be that there is an obvious need to correct the misconception that a bite from any mosquito causes malaria.

5.5 Knowledge of signs and symptoms of malaria

Table 5.5: Knowledge of signs and symptoms of malaria (weighted)

Demographic characteristics	% of respondents indicating what they consider to be signs and symptoms of malaria									Respondents
	Fever/Hot body/chills	Headaches	Nausea /Vomiting	Diarrhoea	Dizziness	Loss of appetite	Joint pains	Others	Do not know	
Sex										
Female	75.3	58.8	43.1	21.2	21.7	27.2	28.7	3.2	3.9	2602
Male	74.6	57.7	44.0	22.6	19.8	25.4	28.5	3.1	4.8	2775
Missing	74.3	57.5	43.8	21.5	22.1	22.7	23.0	3.6	4.9	701
Total	74.9	58.1	43.6	21.9	20.9	25.9	27.9	3.2	4.4	6078
Provinces										
Manicaland	69.9	62.9	42.0	26.4	15.2	22.6	35.5	0.9	2.2	848
Mashonaland Central	77.7	58.4	49.8	13.0	14.8	35.3	38.5	2.4	1.9	623
Mashonaland East	79.2	57.1	38.9	17.5	18.0	26.6	32.1	0.5	5.8	823
Mashonaland West	74.3	55.4	40.4	21.2	28.9	33.7	26.9	5.3	3.1	646
Masvingo	70.3	64.5	41.3	22.0	42.2	24.9	22.6	0.3	3.9	778
Matabeleland North	79.2	47.3	51.3	23.1	5.4	18.8	16.8	11.4	5.1	554
Matabeleland South	80.7	55.8	39.5	19.7	16.4	23.8	23.1	0.9	13.2	446
Midlands	72.3	59.4	47.5	31.2	19.6	24.5	28.5	6.1	2.6	653
Missing	74.3	57.6	44.0	21.5	21.9	22.5	22.8	3.5	5.0	707
Total	74.9	58.1	43.6	21.9	20.9	25.9	27.9	3.2	4.4	6078
Level of education										
None	64.9	52.2	34.3	21.0	13.8	18.9	29.8	2.5	10.9	715
Primary	73.1	55.9	41.1	23.8	20.5	24.4	26.7	3.8	4.7	2762
Secondary	78.9	61.1	47.8	19.9	23.3	29.1	28.0	2.9	2.5	2445
Tertiary	89.7	78.2	64.7	21.8	22.4	34.0	41.0	0.0	0.6	156
Total	74.9	58.1	43.6	21.9	20.9	25.9	27.9	3.2	4.4	6078
Wealth quintiles										

Lowest	75.0	59.8	42.8	23.0	22.0	25.2	27.9	3.1	4.8	929
Second	74.0	58.8	44.2	25.2	21.0	28.2	29.6	3.8	3.7	1053
Third	76.9	57.7	44.4	22.6	20.4	27.8	26.8	3.2	3.5	1107
Fourth	72.4	56.3	43.8	20.4	18.6	25.9	29.4	3.4	4.5	975
Highest	76.1	58.4	42.6	19.1	21.7	24.6	29.2	2.5	5.0	1307
Missing	74.3	57.6	44.0	21.5	21.9	22.5	22.8	3.5	5.0	707
Total	74.9	58.1	43.6	21.9	20.9	25.9	27.9	3.2	4.4	6078

Table 5.5 shows respondents' knowledge of signs and symptoms of malaria. Fever/hot body/chills, headache and nausea/vomiting (in that order) were the commonest signs and symptoms that respondents associated with malaria infection. Signs and symptoms that included diarrhoea, dizziness, loss of appetite and joint pains were indicated as being associated with malaria by to some 20-28% of respondents and seemed to be considered to be of lesser importance to those indicated earlier. This pattern of knowledge of signs and symptoms of malaria obtained across sexes, all levels of education, all provinces and wealth quintiles. It is certainly critical that the population is educated on the fact that these other signs and symptoms (diarrhoea, dizziness, loss of appetite and joint pains), though less specific to malaria compared to fever/hot body/chills, are actually associated with malaria infection.

5.6 Methods of malaria prevention

Table 5.6 (below) indicates knowledge on methods of malaria prevention. Some 38% and 31% of respondents indicated that use of LLINs and larval control were important facets of malaria prevention. IRS (16.9%) and IPTp (4.9%) seemed to have been considered to be of lesser importance in the preventing malaria. In Midlands, Matabeleland North, Mashonaland West, Mashonaland East and Mashonaland Central 40-60% of respondents indicated that use of LLINs was important in the prevention of malaria while in Masvingo and Manicaland use of LLINs for malaria prevention seemed not to be considered highly. On the whole the respondents seemed not to have clear-cut picture of issues to do with malaria prevention.

Table 5.6: Knowledge on methods of malaria prevention (weighted)

Demographic characteristics	Use of untreated net	Conventional	Use of treated Mosquito Nets (LLINS)	Indoor house spraying	Larval control	Use of modern repellents	Use of traditional repellents	IPTp	None	Others specify	Do not know	Not stated	Respondents (household heads)
Sex													
Female	14.8	4.4	38.9	17.0	30.8	14.7	6.1	5.2	0.3	13.3	8.1	0.0	2602
Male	16.7	4.7	37.7	16.8	29.4	13.4	3.9	4.6	0.3	14.1	10.0	0.0	2775
Missing	14.8	3.7	42.8	18.7	28.5	15.1	5.6	4.7	0.3	12.7	11.0	0.1	701
Total	15.8	4.6	38.3	16.9	30.1	14.0	5.0	4.9	0.3	13.7	9.1	0.0	6078
Provinces													
Manicaland	23.4	4.9	20.4	11.1	26.2	5.4	5.4	3.7	1.0	10.9	8.0	0.0	848
Mashonaland Central	7.6	3.7	51.6	19.7	26.6	12.5	2.8	1.7	0.2	7.9	5.5	0.0	623
Mashonaland East	13.5	5.9	40.9	15.4	41.7	18.9	3.2	5.5	0.1	6.8	2.7	0.0	823
Mashonaland West	2.4	2.7	60.5	19.5	33.1	21.6	3.4	8.3	0.0	13.0	14.5	0.0	646
Masvingo	39.5	0.4	22.0	13.7	36.9	12.4	7.8	1.7	0.1	16.3	2.7	0.0	778
Matabeleland North	9.4	0.3	46.4	14.6	6.8	13.0	4.0	6.6	0.6	12.3	28.6	0.0	554
Matabeleland South	16.3	27.9	12.3	19.0	26.7	17.9	6.4	0.5	0.0	29.8	8.0	0.0	446
Midlands	6.7	0.3	52.4	24.3	33.2	15.2	6.3	9.8	0.0	18.6	9.3	0.0	653
Missing	14.9	3.7	42.7	18.7	28.7	15.0	5.5	4.7	0.3	12.7	10.9	0.1	707
Total	15.8	4.6	38.3	16.9	30.1	14.0	5.0	4.9	0.3	13.7	9.1	0.0	6078
Level of education													
None	9.7	3.8	25.5	8.5	17.8	5.0	4.8	5.1	0.3	30.7	8.2	0.0	715
Primary	13.2	4.3	34.7	14.4	25.0	10.4	5.0	4.3	0.4	17.2	9.8	0.0	2762
Secondary	19.8	4.8	44.9	21.2	37.4	19.3	4.9	5.5	0.1	5.9	8.6	0.0	2445
Tertiary	23.9	9.0	52.3	28.3	54.2	32.9	6.6	4.3	0.5	0.7	8.0	0.0	156
Total	15.8	4.6	38.3	16.9	30.1	14.0	5.0	4.9	0.3	13.7	9.1	0.0	6078

Wealth quintiles													
Lowest	13.9	6.4	37.9	18.2	32.2	14.9	5.2	4.8	0.4	15.8	10.2	0.0	929
Second	16.3	4.7	38.3	18.7	32.2	13.2	5.8	4.3	0.3	12.8	9.3	0.0	1053
Third	15.6	4.6	40.4	14.9	27.4	14.3	5.6	6.2	0.3	13.1	9.1	0.0	1107
Fourth	14.5	3.4	39.3	17.2	27.9	11.9	5.2	4.7	0.3	14.8	10.6	0.0	975
Highest	18.1	4.0	35.9	15.9	30.8	15.5	3.3	4.6	0.2	12.4	6.6	0.0	1307
Missing	14.9	3.7	42.7	18.7	28.7	15.0	5.5	4.7	0.3	12.7	10.9	0.1	707
Total	15.8	4.6	38.3	16.9	30.1	14.0	5.0	4.9	0.3	13.7	9.1	0.0	6078

CHAPTER 6

DETERMINANTS OF HEALTH SEEKING BEHAVIOUR AND HOME MANAGEMENT OF MALARIA

Women of child-bearing age were asked to provide information on issues that could affect their health seeking behaviour or management of malaria cases. These issues included:

- (a) Distance to nearest health facility
- (b) Need for women to ask permission for them to take a child with fever to a health facility
- (c) Knowledge of danger signs of- severe illness in children aged <5 years
- (d) Home practices for management of a child with fever
- (e) Knowledge of reasons why one should complete a course of antimalarial medicine.

6.1 Distance from nearest health facility

Table 6.1: Estimated distance to nearest health facility (weighted)

Province	% of respondents indicating distance (below) to nearest health facility					Respondents
	Less than 1 km	1 - 5 km	5-10km	More than 10 km	Do not know	
Manicaland	11.3	38.6	26.8	8.4	14.9	576
Mashonaland Central	9.2	43.9	26.9	18.5	1.6	575
Mashonaland East	14.5	56.5	16.6	10.4	1.9	539
Mashonaland West	6.0	40.9	26.7	20.3	6.0	600
Masvingo	4.8	39.6	39.1	15.1	1.3	611
Matabeleland North	9.7	27.0	27.8	29.5	6.0	491
Matabeleland South	3.8	25.2	28.2	33.8	9.0	363
Midlands	7.0	42.6	28.1	22.0	0.3	577
Missing	10.0	50.0	30.0	0.0	10.0	10
Total	8.3	40.3	27.8	18.7	4.9	4342

Table 6.1 indicates distances that respondents have to travel to the nearest health facility. Distance that can be covered quickly and generally thought to be manageable is 10kms and under. On average 76.4% of respondents live within 10kms of a health facility. In the provinces proportions of the population that live within 10kms of a health facility are 76.7% in Manicaland, 80% in Mashonaland Central, 71% in Mashonaland East, 73.7% in Mashonaland West, 83.1% in Masvingo, 64.5% in Matabeleland North, 57.2% in Matabeleland South and 77.1% in Midlands. Some ~~18% 25-45%~~ of respondents indicated that they live over 10kms from nearest health facility in Mashonaland East, Mashonaland West, Matabeleland North and Matabeleland South.

6.2 Need to seek permission to seek medical care for a child with fever

Table 6.2: Women aged 15-49 years who need to seek permission to seek medical care for a child with fever (weighted)

Demographic characteristics	Need to seek permission		Women of child bearing age	% of respondents requiring to get permission from individuals indicated below					
	Yes	No		Husband / Partner	Mother	Mother-in-law	Other relative	Others	Women that need to seek permission
Age of respondents in years									
15-19	28.6	71.4	854	24.2	45.7	7.7	15.0	7.4	254
20-24	26.3	73.7	872	60.4	18.2	10.4	7.4	3.6	233
25-29	22.2	77.8	751	73.4	10.6	8.4	4.5	3.2	175
30-34	17.3	82.7	653	71.0	13.9	4.5	5.2	5.4	118
35-39	18.7	81.3	539	75.7	9.0	2.2	8.4	4.6	106
40-44	19.1	80.9	380	72.2	4.9	1.8	12.2	8.8	71
45-49	18.7	81.3	293	76.7	7.4	2.0	2.1	11.8	57
Total	22.6	77.4	4342	58.1	20.8	6.8	8.7	5.6	1014
Level of Education									
None	18.9	81.1	218	63.6	14.9	5.8	10.9	4.8	40
Primary	26.2	73.8	1616	63.4	15.2	5.1	9.4	7.0	436
Secondary	21.1	78.9	2426	53.3	25.8	8.4	8.2	4.4	531
Tertiary	8.7	91.3	74	58.9	18.5	0.0	0.0	22.6	6
Missing	6.3	93.7	8	100.0	0.0	0.0	0.0	0.0	1
Total	22.6	77.4	4342	58.1	20.8	6.8	8.7	5.6	1014
Province									
Manicaland	14.0	86.0	10	46.5	11.3	12.3	6.3	23.7	75
Mashonaland Central	19.2	80.8	576	70.5	11.1	3.7	9.7	5.1	119
Mashonaland East	6.1	93.9	575	42.3	24.8	5.7	11.7	15.5	34
Mashonaland West	18.2	81.8	539	67.5	17.0	2.9	8.8	3.9	99
Masvingo	31.2	68.8	600	73.2	16.1	5.8	3.1	1.8	196
Matabeleland North	58.9	41.1	611	49.3	28.6	8.8	8.8	4.6	293
Matabeleland South	27.6	72.4	491	44.3	23.4	7.4	23.9	1.1	94
Midlands	17.7	82.3	363	54.8	28.4	6.6	6.7	3.4	102
Missing	12.5	87.5	577	100.0	0.0	0.0	0.0	0.0	2
Total	22.6	77.4	4342	58.1	20.8	6.8	8.7	5.6	1014

Table 6.2 indicates women who would need permission to take a child with fever to a health facility and the people from whom they would get that permission. Some 77.4% of all respondents did not need permission from anybody while 22.6% needed to get permission from somebody. Of all respondents that needed permission 58.1% got it from husband, 20.08% from mother, 8.7% from a relative and 6.8 from mother-in-law. The need to seek permission declined as level of education increased – meaning need to seek permission was higher among women of lesser education compared to those with tertiary education. One inescapable implication of need to seek permission in order to take a sick child for care would be that if provider of permission were not available or refused to grant permission this could mean that the child with fever would not be attended to in a timely manner. In communities there is therefore an overwhelming need for community health workers to identify women who need this sort of permission so that they work out mechanisms to support them.

6.3 Knowledge of danger signs of serious illness

Table 6.3: Knowledge of danger signs of serious illness in children aged <5 years (weighted)

Demographic characteristics	% of respondents indicating danger signs of severe illness								Respondents (women aged 15-49 years)
	Fever	Repeated Vomiting	Unable to drink / breastfeed	Difficulty breathing	Convulsions	Others	Do not know	Not stated	
15-19	63.8	30.1	39.0	11.2	9.4	7.7	15.9	0.0	854
20-24	72.6	36.3	46.7	8.9	12.6	8.0	7.6	0.0	872
25-29	75.1	37.1	52.6	11.8	12.7	6.3	5.2	0.2	751
30-34	78.8	36.5	52.8	12.1	15.0	9.4	3.0	0.0	653
35-39	76.1	42.2	52.6	13.1	17.0	9.7	3.4	0.0	539
40-44	73.4	40.6	46.8	12.6	16.3	7.6	4.0	0.0	380
45-49	75.8	35.2	51.9	10.2	16.6	9.6	2.8	0.0	293
Total	73.0	36.3	48.2	11.3	13.5	8.1	7.0	0.0	4342
None	72.0	33.0	34.9	12.5	10.3	5.9	8.4	0.0	218
Primary	71.3	37.4	48.9	11.7	15.5	8.8	6.2	0.0	1616
Secondary	74.2	35.6	49.0	10.8	12.0	7.7	7.4	0.1	2426
Tertiary	67.8	45.7	48.6	15.5	30.2	14.9	7.2	0.0	74
Missing	88.0	41.6	52.2	0.0	0.0	12.0	0.0	0.0	8
Total	73.0	36.3	48.2	11.3	13.5	8.1	7.0	0.0	4342
Manicaland	74.9	24.8	37.8	4.2	9.9	5.0	8.3	0.0	576
Mashonaland Central	62.2	45.7	38.6	9.4	33.5	3.5	6.2	0.0	575
Mashonaland East	73.9	33.3	41.2	12.5	25.0	1.7	2.9	0.0	539
Mashonaland West	80.0	27.6	56.1	14.4	10.0	7.1	4.4	0.0	600
Masvingo	79.2	36.5	65.1	13.6	3.8	0.2	5.7	0.0	611
Matabeleland North	62.0	32.1	40.3	5.8	9.5	29.5	13.2	0.3	491
Matabeleland South	84.5	51.9	51.7	22.8	3.5	5.0	4.2	0.0	363
Midlands	68.8	43.9	51.7	11.5	11.3	15.6	10.2	0.0	577
Missing	70.0	60.0	50.0	10.0	10.0	0.0	10.0	0.0	10
Total	73.0	36.3	48.2	11.3	13.5	8.1	7.0	0.0	4342

Table 6.3 describes levels of knowledge of danger signs of serious illness in under-fives among women of child bearing age. Serious signs of illness were indicated as fever, inability to drink/breast feed, repeated vomiting, convulsions, and difficulty in breathing – in that order. This picture obtained across all levels of education and in all provinces.

6.4 Home practices for managing a child with fever

Table 6.4: Home practices for the management of a child with fever (weighted)

Demographic characteristics	% of women indicating management practices							Respondents (women aged 15-49 years)
	Sponging	Herbal treatment	Spiritual Healing	Western drugs	Others	Do not know	Not stated	
15-19	14.0	6.6	8.8	40.8	9.5	25.3	2.7	854
20-24	17.6	5.8	8.6	44.6	11.1	17.7	2.2	872
25-29	18.0	4.7	8.6	45.8	12.6	16.8	2.5	751
30-34	18.6	6.0	6.8	47.2	13.7	15.7	1.4	653
35-39	20.3	6.4	10.6	47.7	12.4	12.2	3.0	539
40-44	22.0	4.6	9.8	46.8	13.9	10.6	2.9	380
45-49	19.8	7.3	7.3	45.3	11.8	16.1	2.9	293
Total	18.0	5.8	8.6	45.1	11.9	17.3	2.5	4342
None	15.3	8.6	7.0	39.4	10.7	22.6	3.4	218
Primary	18.2	6.1	10.2	43.6	12.0	14.5	3.4	1616
Secondary	18.2	5.6	8.1	45.8	11.8	18.9	1.8	2426
Tertiary	12.0	0.0	1.0	66.4	16.2	9.2	1.7	74
Missing	18.2	14.7	5.3	40.9	12.0	14.1	0.0	8
Total	18.0	5.8	8.6	45.1	11.9	17.3	2.5	4342
Manicaland	15.1	5.4	11.9	31.5	7.7	33.8	0.4	576
Mashonaland Central	6.3	2.3	7.1	65.4	2.6	7.2	12.9	575
Mashonaland East	6.7	3.9	10.1	83.1	0.1	3.9	0.5	539
Mashonaland West	34.6	6.7	7.2	35.2	10.4	19.6	0.1	600
Masvingo	13.5	3.9	12.3	68.3	0.2	8.5	0.5	611
Matabeleland North	11.6	4.6	5.0	16.7	47.7	16.5	0.5	491
Matabeleland South	26.3	10.1	3.7	50.5	11.5	13.5	6.5	363
Midlands	26.0	10.0	8.5	19.9	21.4	26.7	0.2	577
Missing	50.0	0.0	10.0	0.0	20.0	10.0	10.0	10
Total	18.0	5.8	8.6	45.1	11.9	17.3	2.5	4342

Table 6.4 indicates home practices for managing a child with fever. Less than 20% of respondents used sponging as one of the approaches to manage a child with fever. Only 45% of respondents indicated that western medicines were important facets in the management of under fives with fever. These findings seem to be suggestive of an unclear picture on how to manage a child with fever at home. Clearly there is an obvious and urgent need to jerk up knowledge and practices for managing children with fever among women folks in the population.

6.5 Knowledge on reasons for need to complete antimalarial treatment

Table 6.5: Knowledge of reasons why one should complete a course of antimalarial medicine (weighted)

Demographic characteristics	% indicating reasons for completing course of antimalarial medicine			Respondents (women aged 15-49 years)
	Whole dose needed for treatment of be effective	Other	Do not know	
Age of respondents				
15-19	83.3	1.3	15.4	854
20-24	92.0	0.9	7.1	872
25-29	91.8	1.9	6.4	751
30-34	94.9	0.7	4.4	653
35-39	95.4	1.5	3.1	539
40-44	94.7	1.1	4.2	380
45-49	96.8	1.5	1.7	293
Total	91.7	1.3	7.1	4342
Level of education				
None	86.7	1.2	12.1	218
Primary	90.4	1.2	8.3	1616
Secondary	92.7	1.3	6.0	2426
Tertiary	97.3	0.0	2.7	74
Missing	88.0	0.0	12.0	8
Total	91.7	1.3	7.1	4342
Province				
Manicaland	92.8	0.9	6.3	576
Mashonaland Central	94.5	0.1	5.4	575
Mashonaland East	93.5	0.6	5.9	539
Mashonaland West	86.7	3.0	10.3	600
Masvingo	91.5	0.2	8.3	611
Matabeleland North	93.2	0.8	6.0	491
Matabeleland South	94.0	0.6	5.4	363
Midlands	89.8	2.8	7.4	577
Missing	80.0	0.0	20.0	10
Total	91.7	1.3	7.1	4342

Table 6.5 describes respondents' understanding of the need to complete antimalarial treatment once commenced. On the whole 91.7% of respondents indicated that a whole dose of treatment was required for the treatment to be effective while 7.1% did not know why there was a need to complete treatment once started.

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Annexes

Annex 1- List of MIS Enumerators, Supervisors and Technical Experts

Chigwenwa T Chriswell Dr Staneford Mashaire	GIS Technician Case Mgt Focal Person	Head Office MOHCW NMCP MOHCW
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Mafaune P T	PEDCO	MOHCW Midlands
Marembo J	PNO	MOHCW Midlands
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Farai Chieza	DMCH	PSI Harare
Joy Chikwena	NMC	Plan International
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Jasper Pasipamire	NPO	WHO
Joyce Sibanda	PNO	PMD Mat South
Farayi Marufu	PNO	PMD Mash West
Emma S Tshuma	PNO	PMD Mat North
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Lloyd T M Mahere	Computer Programmer	ZIMSTAT
Mukavhi A	Sampling Manager	ZIMSTAT
Fungai Machapaza	RGN/Midwife	Sanyati Mash West
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Munodawafa Toma	A/PEHO	PMD Mash West

Dumisani Ncube	A/PEHO	PMD Mat North
Renwick Ngandu	PEHO	Mash Central
Charles Chiku	MLSC	NMRL MOHCW
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Letters Nyoni	PFO	Midlands
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Diamond Tamanikwa	DNO	Gokwe South District
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T Mahla	EPI	PMD Mat South
M Ndlovu	MLSC	Filabusi Hospital
F Malaba	MLSC	Plumtree Hospital
E Ndlela	EPI Officer	Mat South
L Mpala	Driver	PMD Mat South

I Mtalimanja	Driver	PMD Mat South
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Patrick Simbi	MLSC	Hauna District Hospital
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Micheal Marime	PFO	PMD Mash Central
Ronnie Munoriarwa	Lab Scientist	Bindura Hospital
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Modina Mashakada	Lab Scientist	Masvingo

K Mlambo	Lab Tech	Masvingo Hospital
Notice Mudota	SIC	Masvingo
Mary Joyce Muzondo	Lab Scientist	Chiredzi Hospital
Norman Murahwa	Lab Tech	Musiso Mission Hospital

ANNEX 2

HOUSEHOLD QUESTIONNAIRE

Good! My name is and I am here on behalf of the Ministry of Health and Child Welfare. We are working on a nationwide survey concerned with family health and malaria. We would very much appreciate your participation in this survey. The interview will take about 20 minutes. The information you provide will help the government to plan health services. All the information we obtain will remain strictly confidential and your answers will never be identified. During this time I would like to speak with the household head and all mothers or others who take care of children in the household.

May I start now? *IF PERMISSION IS GIVEN, BEGIN THE INTERVIEW.*

IDENTIFICATION PANEL													
H1. LOCALITY NAME				EA NUMBER:		H2. HOUSEHOLD NUMBER:							
H3. INTERVIEWER NAME				NUMBER:		H4. SUPERVISOR NAME				NUMBER:			
H5. DAY/MONTH/YEAR OF INTERVIEW										2	0	1	2
H6. AREA:						H7. PROVINCE							
URBAN 1													
RURAL..... 2						H7A. DISTRICT							
H 8. NAME OF HEAD OF HOUSEHOLD:													
AFTER ALL QUESTIONNAIRES FOR THE HOUSEHOLD HAVE BEEN COMPLETED, FILL IN THE FOLLOWING INFORMATION.													
H9. RESULT OF HOUSEHOLD INTERVIEW:						H10. RESPONDENT TO HOUSEHOLD QUESTIONNAIRE:							
COMPLETED 1						NAME: _____							
NOT AT HOME 2													
REFUSED 3													
HOUSEHOLD NOT FOUND/STRUCTURE						LINE NO:							
DESTROYED 4						H11. TOTAL NUMBER OF HOUSEHOLD MEMBERS:							

OTHER (<i>specify</i>) _____ 6	<table border="1"> <tr> <td></td> <td></td> </tr> </table>				
H12. NO. OF WOMEN ELIGIBLE FOR INTERVIEW: <table border="1"> <tr> <td></td> <td></td> </tr> </table>			H13. NO. OF WOMEN QUESTIONNAIRES COMPLETED: <table border="1"> <tr> <td></td> <td></td> </tr> </table>		
H14. NO. OF CHILDREN UNDER FIVE: <table border="1"> <tr> <td></td> <td></td> </tr> </table>			H15. TOTAL PREGNANT WOMEN: <table border="1"> <tr> <td></td> <td></td> </tr> </table>		

HOUSEHOLD LISTING

Now we would like some information about the people who usually live in your household or who are staying with you now.

LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	ELIGIBLE WOMEN	CURRENTLY PREGNANT?
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household.	What is the relationship of (NAME) to the head of the household? *	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) sleep here last night?	How old is (NAME)?	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	FOR ELIGIBLE WOMEN, ASK: Is (NAME) currently pregnant?
			Ko (ZITA) murume here kana mudzimai ?	Ko (ZITA) anowanzogarap ano here?	Ko (ZITA) akarapanousi kuhwapfuura here?	Ko (ZITA) avanemako remangani ekuberekw a?		Ko (ZITA) anepamuvi ri here?
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			M F	YES NO	YES NO	IN YEARS		YES NO/DK
01			1 2	1 2	1 2		01	1 2
02			1 2	1 2	1 2		02	1 2
03			1 2	1 2	1 2		03	1 2

04			1 2	1 2	1 2		04	1 2
05			1 2	1 2	1 2		05	1 2
* CODES FOR Q.3 RELATIONSHIP TO HEAD OF HOUSEHOLD: 01 = HEAD 02 = WIFE/HUSBAND		03 = SON OR DAUGHTER 04 = SON-IN-LAW OR DAUGHTER-IN-LAW		05 = GRANDCHILD 06 = PARENT 07 = PARENT-IN-LAW 08 = BROTHER OR SISTER			09 = OTHER RELATIVE 10 = ADOPTED/FOSTER/ STEPCHILD 11 = NOT RELATED 99 = DON'T KNOW	

NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	ELIGIBLE WOMEN	CURRENTLY PREGNANT?
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. <i>Ndipeiwomazitaevanhuva nowanzigarapaonkusang anisiravaenzivakararapa nousukuhwapfuura, muchitanganemusorowemba.</i>	What is the relationship of (NAME) to the head of the household? * <i>Ukamaihuripa katipa(zita) nemukuruwemba ?</i>	Is (NAME) male or female? <i>Ko (ZITA) murume here kana mudzimai ?</i>	Does (NAME) usually live here? <i>Ko (ZITA) anowanzogara pano here?</i>	Did (NAME) sleep here last night? <i>Ko (ZITA) akararapanousikuhwapfuura here?</i>	How old is (NAME)? <i>Ko (ZITA) avanemakoremanganiekuberekwa?</i>	CIRCLE LINE NUMBER OF ALL WOMEN AGE 15-49	FOR ELIGIBILITY: WOMEN, ASK: Is (NAME) currently pregnant? <i>Ko (ZITA) anepamuvuri here?</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
06			M F 1 2	YES NO 1 2	YES NO 1 2	IN YEARS	06	YES NO/DK 1 2
07			1 2	1 2	1 2		07	1 2
08			1 2	1 2	1 2		08	1 2
09			1 2	1 2	1 2		09	1 2
10			1 2	1 2	1 2		10	1 2
11			1 2	1 2	1 2		11	1 2

* CODES FOR Q.3 RELATIONSHIP TO HEAD OF HOUSEHOLD: 01 = HEAD 02 = WIFE/HUSBAND	03 = SON OR DAUGHTER 04 = SON-IN-LAW OR DAUGHTER-IN-LAW	05 = GRANDCHILD 06 = PARENT 07 = PARENT-IN-LAW 08 = BROTHER OR SISTER	09 = OTHER RELATIVE 10 = ADOPTED/FOSTER/STEPCHILD 11 = NOT RELATED 99 = DON'T KNOW
--	---	---	--

NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	ELIGIBLE WOMEN	CURRENTLY PREGNANT
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. <i>Ndipeiwomazitaevanhuva nowanzigarapaonkusang anisiravaenzivakararapa nousukuhwapfuura, muchitanganemusorowem ba.</i>	What is the relationship of (NAME) to the head of the household? * <i>Ukamaihuripak atipa(zita) nemukuruwemba ?</i>	Is (NAME) male or female? <i>Ko (ZITA) murume here kana mudzimai ?</i>	Does (NAME) usually live here? <i>Ko (ZITA) anowanzogarapano here?</i>	Did (NAME) sleep here last night? <i>Ko (ZITA) akarapanousikuh wapfuura here?</i>	How old is (NAME)? <i>Ko (ZITA) avanemakoremangan iekuberekwa?</i>	CIRCLE NUMBER OF ALL WOMEN AGE 15-49	FOR WOMEN, AS Is (NAME) pregnant? <i>Ko (ZITA) here?</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12			1 2	1 2	1 2		12	1 2
13			1 2	1 2	1 2		13	1 2
14			1 2	1 2	1 2		14	1 2
15			1 2	1 2	1 2		15	1 2
* CODES FOR Q.3		03 = SON OR DAUGHTER 04 = SON-IN-LAW OR DAUGHTER-IN-LAW		05 = GRANDCHILD 06 = PARENT 07 = PARENT-IN-LAW 08 = BROTHER OR SISTER			09 = OTHER RELATIVE 10 = ADOPTED/FOSTER/STEPCHILD 11 = NOT RELATED 99 = DON'T KNOW	
TICK HERE IF CONTINUATION SHEET USED								
Just to make sure that I have a complete listing:								
1)			Are there any other persons such as small children or infants that we have not listed?			ENTER EACH IN TABLE YES NO		

2)

In addition, are there any other people who may not be members of your family, such as domestic servants, lodgers or friends who usually live here?

YES

>

ENTER EACH IN
TABLE NO

3)

Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed?

YES

>

ENTER EACH IN
TABLE NO

Section 1: GENERAL KNOWLEDGE ON MALARIA

10	Line number of Respondent		
11	Sex of Respondent <i>Komupindurimunhurume here kana munhukadzi?</i>	Male..... 1	
		Female..... 2	
12	Respondent's Highest Level of Education <i>Makadzidza kusvika rugwaro rwupi?</i>	No Education..... 1	
		Primary Education..... 2	
		Secondary Education..... 3	
		Tertiary Education..... 4	
13	What is/are the main health problem/disease in your area (MULTIPLE RESPONSES POSSIBLE) <i>Vanhuvemunharaundainovanonyanyakurwaranezvirwerezvipi?</i>	Diarrhoea..... A	
		Malaria..... B	
		Tuberculosis..... C	
		HIV/AIDS..... D	
		Malnutrition..... E	
		Others Specify..... X	
		Don't Know..... Z	
14	Have you ever heard or read about malaria? If no probe <i>Makambonzwa here kana kuverenganezvechirwerechemalaria?</i>	Yes..... 1	
		No..... 2	→ 16
15	From what source did you hear or read about malaria? (Multiple responses) <i>Makanzwakupi/ makaverengapainezvechirwerechemalaria?</i>	Health Facility Workers..... A	
		Community Health Worker..... B	
		Relatives..... C	
		Radio..... D	
		TV..... E	
		Newspaper..... F	
		Schools..... G	
		Book/Pamphlets/Posters..... H	
		Others Specify..... X	
16	In this area what would be the preferred method/medium for transmitting malaria messages? <i>Munharaundamunondeipinziraingashandiswakuzivisavanhunezvemalaria?</i>	Use of Radio..... A	
		TV..... B	
		One on one..... C	
		Meeting..... D	
		Drama..... E	

	(Multiple response)	Road show..... F Posters and pamphlets..... G Others specify X Don't Know----- Z	
17	What causes malaria? (Multiple response) <i>Chiichinokonzerachirwerechemalaria?</i>	Bite from infected mosquito A Bite from any mosquito..... B Dirty water D Food..... E Water melons/sugar cane F Harmful spirits G Others Specify X Don't Know Z	
18	What are the main signs and symptoms of malaria? <i>Ndezvipizvinhuzvinoratidzakutimunhuarikurwaranechirwerechemalaria?</i> (Multiple responses)	Fever/Hot body/chills..... A Headache B Nausea/Vomiting..... C Diarrhoea..... D Dizziness..... E Loss of appetite..... F Joint pains..... G Others Specify X Don't Know Z	
19	What methods are used to prevent malaria in your community? (Multiple responses) <i>Ndedzipinziradzingashandiswekudzivirira munharaundayenyu? malaria</i>	Use of un treated net A Conventional..... B Use of treated Mosquito Nets (LLINS)..... C Indoor house spraying..... D Larval control..... E Use of modern repellents..... F Use of traditional repellents..... G IPTP..... H None..... X Others specify..... Z Don't know	

Section 2: HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
20	What is the main source of drinking water for members of your household? <i>MvuraYenyuYekumwaMunowanzoiwanaKupi?</i>	PIPED WATER Piped into dwelling 11 Piped into yard or plot..... 12 Public tap/standpipe 13 Tube well/Borehole 21 DUG WELL Protected well..... 31 Unprotected well 32 WATER FROM SPRING Protected Spring41 Unprotected Spring 42 Rainwater collection..... .51 Tanker-truck..... 61 Cart with small tank/drum 71 SURFACE WATER River/stream/Dam/lake/pond/canal/ irrigation channel) 81 Bottled (distilled) water 91 Other (<i>specify</i>)..... 96	
21	What kind of a toilet facility does your household use? <i>Vanhuvevumbamunovanowanzoshandisachimbuzichemhand oipi?</i>	Flush/pour flush Flush to piped sewer system..... 11 Flush to septic tank..... 12 Flush to pit (latrine).....13 Flush to somewhere else 14 Flush to unknown place/not sure/ DK where15 Pti Latrine Ventilated Improved Pit latrine (VIP)(Blair toilet).....21	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		Pit latrine with slab..... 22 Pit latrine without slab/open pit..... 23 Bucket toilet 41 No facilities/bush/ field 61 Other (<i>specify</i>) 96	
22	Does your household have: Electricity that is connected? Radio in working condition? Television in working condition? Mobile telephone in working condition? Non-mobile telephone in working condition? Refrigerator in working condition? Computer in working condition? Solar panel for power? Battery or generator for power? <i>Pamushapanomunezvinotevera here:</i> <i>Magetsi ?</i> <i>Dzangaradzimu?</i> <i>Nharembozha?</i> <i>Computer</i> <i>MAGETSI ESOLAR?</i> BATTERY KANA GENERATOR?	YES NO Electricity1.....2 Radio..... .1.....2 Television.....1.....2 Mobile Telephone.....1.....2 Non-mobile telephone.....1.....2 Refrigerator.....1.....2 Computer 1 ... 2 Solar panel..... 1 ... 2 Battery or Generator..... 1 2	
23	What type of fuel does your household mainly use for cooking?	Electricity..... 1 Liquefied Petroleum Gas (LPG)..... 2 Natural Gas.....3 Biogas.....4	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
		Kerosene/ Paraffin5 Gel.....6 Coal/Lignite.....7 Charcoal 8 Wood..... 9 Straw/Shrubs/grass.....10 Crop residue/sawdust 11 Animal waste..... 12 None, no cooking 95 Other (<i>specify</i>) 96	
24	Main material of the dwelling floor: RECORD OBSERVATION.	Natural floor Earth/sand/dung..... 11 Rudimentary floor Wood planks..... 21 Finished floor Parquet or polished wood 31 Vinyl or asphalt strips 32 Ceramic tiles 33 Cement..... 34 Carpet..... 35 Other (<i>specify</i>)..... 96	
25	Main material of the roof. Record observation.	Natural roofing No Roof 11 Thatch 12 Rudimentary Roofing Rustic mat 21 Wood planks 23 Finished roofing	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
		Metal 31 Wood 32 Asbestos..... 33 Tiles..... 34 Cement..... 35 Other (<i>specify</i>) 96		
26	Main material of the walls. <i>RECORD OBSERVATION.</i>	Natural walls Cane/ trunks 11 Mud (Pole and dagger) 12 Rudimentary walls Stone with mud 22 Plywood 24 Carton 25 Reused wood..... 26 Finished walls Cement..... 31 Stone with lime/cement..... 32 Bricks..... 33 Cement blocks..... 34 Wood planks/shingles 36 Other (<i>specify</i>) 96		
27	Does any member of your household own: Watch Bicycle? Motorcycle or scooter?	YES NO Watch.....1.....2 Bicycle.....1.....2 Motorcycle/Scooter1.....2 Animal drawn-cart.....1.....2 Car/Truck.....1.....2		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
	Animal-drawn cart? Car or truck? Tractor? Canoe/Boat with a motor? Wheel Barrow? Pane mumwemunhuwepambapano here ane: Wachi Bicycle? Mudhudhudhu? Ngoro/Chikochikari? Motokari? Tarakita? Chikepe? BHARA?	Canoe/Boat without a motor?1 ... 2 Boat with motor.....'.....1.....2 Wheel barrow 1 2		
28	Does this household own any livestock, herds, or farm animals? Mungavanezvipfuwo here panopamusha?	Yes..... No	1 2	2⇒ 30
29	How many of the following animals does this household have? CATTLE? HORSES? DONKEYS, OR MULES? GOATS? SHEEP? PIG? CHICKENS/POULTRY? RABBITS? Munezvipfuyozvingani pane zvinotevera? Mombe? Mabhiza, Mbongoro, Nyurusi	Cattle..... Horses..... Donkeys, or Mules..... Goats..... Sheep Pigs		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
	<i>Mbudzi?</i> <i>Hwayi?</i> <i>Nguruve?</i> <i>Zvimwezvipfuyozvepamba (specify)</i> <i>Huku?</i> <i>Dzimweshiridzepamba? (specify)</i> <i>Zvimwewozvipfuyo? (specify)</i> <i>if none, record '00'.</i> <i>if more than 97, record '97'.</i> <i>if unknown, record '98'.</i>	Chickens/Poultry..... Rabbits.....		
30	At any time in the past 12 months, has anyone sprayed the interior walls of your dwelling against mosquitoes? <i>Mumwedziguminemiviriyapfuura, pane akafiritamadziroemumbakudziviriraunhutuhunokonzera malaria here?</i>	Yes.....1 No.....2 Don't know.....8	→ →	3 4
31	How many months ago was the house sprayed? <i>Izvizvakaitamwedziminganiyapfuura?</i> IF LESS THAN ONE MONTH, RECORD '00' MONTHS AGO.	Months ago.....		
32	Who sprayed the house? <i>Ndianiakafiritaimbayenyu?</i>	Government programme.....1 Private company.....2 Household member.....3 Other Specify _____ 6 Don't know.....8		
33	If not, why was your house not sprayed?	Unpleasant smell from chemical..... Chemical causes itching..... Chemical causes asthma..... Infringes my privacy..... Chemical tarnishes my wall..... Chemical causes bed bugs and lice..... Spraying team did not honour their schedule....	A B C D E F G	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
		Chemical not safe for human beings..... Chemical not safe for domestic animals..... Traditional or religious beliefs..... Not present during spraying..... Not aware of the spraying exercise..... Chemical not effective in killing mosquitoes... Other Specify:	H I J K L M X	
34	Does your household have any mosquito nets that can be used while sleeping? <i>Pambapano pane mosquito net(s) inoshandiswapakurara?</i>	Yes.....1 No.....2		49
35	How many mosquito nets does your household have? <i>Munemamosquito net mangani?</i> IF 7 OR MORE NETS, RECORD '7'.	Number of nets	  	

		NET # 1	NET #2	NET #3
36	ASK RESPONDENT TO SHOW YOU THE NET (S) IN THE HOUSEHOLD. <i>If more than 3 nets use additional questionnaires.</i>	Observed.....1 Not Observed..... 2	Observed 1 Not Observed...2	Observed1 Not observed..... 2
37	Did you buy this net or it was given for free? <i>Makatenga here net iyi kana kutimakapiwapachena?</i>	Bought 1 Free.....2 Don't know-----8	Bought..... 1 Free.....2 Don't know-----8	Bought..... 1 Free.....2 Don't know-----8
38	Where did you obtain the net?	Mass campaign.....1 Government health facility.....2 Private facility.....3 Mission facility4 Retail shop.....5 Pharmacy....6 CHW7 Workplace.....8 Other (specify).....96	Mass campaign.....1 Government health facility.....2 Private facility.....3 Mission facility4 Retail shop.....5 Pharmacy....6 CHW7 Workplace.....8 Other specify.....96 Don't know.....98	Mass campaign.....1 Government health facility.....2 Private facility.....3 Mission facility4 Retail shop.....5 Pharmacy....6 CHW7 Workplace.....8 Other specify.....9 6 Don't know.....98

		Don't know.....98		
39	How long ago did your household obtain the mosquito net? <i>Mavenenguvayakadiimuchishandisa net iyi?</i>	Less than a year.....1 1-2 years.....2 2-3 years3 More than 3 years ago.... 95 Not sure.....98	Less than a year.....1 1-2 years.....2 2-3 years3 More than 3 years ago.... 95 Not sure.....98	Less than a year.....1 1-2 years.....2 2-3 years3 More than 3 years ago.... 95 Not sure.....98
40	OBSERVE OR ASK THE TYPE OF MOSQUITO NET. IF TYPE IS UNKNOWN, AND YOU CANNOT OBSERVE THE NET, SHOW PICTURES OF TYPICAL NET TYPES TO RESPONDENT.	'Long Lasting net.....1 (Skip to 44) ☐ 'Conventional net.....2 Don't' know8	'Long Lasting net.....1 (Skip to 44) ☐ 'Conventional net.....2 Don't' know8	'Long Lasting net.....1 (Skip to 44) ☐ 'Conventional net.....2 Don't' know8
41	When you got the net, was it already factory-treated with an insecticide to kill or repel mosquitoes? <i>Pamakawana mosquito net iyi, yakangayakafiritwanemushongawekuuraya kana kudzingaumhutu?</i>	Yes.....1 No.....2 Not sure.....8	Yes.....1 No.....2 Not sure.....8	Yes.....1 No.....2 Not sure.....8
42	Since you got the mosquito net, was it ever soaked or dipped in a liquid to repel mosquitoes? <i>Kubvirapamakawana mosquito net iyi, yakambonyikwamumushongaunouraya kana kudzingaumhutu?</i>	Yes.....1 No.....2 ☐ Not sure8 Skip to 44	Yes.....1 No.....2 ☐ Not sure8 Skip to 44	Yes.....1 No.....2 ☐ Not sure8 Skip to 44
43	How long ago was the net last soaked or dipped? <i>Pave nenguvayakadiikubvirapamakapedzisirakunyika mosquito net yenyumumushongauyu?</i> If less than 1 month record >00months. If less than 2 years ago record months ago. If '12months ago' or '1 year ago,' Probe for exact number of months.	Less than 6 months1 6-12 months Ago-----2 More than a year ago3 Not sure..... 8	Less than 6 months1 6-12 months Ago-----2 More than a year ago3 Not sure8	Less than 6 months1 6-12 months Ago-----2 More than a year ago3 Not sure..... 8
44	Is the net hanging for sleeping? <i>Net iyiyakaturikwa here?</i> PLEASE OBSERVE OR ASK IF THE NET IS HANGING	Yes.(observed).....1 Yes (not observed).....2 No.....3	Yes.(observed).....1 Yes (not observed).....2 No.....3	Yes.(observed).....1 Yes (not observed).....2 No.....3

45	If net not hanged, why? <i>Sei net yenyuisinakuturikwa?</i>	Nowhere to hang it.....1 Don't know how to use.....2 No need to use it.....3 User not present.....4 It is difficult to hang.....5 Not malaria season.....6 Traditional or religious beliefs.....7 Inconvenient shape.....8 Net hung during the night only.....9 used for multi purposes.....10 Other Specify:96	Nowhere to hang it.....1 Don't know how to use.....2 No need to use it.....3 User not present.....4 It is difficult to hang.....5 Not malaria season.....6 Traditional or religious beliefs.....7 Inconvenient shape.....8 Net hung during the night only.....9 used for multi purposes.....10 Other Specify:96	Nowhere to hang it.....1 Don't know how to use.....2 No need to use it.....3 User not present.....4 It is difficult to hang.....5 Not malaria season.....6 Traditional or religious beliefs.....7 Inconvenient shape.....8 Net hung during the night only.....9 used for multi purposes.....10 Other Specify:96																																																						
46	Did anyone sleep under this mosquito net last night? <i>Pane akashandisa mosquito net iyi here pakurarausikuhwapfuura?</i>	Yes.....1 No.....2 →skip to 48 Not sure ...92 →skip to 50	Yes.....1 No.....2 →skip to 48 Not sure ...92 →skip to 50	Yes.....1 No.....2 →skip to 48 Not sure ...92 →skip to 50																																																						
47	Who slept under this mosquito net last night? <i>Ndianiakashandisa mosquito net iyusikuhwapfuura?</i> RECORD THE RESPECTIVE NAMES AND LINE NUMBERS FROM THE HOUSEHOLD SCHEDULE AND SKIP TO 50	<table border="1"> <thead> <tr> <th>Name</th> <th colspan="2">Line Number</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Name	Line Number																	<table border="1"> <thead> <tr> <th>Name</th> <th colspan="2">Line Number</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Name	Line Number																	<table border="1"> <thead> <tr> <th>Name</th> <th colspan="2">Line Number</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	Name	Line Number																
Name	Line Number																																																									
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Name	Line Number																																																									
48	If not, why was the mosquito net not used? <i>Seimusingashandisi net iyi?</i>	Nowhere to hang it.....1 User not present.....2 It is difficult to	Nowhere to hang it.....1 User not present.....2 It is difficult to	Nowhere to hang it.....1 User not present.....2 It is difficult to hang.....3 Not malaria season.....4																																																						

		hang.....3 Not malaria season.....4 Causes itching.....5 Have difficulties in breathing.....6 It's hot to sleep inside it.....7 Feels confined (not free).....8 Traditional or religious beliefs.....9 Inconvenient shape.....10 My partner does not like it..11 My family members do not encourage mosquito net use.....12 Don't like the Color.....13 Other Specify:96	hang.....3 Not malaria season.....4 Causes itching.....5 Have difficulties in breathing.....6 It's hot to sleep inside it.....7 Feels confined (not free).....8 Traditional or religious beliefs.....9 Inconvenient shape.....10 My partner does not like it..11 My family members do not encourage mosquito net use.....12 Don't like the Color.....13 Other Specify:96	Causes itching.....5 Have difficulties in breathing.....6 It's hot to sleep inside it.....7 Feels confined (not free).....8 Traditional or religious beliefs.....9 Inconvenient shape.....10 My partner does not like it..11 My family members do not encourage mosquito net use.....12 Don't like the Color.....13 Other Specify:96
49	If household does not have net, why? <i>Seimusina net?</i>	Do not know where to access the net..... Too far to access the net..... Cannot afford to pay for the net..... Did not know about the distribution campaign..... Was away during the campaign..... Not enough nets during the campaign..... Other		1 2 3 4 5 6 96
50		White		1

	What color of the net do you prefer? <i>Mungadakuvekenetyerudzii?</i> OBSERVE OR ASK	Green Blue..... Other (SPECIFY)_____	2 3 6	
51	What shape of the net do you prefer? <i>Mungadakuvenenetyemhandoi?</i> OBSERVE OR ASK	Rectangle Conical..... Other (SPECIFY)_____	1 2 6	
52		Go back to 36for next net; OR, If no more nets go proceed with questionnaire.	Go back to 36 for next net; Or if no more nets go proceed with questionnaire.	Go back to 36in the first column of new questionnaire or if no more nets proceed with questionnaire.

¹ “Long lasting” is a factory treated net that does not require any further treatment.

² “Conventional” is a net that has been pre-treated, but requires further treatment after 6-12 months

Annex 3

Women Questionnaire

IDENTIFICATION PANEL		WM
<i>THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL WOMEN AGE 15 THROUGH 49</i> FILL IN ONE FORM FOR EACH ELIGIBLE WOMAN <i>FILL IN THE EA AND HOUSEHOLD NUMBER, AND THE NAME AND LINE NUMBER OF THE WOMAN IN THE SPACE BELOW. FILL IN YOUR NAME, NUMBER AND THE DATE.</i>		
W1. EA NUMBER:	W2. HOUSEHOLD NUMBER:	
W3. WOMAN'S NAME:	W4. WOMAN'S LINE NUMBER:	
W5. INTERVIEWER NAME AND NUMBER:	W6. DAY/MONTH/YEAR OF INTERVIEW:	

REPEAT GREETING IF NOT ALREADY READ TO THIS WOMAN:

Good! My name is and I am working for Ministry of Health and Child Welfare. We are working on a nationwide survey concerned with family health and malaria. You have been selected as one of the respondents for this survey and we would very much appreciate your participation. The interview will take about 30 minutes. The information you provide will help the Government to plan health. All the information we obtain will remain strictly confidential and your answers will never be identified.

AT THIS TIME DO YOU WANT TO ASK ME ANYTHING? MAY I BEGIN THE INTERVIEW NOW?

IF PERMISSION IS GIVEN, BEGIN THE INTERVIEW. IF THE WOMAN DOES NOT AGREE TO CONTINUE, THANK HER, COMPLETE WM7, AND GO TO THE NEXT INTERVIEW. DISCUSS THIS RESULT WITH YOUR SUPERVISOR FOR A FUTURE REVISIT.

W7. RESULT OF WOMAN'S INTERVIEW	COMPLETED 1 NOT AT HOME..... 2 REFUSED 3 PARTLY COMPLETED 4 INCAPACITATED 5 OTHER (<i>specify</i>) 6
W7A. Was questionnaire administered in privacy?	Yes.....1 No 2
W7B. TEAM LEADER (NAME AND NUMBER): Name _____	W7C. FIELD SUPERVISOR (NAME AND NUMBER): Name: _____

Section 1. RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES		SKIP
101	RECORD THE TIME.	Hours	Minutes	
102	In what month and year were you born? <i>Makazvarwamumwedziupiuye gore ripi?</i>	MONTH DON'T KNOW MONTH 98 YEAR..... DON'T KNOW YEAR 9998		
103	How old were you on your last birthday? <i>Munemakoremanganiakazara?</i>	AGE IN COMPLETED YEARS...		
	COMPARE AND CORRECT 102 AND/OR 103 IF INCONSISTENT.			
104	Have you ever attended school? <i>Makambopindachikoro here?</i>	YES.....1 NO.....2		→ 106
105A	What is the highest level of school you attended <i>Makasvikadhanoripiredzidzo</i>	PRIMARY1 SECONDARY2 TERTIARY.....3		
105B	What is the highest grade you completed at this level? <i>Makapedzagwaroripi?</i>	Grade/Years .		

Section 1. RESPONDENT'S BACKGROUND			
NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
106	What is your religion? <i>Munotendakuchitenderochipi?</i>	Christian.....1 Pentecostal.....2 Apostolic Masowe.....3 Apostolic Marange.....4 Moslem.....5 Traditional.....6 No Religion.....7 Others Specify _____96	

Section 2. REPRODUCTIVE HEALTH HISTORY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES			SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth? <i>IF 'NO' PROBE BY ASKING:</i> I mean, to a child who ever breathed or cried or showed other signs of life – even if he or she lived only a few minutes or hours? <i>Ikozinondavakudakubvunzanezvevanavenyuvamakaberekavarivapenyumu upenyuhwenyuhwese. Makamboberekavanamuupenyuhwenyu here?</i>	YES1 NO.....2			24 →
202	Do you have any sons or daughters to whom you have given birth to who are living with you? <i>Munevanasikana kana vanakomanavenyuvamakaberekavamurikugaranavo here?</i>	YES.....1 NO.....2			04 →
203	How many sons live with you? (Record 00 For None) <i>Vanakomanavamurikugaraanvovangani?</i> How many daughters live with you? (Record 00 For None) <i>Vanasikanavamurikugaranavovangani?</i>	Sons at home..... Daughters at home....			
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you? <i>Munevanakomana kana vanasikanavenyuvokuberekavamusingagarinavo here?</i>	YES.....1 NO.....2			06 →
205	How many sons are alive but do not live with you? (RECORD 00 FOR NONE) <i>Vanakomanavamusingagarinavovangani?</i> How many daughters are alive but do not live with you? (RECORD 00 FOR NONE) <i>Vanasikanavamisingagarinavovangani?</i>	Sons Elsewhere Daughters Elsewhere			
206	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive? <i>Munevanakomana kana vanasikanavamakaberekavarivapenyuasivakazofa here?</i>	YES.....1 NO.....2			08 →
207	How many boys have died? (RECORD 00 FOR NONE) <i>Vanakomanavakafavangani?</i>	Boys Dead..... Girls Dead.....			

	How many girls have died? (RECORD 00 FOR NONE)			
	<i>Vanasikanavakafavangani?</i>			
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL.	TOTAL		
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL ____ births during your life. Is that correct? <i>Kutindionekutizvandanyorandizvo here, imimunevana(____) vamakaberekamuupenyuhwenyuhwese here?</i> YES ☐ NO ☐ PROBE AND CORRECT 201-208 AS NECESSARY.			

210	CHECK 208:					NONE.....00		40 →
	ONE BIRTH TWO OR MORE BIRTHS TOTAL IN LAST 6 YRS							
211	Now I would like to record the names of all your births in the last six years, whether still alive or not, starting with the most recent one you had.							
	RECORD NAMES OF ALL BIRTHS IN THE LAST 6 YEARS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE LINES.							
212	213	214	215	216	217	218	219	220
What name was given to your (most recent/previous) baby? Mwanawamakapedzisirakuber ekaanonzi/ainziani? (NAME)	Were any of these births twins? Aivemapatya here?	Is (NAME) a boy or a girl? Ko (ZITA) murume here kana mudzimaj ?	In what month and year was (NAME) born? Makazvarwamumw edziupiyue gore ripi? PROBE: What is his/her birthday?	Is (NAME) still alive? Ko (Zita) mupenyu here?	IF ALIVE: How old was (NAME) at his/her last birthday? Ko (ZITA) avanemakoremanganie kuberekwaakazara? RECORD AGE IN COMPLETED YEARS.	IF ALIVE Is (NAME) living with you? Ko (Zita) anogaranemi here?	IF ALIVE: RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD).	Were there any other live births between (NAME) and (NAME) OF BIRTH ON PREVIOUS LINE)? Pane umwemwanawamakas ununguka here pakati pa(Zita) na(zitaaripaprevious line)
01	SING1 MULT ..2	BOY ...1 GIRL ..2	MONTH YEAR 	YES1 NO2 (NEXT BIRTH)	AGE IN YEARS 	YES 1 NO 2	LINE NUMBER (NEXT BIRTH)	
02	SING1	BOY ...1	MONTH 	YES1	AGE IN YEARS 	YES 1	LINE NUMBER 	YES1

	MULT ..2	GIRL ..2	YEAR 	NO.....2 		NO..... 2		NO.....2
03	SING1	BOY ...1	MONTH 	YES1	AGE IN YEARS 	YES 1	LINE NUMBER 	YES1
	MULT ..2	GIRL ..2	YEAR 	NO.....2 		NO..... 2		NO.....2
04	SING1	BOY ...1	MONTH 	YES1	AGE IN YEARS 	YES 1	LINE NUMBER 	YES1
	MULT ..2	GIRL ..2	YEAR 	NO.....2 		NO..... 2		NO.....2
05	SING1	BOY ...1	MONTH 	YES1	AGE IN YEARS 	YES 1	LINE NUMBER 	YES1
	MULT ..2	GIRL ..2	YEAR 	NO.....2 		NO..... 2		NO.....2

06	SING1	BOY ...1	MONTH YEAR	YES1 NO2 (GO TO 220)	AGE IN YEARS 	YES 1 NO 2	LINE NUMBER 	YES1 NO2
07	SING1	BOY ...1	MONTH YEAR	YES1 NO2 (GO TO 220)	AGE IN YEARS 	YES 1 NO 2	LINE NUMBER 	YES1 NO2

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
221	Have you had any live births since the birth of (NAME OF MOST RECENT BIRTH)? <i>MakasunungukaumwemwanamupenyupashurepaZita</i> (NAME OF MOST RECENT BIRTH)? IF YES, RECORD BIRTH(S) IN BIRTH TABLE.	YES.....1 NO.....2	
222	COMPARE 210 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME RECONCILE) NUMBERS ARE DIFFERENT (PROBE AND CHECK: FOR EACH BIRTH: YEAR OF BIRTH IS RECORDED. FOR EACH LIVING CHILD: CURRENT AGE IS RECORDED		

223	CHECK 215 AND ENTER THE NUMBER OF BIRTHS IN 2006 ¹ OR LATER. IF NONE, RECORD '0'.		
224	Are you pregnant now? <i>Komunepamuviri here parizvino?</i>	YES.....1 NO.....2 UNSURE.....9	26
225	How many months pregnant are you? <i>Pamuviripenyu pane mwedzimingani?</i> RECORD NUMBER OF COMPLETED MONTHS.	MONTHS 	
226	CHECK 223: ONE OR MORE BIRTHS IN March 2007 OR LATER NO BIRTHS IN March 2007 OR LATER		440
¹ For fieldwork beginning in 2006, 2007, or 2008, the year should be 2001, 2002, or 2003, respectively.			

Section 3A. PREGNANCY AND INTERMITTENT PREVENTIVE TREATMENT

301	ENTER IN 302 THE NAME AND SURVIVAL STATUS OF THE MOST RECENT BIRTH. Now I would like to ask you some questions about your last pregnancy that ended in a live birth, in the last 6 years. <i>Ikozvinnondavekudakukubvunzaimibvunzoyakanangananepamuviripamakapedzisirakuitamumakorematanhatuapfuura, mukazvaramwanaarimupenyu.</i>		
302	FROM QUESTIONS 212 AND 216 (LINE 01)	LAST BIRTH NAME _____ LIVING ☐ DEAD ☐	
303	When you were pregnant with (NAME), did you see anyone for antenatal care?¹ IF YES: Whom did you see? Anyone else? <i>Pane aikutarisai here kana kukuongororainezveutanomakazvitakura?</i> <i>Makatariswanani?</i> <i>Panemumwezve here?</i> PROBE FOR THE TYPE OF PERSON AND RECORD ALL PERSONS SEEN.	HEALTH PROFESSIONAL _____ DOCTORA NURSE/MIDWIFE..... B NURSE AID.....C OTHER PERSON _____ TRADITIONAL BIRTH ATTENDANT D OTHER X (SPECIFY) IF NO ONE Y	304
303A	What were the reasons for not accessing /seeking ANC services? <i>Seimusinakunoonekwakuchipataramuinepamuviri?</i>	Health facility too far.....1 No permission2 Did not have money to travel.....3 Could not afford service4 Traditional or religious beliefs.....5 Not important.....6 Saw no urgency.....7 Alternative care at home.....8 Did not know about the service.....10 Low risk perception.....11 Other Specify:96	

304	During this pregnancy, did you take any drugs in order to prevent you from contracting malaria? <i>Pamaivemakazvitakuraapa,</i> <i>makambonwamushongawekudzivirachirwerechemalaria here?</i>	YES.....1 NO2 DON'T KNOW.....8	→ 308						
304A	If YES: How old was the pregnancy when you first sought the drugs? <i>Pamuviripaivenemwedziminganipamakaendakunopiwamushungauyukwekutanga?</i>	0-4 Months.....1 4-6 months.....2 After 6 months.....3							
305	Which drugs did you take to prevent malaria?² <i>Makanwamishongaipi?</i> RECORD ALL MENTIONED. IF TYPE OF DRUG IS NOT DETERMINED, SHOW TYPICAL ANTIMALARIAL DRUGS TO RESPONDENT.	SP/FANSIDAR.....A CHLOROQUINE..... B OTHER X (SPECIFY) DON'T KNOW..... Z							
306	CHECK 305: DRUGS TAKEN FOR MALARIA PREVENTION	CODE "A" CIRCLED..... ☐ CODE "A" NOT CIRCLED ☐	310 →						
307	How many times did you take SP/Fansidar during this pregnancy? <i>Makanwa SP/Fansidar kanganimakazvitakura?</i>	TIMES <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table>							

307A	If less than 2 times, why? <i>Seimakanwakamwecheteche?</i>	Health facility too far.....1 No permission.....2 No SP on day of visit.....3 Did not have money to travel.....4 Could not afford service.....5 Traditional or religious beliefs.....6 Not important.....7 Saw no urgency.....8 Alternative care at home.....9 Anti-malarial not safe for my baby.....10 Did not know about the service..11 Low risk perception.....12 Other Specify:.....96	
308	CHECK 303: ANTENATAL CARE FROM A HEALTH PROFESSIONAL RECEIVED DURING THIS PREGNANCY?	CODE 'A', 'B',OR 'C' CIRCLED ☐ OTHER ☐	10 →
309	Did you get the SP/Fansidar during an antenatal visit, during another visit to a health facility, or from some other source? <i>SP/Fansidar iyimakaiwanakupi?</i>	ANTENATAL VISIT1 ANOTHER FACILITY VISIT2 OTHER SOURCE 6 (SPECIFY)	

310	CHECK 215 AND 216:	
	ONE OR MORE LIVING CHILDREN BORN March 2007 ¹ OR LATER	☐
	NO LIVING CHILDREN BORN IN March 2007 ¹ OR LATER	☐

¹For fieldwork beginning in 2006, 2007, or 2008, the year should be 2001, 2002, or 2003, respectively.

Section 3B. FEVER IN CHILDREN

311	ENTER IN THE TABLE THE LINE NUMBER AND NAME OF EACH LIVING CHILD BORN IN March 2007 ¹ OR LATER. (IF THERE ARE MORE THAN 2 LIVING CHILDREN BORN IN March 2007 OR LATER, USE ADDITIONAL QUESTIONNAIRES). <i>Now I would like to ask you some questions about the health of all your children less than 5 years old. (We will talk about each one separately.)</i> <i>Ikozvinnondinodakubvunzainezveutanohwevanavenyuvapipemakoremashanu. Tichatanganewekupedzisira.</i>		
312	NAME AND LINE NUMBER FROM 212	YOUNGEST CHILD LINE NUMBER NAME	NEXT-TO-YOUNGEST CHILD LINE NUMBER NAME
313	Has (NAME) been ill with a fever at any time in the last 2 weeks? <i>Musvondombiridzapfuura (Zita) akamborwara here zvekupindwanechandokanakupisamuviri?</i>	YES.....1 NO.....2 (GO TO 313 FOR NEXT CHILD OR, IF NO MORE CHILDREN, SKIP TO 440) DON'T KNOW.....8	YES.....1 NO.....2 (GO TO 313 FOR NEXT CHILD OR, IF NO MORE CHILDREN, SKIP TO 440) DON'T KNOW.....8
314	How many days ago did the fever start? <i>Izvizvakatangariini?</i> IF LESS THAN ONE DAY, RECORD '00'.	 DAYS AGO DON'T KNOW.....98	 DAYS AGO..... DON'T KNOW.....98
315	Did you seek advice or treatment for the fever from any source? <i>Makambotsvaga here rubatsiro kana kurapwanekudakweurwewurwu?</i>	YES.....1 NO.....2 (SKIP TO 317) ☐	YES.....1 NO.....2 (SKIP TO 317) ☐
316		PUBLIC SECTOR	PUBLIC SECTOR

	a) Where did you seek advice or treatment? <i>Ndekupikwamakatangakuendakunotsvagarubatsiro?</i> Anywhere else? RECORD ALL SOURCES MENTIONED	GOVT. HOSPITAL.....A RURAL HEALTH CENTER/CLINIC.....B MISSION HOSPITAL.....C MOBILE CLINIC.....D COMMUNITY WORKER.....E OTHER PUBLIC _____ H (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....G PHARMACY.....H PRIVATE DOCTOR.....I OTHER PVT. MEDICAL _____ O (SPECIFY) OTHER SOURCE SHOP.....P TRAD. PRACTITIONER.....Q OTHER _____ X (SPECIFY)	GOVT. HOSPITAL.....A RURAL HEALTH CENTER/CLINIC.....B MISSION HOSPITAL.....C MOBILE CLINIC.....D COMMUNITY WORKER.....E OTHER PUBLIC _____ H (SPECIFY) PRIVATE MEDICAL SECTOR PVT. HOSPITAL/CLINIC.....G PHARMACY.....H PRIVATE DOCTOR.....I OTHER PVT. MEDICAL _____ O (SPECIFY) OTHER SOURCE SHOP.....P TRAD. PRACTITIONER.....Q OTHER _____ X (SPECIFY)												
316A	How many days after the fever began did you first seek treatment for (NAME)? <i>Makanotsvagarubatsirokwaperamazuvamanganihurw erehwatanga?</i> IF THE SAME DAY, RECORD '00'.	DAYS <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table>							DAYS <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table>						
316B	If not in a day, what were the reasons for not seeking early treatment? <i>Seimusinakunotsvagarubatsiro?</i> CIRCLE ALL MENTIONED	Health facility too far.....A No permissionB No one to accompany me to the clinic.....C Did not have money to travel.....D	Health facility too far.....A No permissionB No one to accompany me to the clinic.....C Did not have money to travel.....D												

		Could not afford treatmentE Used traditional or religious treatment first.....F Traditional or religious beliefs.....G Did not see the urgency.....H Self treated at home.....I Village health worker did not have anti-malarials.....J Other Specify:X	Could not afford treatmentE Used traditional or religious treatment first.....F Traditional or religious beliefs.....G Did not see the urgency.....H Self treated at home.....I Village health worker did not have anti-malarials.....J Other Specify:X
317	Is (NAME) still sick with a fever? <i>(Zita) achirikupisa kana kupindwanechando here?</i>	YES.....1 NO.....2 DON'T KNOW.....8	YES.....1 NO.....2 DON'T KNOW.....8
¹ For fieldwork beginning in 2006, 2007, or 2008, the year should be 2001, 2002, or 2003, respectively. ² Coding categories to be developed locally and revised based on the pre-test; however, the broad categories must be maintained.			

		YOUNGEST CHILD	NEXT-TO-YOUNGEST CHILD
		NAME _____	NAME _____
318	At any time during the illness, did (NAME) take any drugs for the fever? <i>Paairwara (Zita) akambonwamishonga here?</i>	YES.....1 NO..... 2 (SKIP 440) ☐ _____ DON'T KNOW..... 8	YES.....1 NO.....2 (SKIP 440) _____ DON'T KNOW.....8
319	What drugs did (NAME) take? ¹ <i>(Zita) akanwamishongaipi?</i> Any other drugs? <i>Panemimwe here mishonga?</i> RECORD ALL MENTIONED. ASK TO SEE DRUG(S)/CLINIC RECORD IF TYPE OF DRUG IS NOT KNOWN. IF TYPE OF DRUG IS STILL NOT DETERMINED.	ANTIMALARIAL QUININEC ACT.....D OTHER ANTIMALARIAL _____ F (SPECIFY) OTHER DRUGS ASPIRING ACETAMINOPHEN/ PARACETAMOLH IBUPROFEN.....I OTHER _____ X (SPECIFY) DON'T KNOW Z	ANTIMALARIAL QUININE..... C ACT D OTHER ANTIMALARIAL _____ F (SPECIFY) OTHER DRUGS ASPIRIN..... G ACETAMINOPHEN/ PARACETAMOL..H IBUPROFEN I OTHER _____ X (SPECIFY) DON'T KNOW Z
320	CHECK 319: ANY CODE C-F CIRCLED?	YES NO (GO BACK TO 317 ☐ ☐ IN NEXT COLUMN; ☐ ☐ OR IF NO MORE * ☐ ☐ ☐ ☐ BIRTHS, SKIP TO * 440)	YES NO (GO BACK TO 317 ☐ ☐ IN NEXT COLUMN; ☐ ☐ OR IF NO MORE * ☐ ☐ ☐ ☐ BIRTHS, SKIP TO * 440)
328			

	CHECK 319: WHICH MEDICINES?	CODE 'C'	CODE 'C'	CODE 'C'	CODE 'C'
		CIRCLED	NOT CIRCLED	CIRCLED	NOT CIRCLED
			(SKIP TO 332)	(SKIP TO 332)	
329	How long after the fever started did (NAME) first take Quinine? (Zita) akatangakunwa Quinine kwaperanguvayakadiikubvirapaakatangakurwara?	SAME DAY 1 NEXT DAY 2 TWO DAYS AFTER THE FEVER..... 3 THREE DAYS AFTER THE FEVER..4 FOUR OR MORE DAYS AFTER THE FEVER..... 5 DON'T KNOW 8	SAME DAY1 NEXT DAY.....2 TWO DAYS AFTER THE FEVER3 THREE DAYS AFTER THE FEVER..4 FOUR OR MORE DAYS AFTER THE FEVER.....5 DON'T KNOW8		
330	For how many days did (NAME) take Quinine? (Zita) akanwa Quinine kwemazuvamangani? IF 7 OR MORE DAYS, RECORD '7'.	DAYS DON'T KNOW 8	DAYS DON'T KNOW 8		
331	Where did you get the Quinine from? Makawanakupi Quinine? IF SOMEWHERE ELSE, PROBE FOR SOURCE. IF MORE THAN ONE SOURCE MENTIONED, ASK: Where did you get the Quinine first? Makawanakupi Quinine pekutanga?	AT HOME 1 GOVERNMENT HEALTH FACILITY/WORKER..... 2 PRIVATE HEALTH FACILITY/WORKER..... 3 SHOP 4 OTHER 6 (SPECIFY) DON'T KNOW 8	AT HOME.....1 GOVERNMENT HEALTH FACILITY/WORKER.....2 PRIVATE HEALTH FACILITY/WORKER.....3 SHOP4 OTHER6 (SPECIFY) DON'T KNOW8		
331A	Was the Quinine treatment course completed? (Zita) akamwaakapedza here mushongawaakangaapiwawekurapachirwerekhemalari a?	Yes.....1 (If yes skip to 332) No.....2	Yes.....1 (If yes skip to 332) No.....2		
331B	Why was the course not completed? Sei (Zita) asinakupedzamushongauyu?	Was having side effects.....1 Was feeling better.....2	Was having side effects.....1 Was feeling better.....2		

		Bitter taste.....3 Shared with other family members....4 Other (specify).....5	Bitter taste.....3 Shared with other family members.....4 Other (specify).....5																								
332	CHECK 319: WHICH MEDICINES?	<table border="0"> <tr> <td>CODE 'D'</td><td>CODE 'D'</td></tr> <tr> <td>CIRCLED</td><td>NOT CIRCLED</td></tr> <tr> <td>☐</td><td>☐</td></tr> <tr> <td>☐</td><td>☐</td></tr> <tr> <td> </td><td>•</td></tr> <tr> <td>•</td><td>(SKIP TO 336)</td></tr> </table>	CODE 'D'	CODE 'D'	CIRCLED	NOT CIRCLED	☐	☐	☐	☐		•	•	(SKIP TO 336)	<table border="0"> <tr> <td>CODE 'D'</td><td>CODE 'D'</td></tr> <tr> <td>CIRCLED</td><td>NOT CIRCLED</td></tr> <tr> <td>☐</td><td>☐</td></tr> <tr> <td>☐</td><td>☐</td></tr> <tr> <td> </td><td>•</td></tr> <tr> <td>•</td><td>(SKIP TO 336)</td></tr> </table>	CODE 'D'	CODE 'D'	CIRCLED	NOT CIRCLED	☐	☐	☐	☐		•	•	(SKIP TO 336)
CODE 'D'	CODE 'D'																										
CIRCLED	NOT CIRCLED																										
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CIRCLED	NOT CIRCLED																										
☐	☐																										
☐	☐																										
	•																										
•	(SKIP TO 336)																										
333	How long after the fever started did (NAME) first take ACT? (Zita) akatangakunwa ACT kwaperanguvayakadiikubvirapaatangakurwara?	SAME DAY 1 NEXT DAY 2 TWO DAYS AFTER THE FEVER..... 3 THREE DAYS AFTER THE FEVER..4 FOUR OR MORE DAYS AFTER THE FEVER..... 5 DON'T KNOW 8	SAME DAY1 NEXT DAY2 TWO DAYS AFTER THE FEVER3 THREE DAYS AFTER THE FEVER..4 FOUR OR MORE DAYS AFTER THE FEVER.....5 DON'T KNOW8																								
334	For how many days did (NAME) take ACT? (Zita) akanwa ACT kwemazuvamangani? IF 7 OR MORE DAYS, RECORD '7'.	<table border="0"> <tr> <td></td><td> </td></tr> <tr> <td>DAYS.....</td><td> </td></tr> <tr> <td></td><td> </td></tr> <tr> <td>DON'T KNOW</td><td>8</td></tr> </table>			DAYS.....				DON'T KNOW	8	<table border="0"> <tr> <td></td><td> </td></tr> <tr> <td>DAYS.....</td><td> </td></tr> <tr> <td></td><td> </td></tr> <tr> <td>DON'T KNOW</td><td>8</td></tr> </table>			DAYS.....				DON'T KNOW	8								
DAYS.....																											
DON'T KNOW	8																										
DAYS.....																											
DON'T KNOW	8																										
335	Where did you get the ACT from? Makawanakupi ACT? IF SOMEWHERE ELSE, PROBE FOR SOURCE. IF MORE THAN ONE SOURCE MENTIONED, ASK: Where did you get the Quinine first? Makawanakupi ACT pekutanga?	AT HOME..... 1 GOVERNMENT HEALTH FACILITY/WORKER..... 2 PRIVATE HEALTH FACILITY/WORKER..... 3 SHOP..... 4 OTHER..... 6 (SPECIFY) DON'T KNOW 8	AT HOME.....1 GOVERNMENT HEALTH FACILITY/WORKER.....2 PRIVATE HEALTH FACILITY/WORKER.....3 SHOP4 OTHER.....6 (SPECIFY) DON'T KNOW8																								
335A	Was the ACT treatment course completed? (Zita) akamwaakapedza here mushongawaakangaapiwawekurapachirwerechemalari	Yes.....1 (If yes skip to 336)	Yes.....1 (If yes skip to 336)																								

340		GO BACK TO 313 IN NEXT COLUMN, OR, IF NO MORE CHILDREN, GO TO 440.	GO BACK TO 313 IN FIRST COLUMN OF NEW QUESTIONNAIRE, OR, IF NO MORE GO TO 440.
-----	--	---	--

Section 4. GENERAL MALARIA			
440	Do you need to ask permission from someone to seek treatment for the child when they have fever? <i>Munofanirakukumbiramumwemunhumvumoyekunorapisamwanawenyu here kana apisamuviri kana kupindwanechando?</i>	Yes1 No.....2 → 442	
441	Who do you need to seek permission from? <i>Ndianiwamunokumbiramvumokwaari?</i>	Husband / Partner.....1 Mother.....2 Mother-in-law.....3 Other relative.....4 Other specify:6	
442	What are the main danger signs of serious illness in a child under 5? <i>Ndezvipizvinokuratidzaikutimwanaaripasipemakoremashanuarwarazvakanya nya?</i> Prompt: anything else?	Fever.....A Repeated Vomiting.....B Unable to drink / breastfeed.....C Difficulty breathing.....D Convulsions.....E Other (specify).....X Don't know.....Z	
443	If you treat at home what do you do? <i>Munorapasei mega kumba?</i> Multiple answers possible	Sponging.....A Herbal treatment.....B Spiritual Healing.....C Western drugs.....D Others (Specify).....X	
444	Why should your child complete the dose of antimalarial medicine that he/she has been given? <i>Seimwanawenyuachifanirakupedzamusongawaanengeapiwa kana arwara?</i>	Whole dose needed to be effective.....1 Other (specify).....2 Don't Know.....8	
445	How far is the nearest health facility? <i>Clinic kana chipatarachiripedyochirikurezvakadii?</i>	Less than 1 km.....1 1-5Km'.....2 5-10 km.....3 More than 10 km.....4 Don't know.....8	
446	RECORD THE TIME.		

INTERVIEWER’S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

NAME OF THE INTERVIEWER: _____

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR: _____

Annex 3

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is and I am working with (NAME OF ORGANIZATION). We are conducting a national survey about malaria. We would very much appreciate your participation in this survey. The information you provide will help the government to plan health services. The survey usually takes between 10 and 20 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

May I begin the interview now?

Signature of interviewee:

Date:

Annex 4

Haemoglobin measurement

HAEMOGLOBIN MEASUREMENT

CHECK COLUMN (7) OF HOUSEHOLD LISTING: RECORD THE LINE NUMBER, NAME AND AGE OF ALL CHILDREN UNDER AGE 6. THEN ASK THE DATE OF BIRTH.

CHILDREN UNDER AGE 6 YEARS				HAEMOGLOBIN MEASUREMENT OF CHILDREN BORN IN 2000 ¹ OR LATER			
LINE NUMBER FROM COL. (1)	NAME FROM COL. (2)	AGE FROM COL. (7)	What is (NAME's) date of birth? COPY MONTH AND YEAR OF BIRTH FROM 215 IN MOTHER'S BIRTH HISTORY AND ASK DAY. FOR CHILDREN NOT INCLUDED IN ANY BIRTH HISTORY, ASK DAY, MONTH AND YEAR.	LINE NUMBER OF PARENT/ADULT RESPONSIBLE FOR THE CHILD RECORD '00' IF NOT LISTED IN HOUSEHOLD SCHEDULE	READ CONSENT STATEMENT TO PARENT/ADULT RESPONSIBLE FOR THE CHILD CIRCLE CODE AND SIGN	HAEMOGLOBIN LEVEL (G/DL)	RESULT 1 MEASURED 2 NOT PRESENT 3 REFUSED 4 OTHER
(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
			DAY MONTH YEAR 		GRANTED REFUSED 1 SIGN _____ NEXT LINE ← 2	.	☐
					1 SIGN _____ NEXT LINE ← 2	.	☐
					1 SIGN _____ NEXT LINE ← 2	.	☐
					1 SIGN _____ NEXT LINE ← 2	.	☐
					1 SIGN _____ NEXT LINE ← 2	.	☐
					1 SIGN _____ NEXT LINE ← 2	.	☐

¹ For fieldwork beginning in 2006, 2007 or 2008, the year should be 2001, 2002 or 2003, respectively.

TICK HERE IF CONTINUATION SHEET USED
☐

CONSENT STATEMENT: As part of this survey, we are studying anaemia among children. Anaemia is a serious health problem that results from poor nutrition or diseases such as malaria. This survey will assist the government to develop programs to prevent and treat these important health problems.

We request that all children born in 2000¹ or later participate in the anaemia testing part of this survey and give a few drops of blood from a finger. The test uses disposable sterile instruments that are clean and completely safe. The blood will be analyzed with new equipment and the results of the test will be given to you right after the blood is taken. The results will be kept confidential.

May I now ask that (NAME OF CHILD[REN]) participate in the anaemia test. However, if you decide not to have him/her/them tested, it is your right and we will respect your decision. Now please tell me if you agree to have the test(s) done.

NOTE:
In countries where some enumeration areas are higher than 1,000 meters, altitude information should be collected in a separate form for each enumeration area higher than 1,000 meters so that the anaemia estimates can be adjusted appropriately.

35	CHECK 33: NUMBER OF CHILDREN WITH HAEMOGLOBIN LEVEL BELOW 7 G/DL ONE OR MORE ☐ ↓ GIVE EACH PARENT/ADULT RESPONSIBLE FOR THE CHILD THE RESULT OF THE HAEMOGLOBIN MEASUREMENT, AND CONTINUE WITH 36.¹ NONE ☐ ↓ GIVE EACH PARENT/ADULT RESPONSIBLE FOR THE CHILD THE RESULT OF THE HAEMOGLOBIN MEASUREMENT AND END THE HOUSEHOLD INTERVIEW.		
36	We detected a low level of haemoglobin in the blood of [NAME OF CHILD(REN)]. This indicates that (NAME OF CHILD(REN)) has/have developed severe anaemia, which is a serious health problem. We would like to inform the doctor at _____ about the condition of [NAME OF CHILD(REN)]. This will assist you in obtaining appropriate treatment for the condition. Do you agree that the information about the level of haemoglobin in the blood of [NAME OF CHILD(REN)] may be given to the doctor?		
	NAME OF CHILD WITH HAEMOGLOBIN BELOW 7 G/DL	NAME OF PARENT/RESPONSIBLE ADULT	AGREES TO REFERRAL? YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2
			YES.....1 NO.....2

¹ If more than one child is below 7 g/dl, read statement in Q.36 to each parent/adult responsible for a child who is below the cutoff point.

Annex 5

Zimbabwe Malaria Prevalence Survey

Province Code **District Code**.....

Ward..... **EA**..... **Date**.....

Using the information from the household questionnaire, ask to speak to the carers of the children age<6-59 months in the household ask for permission from the care if you can take a blood sample from each of the child to test for malaria.

	Household number	Child ID	Age	Blood sample taken	Results (RDT)	Results Slide	If positive RDT was child treated?	If no was child referred to nearest health facility?
1.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
2.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
3.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
4.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
5.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
6.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
7.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
8.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
9.				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No
10				1. Yes 2. No	1. Pos 2. Neg	1. Pos 2. Neg	1. Yes 2. No	1. Yes 2. No

