



ZIMBABWE ASSISTANCE PROGRAM IN MALARIA

ENDLINE SURVEY REPORT

MALARIA NET ENDLINE SURVEY FOR ROUTINE DISTRIBUTION AMONG HOUSEHOLDS IN MAZOWE DISTRICT OF ZIMBABWE, AUGUST–SEPTEMBER 2016

SUBMISSION DATE: DECEMBER 16, 2016

Recommended Citation: ZAPIM Mazowe Endline Survey, August–September, 2016. Bethesda, MD, U.S., and Harare, Zimbabwe. Zimbabwe Assistance Program in Malaria, Abt Associates.

Contract and Task Order Number: AID-613-A-15-00010

Submitted to: United States Agency for International Development/President’s Malaria Initiative

Submitted on: December 16, 2016

Principal Investigator:

Joseph Mberikunashe
National Malaria Control Programme
Ministry of Health and Child Welfare
P. O. Box CY 1122, Causeway
Harare
Phone : +263 772 263 525
Email: jmberikunashe@nmcpszim.co.zw

Co-Investigators:

Patrick Chinyamuchiko, Martin Netsa, and Anthony Chisada
Abt Associates Zimbabwe Assistance Program in Malaria (ZAPIM)
Suite 1 & 2 House East
Westgate Shopping Complex
Westgate, Harare
Zimbabwe
Phone: +263-4-304259/260

Email Addresses:

Patrick_Chinyamuchiko@zapim.net
Martin_Netsa@zapim.net
Anthony_Chisada@zapim.net



Abt Associates | 4550 Montgomery Avenue | Suite 800 North
| Bethesda, Maryland 20814 | T. 301.347.5000 | F. 301.913.9061
| www.abtassociates.com

CONTENTS

Contents	iii
Abbreviations and Acronyms	v
Acknowledgements	1
Executive Summary	2
1. Introduction	5
1.1 Background	6
1.2 Rationale of the Survey.....	7
1.3 Objectives of the Survey.....	<u>7</u> 8
2. Methodology	9
2.1 Sampling Design.....	9
2.2 Questionnaire.....	9
2.3 Training and Field Work.....	10
2.3.1 Training	10
2.3.2 Fieldwork I I	
2.4 Ethical Considerations.....	<u>11</u> 12
2.5 Data Processing and Analysis.....	<u>11</u> 12
2.6 Quality Control and Assurance.....	12
3. Results	14
3.1 Sample Coverage.....	<u>15</u> 14
3.2 Characteristics of Households.....	<u>16</u> 15
3.3 Mosquito Net Ownership.....	20
3.3.1 Sources of Nets.....	<u>23</u> 22
3.4 Use of Mosquito Nets.....	23
3.4.1 Summary: Use of Mosquito Nets.....	<u>24</u> 23
3.4.2 Frequency of sleeping under LLINS among children under 5 years old.....	<u>26</u> 25
3.4.3 Frequency of sleeping under LLINS among Pregnant Women.....	<u>27</u> 26
3.4.4 Preferred Methods of getting LLINs among the Households.....	<u>28</u> 27
3.4.5 Observation of LLINs in Different Locations.....	<u>29</u> 28
3.4.6 Re-purposing and Disposal of LLINs.....	<u>31</u> 30
3.4.7 Problems experienced in using LLINs.....	<u>32</u> 31
3.5 Malaria Prevention Knowledge.....	<u>34</u> 33
3.6 Mosquito Net Preference.....	34
4. Conclusion and Recommendations	35
4.1 Conclusion	35
4.2 Recommendations.....	36
References	38

Appendices.....	<u>3839</u>
Appendix 1: Data Analysis Framework.....	<u>3839</u>
Appendix 2: Field Supervision Checklist.....	<u>4243</u>
Appendix 3: Checklist for Data Quality Monitoring during Data Collection – Supervisors	<u>4345</u>
Appendix 4: Daily Summary Report Form.....	<u>4748</u>
Appendix 5: Endline Survey Questionnaire	<u>4749</u>

ABBREVIATIONS AND ACRONYMS

ANC	Antenatal care
DK	Do not know
EPI	Expanded Program on Immunization
LLIN	Long-lasting insecticidal net
NMCP	National Malaria Control Program
PMI	President's Malaria Initiative
PSI	Population Services International
VHW	Village health worker
ZAPIM	Zimbabwe Assistance Program in Malaria

ACKNOWLEDGEMENTS

We would like to express our deepest appreciation to all those who participated in this survey. Special gratitude is given to the research assistants, team leaders, and supervisors who played key roles in the identification and recruitment of respondents as well as conducting the interviews. The willingness of the respondents to participate in this survey is always cherished. We are also highly indebted to the National Malaria Control Program; the offices of the Provincial Medical Director, Mashonaland Central; the District Medical Officer, Mazowe; VectorWorks; and the President's Malaria Initiative (PMI), for their immense contribution in stimulating suggestions and encouragement throughout the survey. Most importantly, without the technical and financial support from PMI, this survey could not have happened.

EXECUTIVE SUMMARY

The Zimbabwe Assistance Program in Malaria (ZAPIM) implemented the 2016 endline survey in three wards of Mazowe District from August 8, 2016 to September 9, 2016. The wards represented three different sectors: rural (Ward 13), commercial farming (Ward 16), and peri-urban (Ward 33). The National Malaria Control Program (NMCP) and VectorWorks provided technical support throughout the survey. The survey was a follow-up to the baseline study conducted by the NMCP and Population Services International (PSI) in Mazowe District in March–April 2015.

A total of 4,996 households participated in the endline survey, through a census. The survey sought to provide information to the NMCP, the President’s Malaria Initiative (PMI), ZAPIM, and other malaria stakeholders about the availability and use of mosquito nets at the household level in three selected malaria-endemic wards. The survey was also intended to establish the households’ preferred distribution channels and to compare outcomes with baseline study findings. Study findings will be used in evaluating and rolling out continuous distribution of long-lasting insecticidal nets (LLINs) in Zimbabwe through preferred distribution systems.

Results of the survey indicated that 74.9 percent of the households in all the wards owned at least some type of net. Among these households with the nets, 73.6 percent had at least one LLIN, compared to 47.4 percent ownership at baseline. The predominant sources of LLINs were mass campaigns and health facilities, at both the baseline (84.6 percent) and endline stage (83.6 percent). These were the main channels used during the 2014 mass LLIN distribution.

As part of the process of validating the responses from the household respondents, field staff observed whether a net was hung as a proxy measure for respondent’s use of net/s. Before observation of nets, of the 3,744 households that said they owned at least one LLIN, 3,050 (81 percent) said they *used* LLINs. However, only 725 households (14.5 percent) said they had sleeping spaces with LLINs.

After observation of the nets, the respondents were asked whether anyone had slept under them the previous night. Overall, there was very low net use in the night preceding the interviews. Two-fifths (40.3 percent) of the respondents indicated use of the first net, 27 percent use of the second net, 19.2 percent use of the third net, 12.1 percent use of the fourth net, 6.6 percent use of the fifth net, and 6.3 percent use of the sixth net. Ninety-nine percent of the households in each sector had sleeping spaces

used in the night preceding the interviews. On average, a household had a maximum of three sleeping spaces.

Three-fifths (61.3 percent) of children under 5 years old slept under LLINs throughout the year. For pregnant women, forty-five percent of households in the peri-urban ward responded that pregnant women slept under LLINs throughout the year, compared to 26.1 percent in the rural ward and 37.5 percent in the commercial farming ward.

The results of the endline survey also indicate that 30.7 percent of all households in the three sectors (i.e., the three representative wards) experienced problems in using LLINs. The main was itchiness (rural areas, 93.5 percent; commercial farming areas, 86.1 percent; and peri-urban areas, 71.1 percent). The baseline findings had shown similar trends.

Overall, over half (55.5 percent) of household respondents reported a preference for obtaining LLINs from the health facility. There was an exception in the commercial farming areas, whose most-preferred method was for the health worker to bring the LLINs to a central point in the community (31.9 percent of respondents in these areas). In the rural areas and peri-urban areas, 75.6 percent and 63 percent of the respondents respectively cited the health facility as a preferred method.

Both baseline and endline survey findings showed high levels of knowledge about malaria prevention methods among the respondents. The most cited prevention methods include: use of LLINs (rural, 89.6 percent; commercial farming areas, 88.9 percent; and peri-urban, 89.1 percent), and indoor residual spraying (rural, 46.4 percent; commercial farming areas, 35.5 percent; and peri-urban, 25.9 percent). At the baseline stage the most-mentioned prevention methods were also use of LLINs (57 percent), and indoor residual spraying (48 percent).

The survey also sought information on the shape and color of nets that the household respondents preferred. Overall, the conical was the most preferred shape in all the three sectors (71.4 percent), followed by the rectangle (23.3 percent). Three-fifths of the respondents (61 percent) picked blue as their most preferred color for mosquito nets. In the 2015 baseline survey, the conical was also the dominant shape of choice, with 82 percent of the respondents preferring this shape; and 74 percent of the respondents cited blue as the most preferred color.

In summary, net ownership has increased since the time of the baseline survey although it varies by sector. This could be an effect of the varying channels used to distribute LLINs during and after the mass distribution of 2014. Although there was increased ownership of nets between the baseline and endline surveys, this did not translate to high levels of use of nets. This calls for the need to scale up behavior

change campaigns especially on the importance of using nets, with approaches targeted to address the more common reasons for non-use as revealed through this survey and others. In order to increase the uptake of nets, different methods can be used to provide nets to the communities in different sectors, but households' most preferred method of getting LLINs, when distributing the nets should be considered.

I. INTRODUCTION

As a result of sustained and concerted malaria control and prevention efforts, malaria in Zimbabwe is undergoing an epidemiological transition. Transmission is largely unstable, and intensity ranges significantly. Low-lying districts to the east and north of the country experience moderate to high malaria transmission. Southern and central districts experience little to no malaria transmission. According to the 2012 Malaria Indicator Survey, about 50 percent of the country's population resides in rural, malaria-endemic areas, and is at risk of developing the disease. All age groups are at risk of malaria. The patterns and seasonality of malaria transmission are primarily determined by rainfall, which tends to occur from November to May in Zimbabwe; transmission starts with the rainy season and peaks towards the end of that season, with outbreaks being common between February and April.

The country has 62 rural districts, of which 47 are malarious with varying transmission intensity. Of the malarious districts, 45 are in 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-burden districts. According to the country's National Health Information System, in 2015 the incidence of malaria stood at 29/1,000 population; this was a significant decline from the incidence of 136/1,000 in 2000. (There had been an upsurge between 2012 and 2014, partly explainable by insecticide resistance to pyrethroids in some areas of the country.) Malaria deaths have also declined, from 1,922 per year in 2004 to about 462 deaths in 2015. The southern and central parts of the country have seen a marked decline: incidence in some of the central regions now ranges between 0 and 5 cases per 1,000 population (according to 2015 District Health Information System 2 data). In these districts the NMCP is now focusing on pre-elimination and elimination activities, which is in line with the broader goal of a malaria-free Zimbabwe.

With the turn of the 21st century, the NMCP, a unit of the Ministry of Health and Child Care, adopted a multitude of effective malaria control and prevention measures, with financial and technical support from donors and local and international partners. These measures range from conducting indoor residual spraying with insecticides, to distributing and promoting use of LLINs, encouraging intermittent preventive treatment in pregnancy, and providing diagnosis and prompt treatment with effective drugs. In line with the NMCP Strategic Plan for 2008–2013, extended to 2017 by way of an addendum, the main objective is now to ensure universal access of the population at risk to effective and appropriate malaria prevention and treatment interventions by 2017. To this end, malaria control interventions have

been scaled up, and this has led to the overall declining trend of malaria cases. Furthermore, in recent years, the NMCP has focused its efforts toward achieving the World Health Organization-recommended coverage of households with LLINs in malaria-endemic districts in Zimbabwe. These efforts have guided development partners' contributions to ensure that there is at least one LLIN per two people or one net per sleeping space in a household in malaria-endemic areas.

1.1 BACKGROUND

Distribution of LLINs is considered a key intervention in preventing malaria. Mass distribution is required to rapidly scale up LLIN coverage, while continuous distribution systems are essential to sustain the results achieved by mass distribution and to provide for additions to the population from immigration and births. In Zimbabwe, the NMCP and implementing partners supported three mass LLIN distributions campaigns in 2010, 2013, and 2014.

In 2014, a mass LLIN distribution was undertaken in all the 19 malaria-endemic wards of Mazowe District by PSI, with funding from the PMI. The District Health Executive assumed a supervisory role during the LLINs distribution exercises, and a total of 86,000 LLINs were distributed to 33,963 households in 19 wards in Mazowe. Before this campaign there had not been any mass distribution of LLINs in Mazowe District, as most parts of the district were considered to be malaria-free until epidemiological and entomological data indicated a resurgence of malaria transmission in some parts of the district.

In Zimbabwe, since the launch of the LLIN campaigns in the late 2000s, no systematic, continuous distribution LLIN program has been put in place, even though continuous distribution campaigns have been shown to improve LLIN coverage rates. It is against this background that the Ministry of Health and Child Care, through the NMCP, decided to pilot a continuous LLIN distribution system in four districts in order to initiate sustained LLIN ownership and coverage. The objective of the pilot was to introduce continuous distribution of LLINs and draw lessons for the eventual scale-up of routine distribution, also commonly referred to as continuous distribution in Zimbabwe. The four malaria-endemic districts chosen were Mazowe, Makonde, Mt Darwin, and Hurungwe. The continuous distribution channels chosen were antenatal care (ANC) visits (giving an LLIN to a pregnant women on her first ANC visit); the Expanded Program on Immunisation (EPI), in which a child or the child's guardian was given a net on the date that the measles vaccination was completed for that child, either at the health facility or at an outreach point; visits/events; school-based mini campaigns targeting grades three and six; and community-based distribution. The community-channel beneficiaries were given coupons by the village health workers (VHWs), which were redeemable at the nearest local health

facility for an LLIN. The four distribution channels were arrived at after populating program data into a Netcalc tool which is an internationally recommended tool that is used to determine which channel/s can help to achieve/sustain a desired level of LLIN ownership in a given area. The World Health Organization's recommendation of universal coverage (one LLIN per two persons, or one LLIN per sleeping space) was used as a guide during the mass distribution exercise as well as during continuous distribution. By December 2015, continuous distribution had been fully rolled out.

It was envisaged that introducing routine distribution channels would result in maintaining high levels of LLIN ownership and use at the household level. Mazowe District was purposively selected for a baseline study because of this continuous distribution activity, which was conducted by PSI in June 2015, before the pilot activities began. In addition, Mazowe District was selected for the baseline survey because it has a significant presence of key settlements – mining, rural, and commercial farming, as well as growth points. The endline survey is a follow-up to the baseline survey, which the NMCP and PSI conducted in Mazowe District in March–April 2015.

1.2 RATIONALE OF THE SURVEY

The endline survey was conducted from August 8, 2016 to September 9, 2016. Specifically, it sought to provide information to the Ministry of Health and Child Care/NMCP, PMI, ZAPIM, and other partners about the availability and use of mosquito nets at the household level in three selected malaria-endemic wards in Mazowe District (Wards 13, 16, and 33). Study findings will be crucial for evaluating and rolling out continuous distribution of LLINs in Zimbabwe through effective distribution systems.

The endline survey was intended to establish the households' preferred distribution channels and to compare outcomes with baseline study findings. To achieve this broad goal, the endline survey followed the same methodology as the baseline, so that findings can be comparable. The findings will inform decisions about most-preferred distribution channels for scale-up and expansion of continuous/routine LLINs distribution in the country. As per objective 5 below, some of the results of the endline survey were compared with those of the baseline survey.

1.3 OBJECTIVES OF THE SURVEY

1. Determine the proportion of households that received LLINs from January 2014 and beyond.
2. Determine the percentage of the target population reporting using mosquito nets.
3. Assess the adequacy of LLINs for sleeping spaces and people in households.
4. Investigate the factors influencing the ownership, uptake, and use of LLINs in Mazowe District via the different distribution channels.

5. Compare the results of the endline with the baseline studies, with special emphasis on LLIN coverage and use.
6. Identify the most preferred channels for rolling out continuous distribution of LLINs in the different sectors.

2. METHODOLOGY

As a follow-up to the baseline study conducted in the same wards of Mazowe District (Wards 13, 16, and 33) in March–April 2015, the same methodology was used, with a few additions to the questionnaire.

2.1 SAMPLING DESIGN

The wards were stratified into rural (ward 13), commercial farming (ward 16), and peri-urban (ward 33). In line with the baseline methodology (a census), all the households in the three wards were expected to be visited to collect household information. Based on the household listing data available, 5,361 households were expected to be visited in the three wards. The number of households targeted in each ward was as follows:

- Ward 13: 1,365 households
- Ward 16: 1,983 households
- Ward 33: 2,013 households

Only one person per household was interviewed. Information from the Mazowe District baseline report indicates that 4,277 interviews were carried out with heads of households, guardians, or caregivers, out of the target of 5,361 (80 percent coverage rate). In this endline survey, a total of 4,996 households were interviewed (93 percent coverage rate). In order to minimize the attrition rate, a maximum of three visits or call backs were made to a household before the respondent was deemed completely unavailable for the interview.

2.2 QUESTIONNAIRE

A structured questionnaire similar to the one used in the baseline was used to collect key data points for calculating the indicators of the study objectives. A few questions were added or rephrased to improve data quality. The questionnaire collected basic information on the characteristics of each person listed, including age, sex, and relationship to the head of the household. The primary focus was on children under 5 and pregnant women, ownership of mosquito nets, and utilization practices. The tool also collected information on number of nets, date of acquisition and source, reasons for unavailability of nets, reasons for non-use, number of people sleeping under a net, and net preference.

The instrument was programmed in the SurveyToGo software and configured on smartphones. The smartphones were used to collect the data and had the capability to choose either English or Shona when administering the questionnaire. This was the same software as used for the baseline study. As a backup mechanism, the smartphones were also configured such that all completed interviews would be automatically uploaded on the SurveyToGo server. Data were synchronized to the server at the end of each day or interview for enhanced security, quality assurance, and data protection. In cases where the research assistants had data-sync challenges, the team leaders, supervisors, and ZAPIM team members were always available to provide assistance.

2.3 TRAINING AND FIELD WORK

2.3.1 TRAINING

The training of 26 research assistants, six team leaders, two district supervisors, and two provincial supervisors took place on August 1–8, 2016. The research assistants were drawn from the VHWs and community volunteers, with the team leaders being Environmental Health Technicians. The district supervisors and provincial supervisors were Environmental Health Officers and a Provincial Environmental Health Officer. ZAPIM facilitated the training with technical assistance from the NMCP, VectorWorks, Abt Associates, and PMI. The training was divided into two parts. Day 1 was dedicated to the training of supervisors and team leaders, with a joint training program involving supervisors, team leaders, and research assistants set aside for Day 2–5. Pre- and post-tests were conducted, and 32 out of 36 participants (research assistants, team leaders, and supervisors) scored above 80 percent after the post-test evaluation. The training sessions covered the following areas:

- Background of the endline survey
- Research ethics
- Baseline survey experiences – good practices, challenges, lessons learned, and recommendations
- Interviewing techniques and field procedures
- Detailed review of the questionnaire content, instruction and practice, and mock interviews between participants in the classroom
- Review of all the consent forms including the process of informed consent, storage, and safety for consent forms
- Roles and responsibilities of the supervisors, team leaders, and research assistants during

the survey

- Use and maintenance of smartphones as well as administration of questionnaire using smartphone, and troubleshooting

Throughout the training, the participants were reminded to follow local community protocols during their field work and be sensitive to the different cultures in the wards. Field practice on the survey procedures was carried out at Avoca farm in Bindura District on August 4, 2016. Debriefing sessions with the pre-test field staff, and modifications to the questionnaire and consent forms, were done based on lessons learned from the exercise. Team leaders and supervisors were also trained in methods of data quality control procedures and effective fieldwork coordination.

2.3.2 FIELDWORK

Twenty-six research assistants (9 males and 17 females) conducted data collection for the endline survey. Six teams were formed and each team was allocated a team leader. Each of the two district supervisors had overall responsibility for supervising three teams. The ZAPIM team members and provincial supervisors supervised field work in all the wards. The team leaders completed the daily tracker or summary sheet, and this was verified by the district supervisors. Completed interviews were transferred from each research assistant's smartphone to the SurveyToGo server on a daily basis. From the server, the ZAPIM team could easily identify the smartphones whose data had not been transferred and immediately assist the field staff. In order to facilitate communication and monitoring, each research assistant and team leader was assigned a unique identification number. Data collection took place from August 16 to September 8, 2016.

2.4 ETHICAL CONSIDERATIONS

The survey was approved by the Medical Research Council of Zimbabwe Ethics Review Board and Abt Associates' Institutional Review Board. Informed written consent was obtained from the head of the household before the questionnaires were administered. Signed consent was also obtained from the guardians of all children between 15 and 17 years of age before they participated in the interviews. All the respondents retained a copy of the consent form. Household identifiers were used only for locating and identifying households. At the analysis level, these were de-identified and were therefore not linked with the household data.

2.5 DATA PROCESSING AND ANALYSIS

The ZAPIM staff made sure that all the data from the smartphones were transferred to the SurveyToGo software before it was edited, cleaned, and tabulated. The data were then exported to Microsoft Excel

for easy checking of any inconsistencies. Once the team was satisfied with the quality of data, the data were exported from MS Excel to STATA Version 14 for analysis.

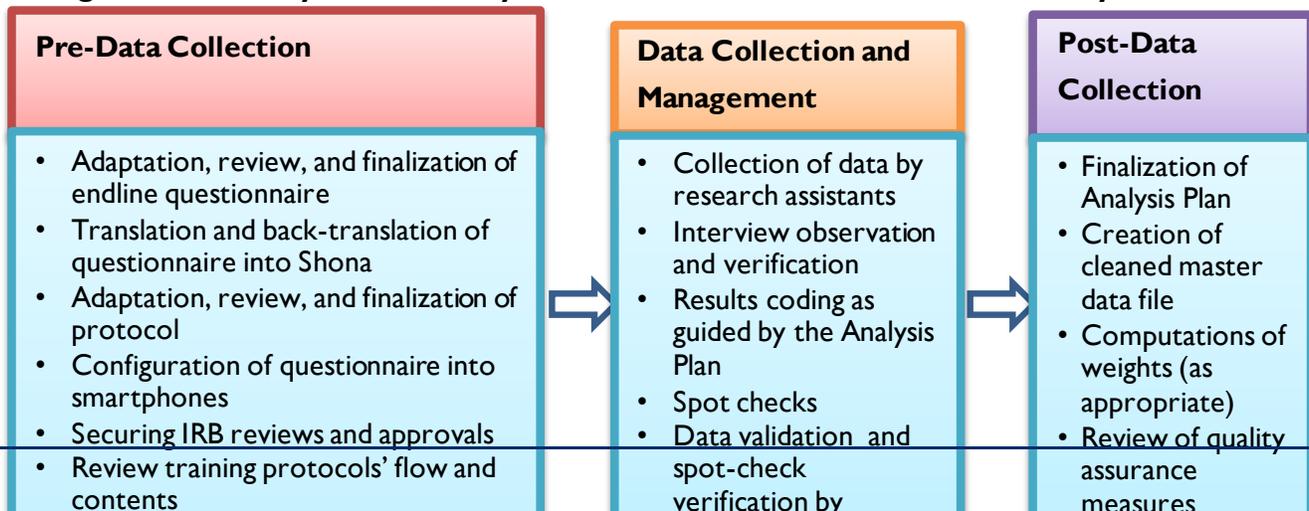
2.6 QUALITY CONTROL AND ASSURANCE

ZAPIM used a variety of complementary quality control measures and checks to ensure that the endline data and findings were of high quality. Some of the controls include the following:

- **Training:** All participants involved in the endline survey received comprehensive training to strengthen their capacity in their designated area of focus. All research assistants, team leaders, and district/provincial supervisors were trained on the data collection tools at one central location, which ensured the sharing of the same information and understanding of the survey objectives, instruments, and expected survey output.
- **Field teams supervision:** Supervision was done by team leaders, district supervisors, provincial supervisors, and national supervisors. The supervision involved observing the interviews and visiting interviewed households for spot checks.
- **Field editing:** Interviews were edited in the field before they were synced. This was done to ensure that quality data was collected and high response rates for households achieved.
- **Global, regional, and local technical support:** The endline survey received technical support from the global, regional, and local teams at all stages of the survey. This included experts coming into the country at the training, pre-test, and fieldwork stages. Abt Associates, VectorWorks, NMCP, and PMI were represented, and they played a key role in shaping up the survey.

Figure 1 below summarizes the quality assurance activities in terms of general timing and flow of non-overlapping steps. These steps are organized under three stages, as is the rest of the document: pre-data collection, data collection, and post-data collection.

Figure 1: Summary of the Quality Assurance Activities of the Endline Survey



|

2.7 LIMITATIONS OF THE STUDY

Not all of the targeted households were interviewed. A total of 364 households were not interviewed due to absenteeism. Of these, almost 70 percent were in the commercial farming sector. The interviews were conducted at the peak of the winter crop reaping season and most of the interviewees were engaged as casual workers. The other 30 percent were spread across the rural and peri-urban sectors. A total of 77 households refused to be interviewed for different reasons. In some instances, internet connectivity was a challenge as data could not be synced to the server immediately. Finally, it was not possible to observe all the nets that had been distributed. Some of them had been re-purposed or thrown away.

3. RESULTS

3.1 SAMPLE COVERAGE

The endline survey was a census, and therefore data was expected to be collected from all the households (5,361) in the three wards. Of these sampled households, 25.5 percent (1,365 households) were in rural areas (Ward 13), 37 percent (1,983 households) were in commercial farming areas (Ward 16), and 37.5 percent (2,013 households) were in peri-urban areas or growth points (Ward 33). Out of the 5,361 households selected for the sample, 4,997 were successfully interviewed after excluding missing data, thus reaching 93.2 percent of the targeted households. A total of 77 (1.4 percent) households refused to be interviewed, with Wards 16 and 33 contributing 35 refusals each. Some of the reasons cited included general unwillingness to participate in the survey, religious beliefs, political stance, and households having never received the nets. The endline survey reached more households than the baseline survey: 4,277 households (79.8 percent coverage). Table I below shows the total number of households reached, by sector, against the target during the endline survey.

Table I Households Interviewed Versus Target, by Sector

Number of targeted households, number of households interviewed, and percent coverage, according to sector

Result	Sector			Total
	Commercial Farming Settlement (Ward 16)	Growth Point/Peri-Urban (Ward 33)	Rural (Ward 13)	
Household interviews				
Households selected	1,983	2,013	1,365	5,361
Households interviewed	1,729	1,910	1,358	4,997
% coverage	87.2%	94.9%	99.5%	93.2%

The rural areas had the highest coverage, at 99.5 percent, and recorded only seven refusals. The percent coverage for households in commercial farming settlements was lowest. Possible reasons for this include lack of accessibility, refusals, or inability to participate in the survey because the respondents were on the farms throughout the day.

3.2 CHARACTERISTICS OF HOUSEHOLDS

Table 2 shows the age and sex distribution of the survey population. This distribution is also depicted in the population pyramid in Figure 2. A total of 19,404 household members were listed in the 4,997 households successfully interviewed in the survey. Of these, 9,445 (48.7 percent) were males, and 9,959 (51.3 percent) were females. The estimated average household size from the survey was four persons.

Table 2 Household Population by Age and Sex

Percentage distribution of the household population by age categories and sex, Mazowe Endline Survey 2016, Zimbabwe

Age	Sex				Total	
	Male		Female		Number	Percent
	Number	Percent	Number	Percent		
0–4	1,505	15.9	1,527	15.3	3,032	15.6
5–9	1,275	13.5	1,318	13.2	2,593	13.4
10–14	1,122	11.9	1,156	11.6	2,278	11.7
15–19	1,106	11.7	1,068	10.7	2,174	11.2
20–24	822	8.7	945	9.5	1,767	9.1
25–29	720	7.6	831	8.3	1,551	8.0
30–34	762	8.1	799	8.0	1,561	8.0
35–39	563	6.0	609	6.1	1,172	6.0
40–44	550	5.8	500	5.0	1,050	5.4
45–49	328	3.5	314	3.2	642	3.3
50–54	164	1.7	256	2.6	420	2.2
55–59	172	1.8	225	2.3	397	2.0
60–64	128	1.4	159	1.6	287	1.5
65–69	75	0.8	103	1.0	178	0.9
70–74	57	0.6	52	0.5	109	0.6
75–79	50	0.5	46	0.5	96	0.5
80–84	17	0.2	31	0.3	48	0.2
85+	29	0.3	20	0.2	49	0.3
Total	9,445	100.0	9,959	100.0	19,404	100.0

Figure 2: Population Pyramid of Households Surveyed in Wards 13, 16, and 33 in Mazowe District, Mashonaland Central Province, Zimbabwe

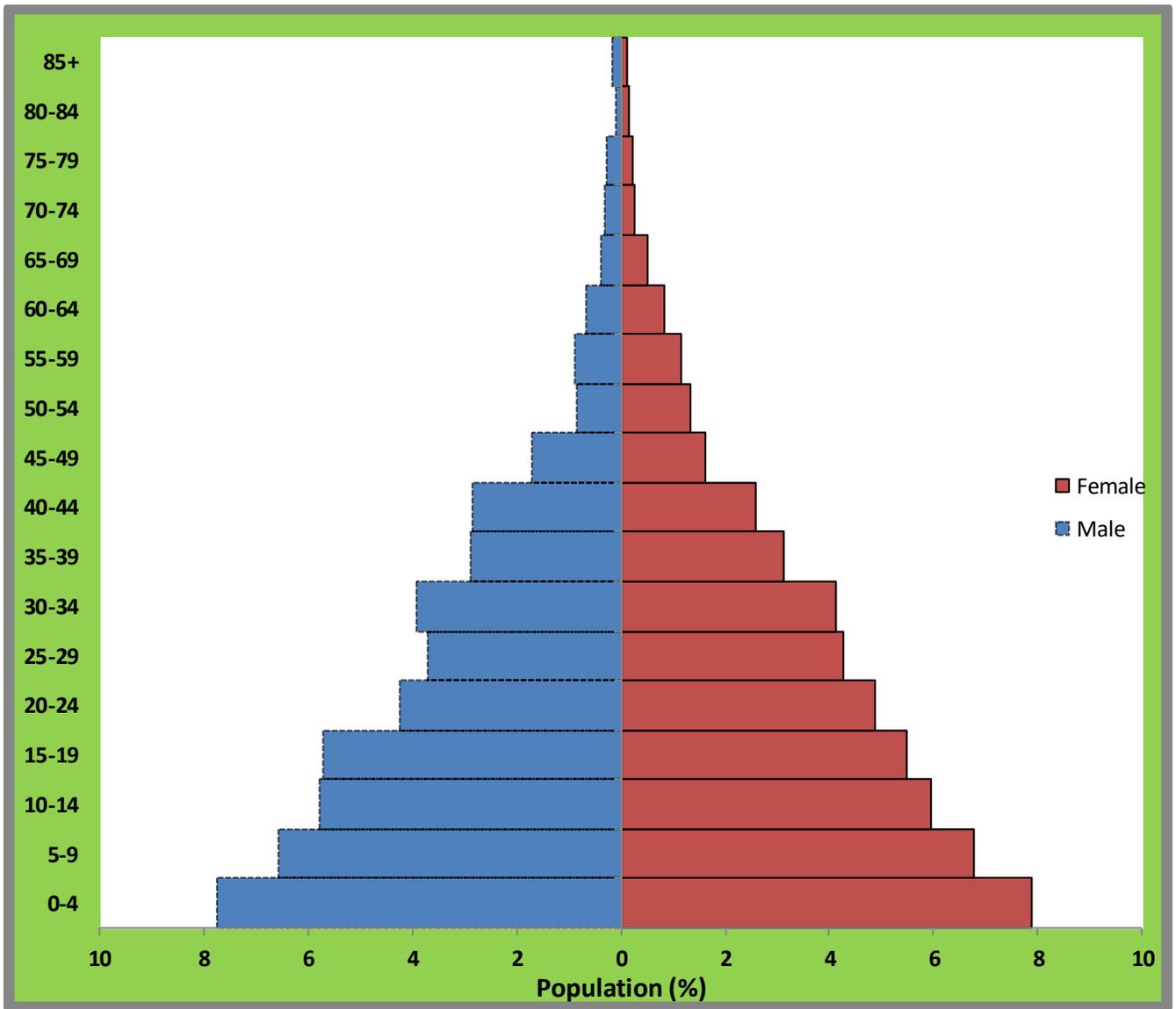


Table 3 below provides additional information on household composition by wards. This information is essential for the interpretation of findings presented later in the report.

Table 3 Household Composition

Percentage distribution of households by household size, according to the sector or ward, Mazowe Endline Survey 2016, Zimbabwe

Number of Household Members	Number and Percentage of Households							
	Ward 13 – Rural		Ward 16 – Commercial		Ward 33 – Peri-Urban		Total	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
1	5.5	75	6.2	107	5.1	98	5.6	280
2	10.8	147	10.9	188	10.6	202	10.7	537
3	18.3	248	19.3	334	21.0	402	19.7	984
4	22.8	310	21.0	363	23.9	456	22.6	1129
5	18.6	252	19.5	337	17.2	329	18.4	918
6	12.7	172	11.8	204	13.0	249	12.5	625
7	6.8	92	6.4	110	4.6	88	5.8	290
8+	4.6	62	5.0	86	4.5	86	4.7	234
Total	100.0	1,358	100.0	1,729	100.0	1,910	100.0	4,997

This survey also collected information on other basic demographic and socioeconomic characteristics such as the main religion of the household, main material of the roof, presence of external walls and roof, household's main type of toilet facility, household's main source of drinking and cooking water, and household possessions. The physical characteristics of the dwelling in which a household lives are important determinants of the health status of household members, especially children. They can also be indicators of the socioeconomic status of the household, which may have a direct bearing on health and general welfare. Similarly, residents of households without proper sanitation facilities have higher risk of diseases such as dysentery, diarrhoea, and typhoid fever than do those with improved sanitation facilities. Increasing the percentage of the population with access to improved sanitation facilities, especially in rural areas, is another of the Millennium Development Goals and now Sustainable Development Goals indicators. This information will be used to interpret findings presented later in the report.

Table 4 Household Characteristics

Percentage distribution of households by selected household characteristics, according to the sector or ward, Mazowe Endline Survey 2016, Zimbabwe

Number and Percentage of Households

	Ward 16 –						Total	
	Ward 13 – Rural		Commercial		Ward 33 – Peri-Urban		Percent	Number
	Percent	Number	Percent	Number	Percent	Number		
Main Religion								
Christian	31.4	427	40.0	692	57.8	1,103	44.5	2,222
Muslim	0.7	10	0.5	9	2.7	51	1.4	70
African traditional	5.2	69	8.4	145	1.8	34	5.0	248
Apostolic Faith	54.3	738	38.9	673	32.1	612	40.5	2,023
Buddhist	0.4	6	0.1	1	0.0	0	0.1	7
Atheist	2.4	32	4.0	69	4.1	79	3.6	180
Other	5.6	76	8.1	140	1.6	30	4.9	246
Source of Drinking and Cooking Water								
Piped water inside house	0	0	1.5	25	8.5	163	3.8	188
Piped water outside house	0.2	2	6.9	120	50.4	962	21.7	1,084
Communal tap	2.3	31	25.5	440	0.4	7	9.6	478
Borehole	1.4	19	15.6	269	10.4	199	9.8	487
Protected well	88.6	1,203	26.1	452	29.4	561	44.4	2,216
Unprotected well	6.5	88	19.5	337	0.9	17	8.9	442
River/stream/dam	0.4	5	4.2	73	0.0	0	1.6	78
Other	0.7	10	0.8	13	0.0	0	0.5	23
Main Roof Material								
No roof	0.1	1	0.2	3	0.1	1	0.1	5
Thatch/grass	37.9	514	45.1	780	0.2	4	26.0	1,298
Wooden	0.0	1	0.0	0	0.1	1	0.0	2
Zinc/iron sheet	24.1	327	16.7	289	8.7	166	15.7	782
Tiles	0.3	4	0.3	5	1.5	29	0.8	38
Asbestos	37.4	508	37.4	647	88.8	1,696	57.1	2,851
Cement	0.2	3	0.3	5	0.2	3	0.2	11
Plastics	0.0	0	0.0	0	0.5	9	0.2	9
Main Floor Material								
Earth/sand	12.4	168	38.9	672	1.8	34	17.5	874
Dung	8.9	121	3.6	62	1.3	25	4.2	208
Cement	77.7	1,055	52.2	903	90.3	1,724	73.7	3,682
Carpet	0.3	4	0.4	6	1.3	25	0.7	35
Ceramic tiles	0.2	2	0.5	8	4.2	81	1.8	91
Polished wood	0.0	0	0.1	1	0.0	0	0.0	1
Vinyl/asphalt trips	0.0	0	0.0	0	0.1	1	0.0	1
Other	0.6	8	4.5	77	1.0	19	2.1	104
Main Type of Toilet Facility								
Own flush toilet	0.8	11	4.6	80	28.2	539	12.6	630
Shared flush toilet	0.4	6	1.3	22	53.9	1,028	21.1	1,056
Own pit latrine	44.4	603	35.8	619	2.9	55	25.6	1,277
Shared pit latrine	15.8	215	24.5	424	4.5	85	14.5	724
Own Blair toilet	32.5	441	21.5	372	9.4	179	19.9	992
Shared Blair toilet	2.7	37	8.1	140	0.8	15	3.8	192
Bush or field	3.3	45	4.2	72	0.0	0	2.3	117
Other	0.0	0	0.0	0	0.4	8	0.2	8
Main Material of External Walls								
Grass/cane/trunk mud	0	0	15.7	271	0.1	1	5.4	272
	6.3	85	33.1	572	0.1	1	13.2	658

Stone with mud	0.2	3	0.7	12	0.1	1	0.3	16
Plywood	0	0	1.0	17	0.1	2	0.4	19
Reused wood	0.1	1	0.1	2	0.1	1	0.1	4
Cement	37.5	509	3.4	59	19.7	376	18.9	944
Stone with lime or cement	1.1	15	3.5	61	8.1	154	4.6	230
Bricks	50.5	686	37.1	642	57.5	1,097	48.5	2,425
Cement blocks	4.1	56	3.6	63	13.6	260	7.6	379
Wood plank/shingles	0.2	2	0.6	10	0.8	15	0.5	27
Plastics	0.1	1	0	0	0.0	0	0.0	1
Other	0.0	0	1.7	20	0.1	1	0.4	21
Total		1,358		1,729		1,909		4,996

Although the Christian and Apostolic Faith were deliberately separated at the data collection stage, the main religion of the households interviewed is Christianity. (The Apostolic Faith has its own beliefs that are slightly different from those of the other Christian denominations.). Out of the households interviewed, 40.5 percent cited the Apostolic Faith as their main religion.

Table 5 Household Possessions

Percentage of households by ownership of selected household possessions and assets, according to the sector or ward, Mazowe Endline Survey 2016, Zimbabwe

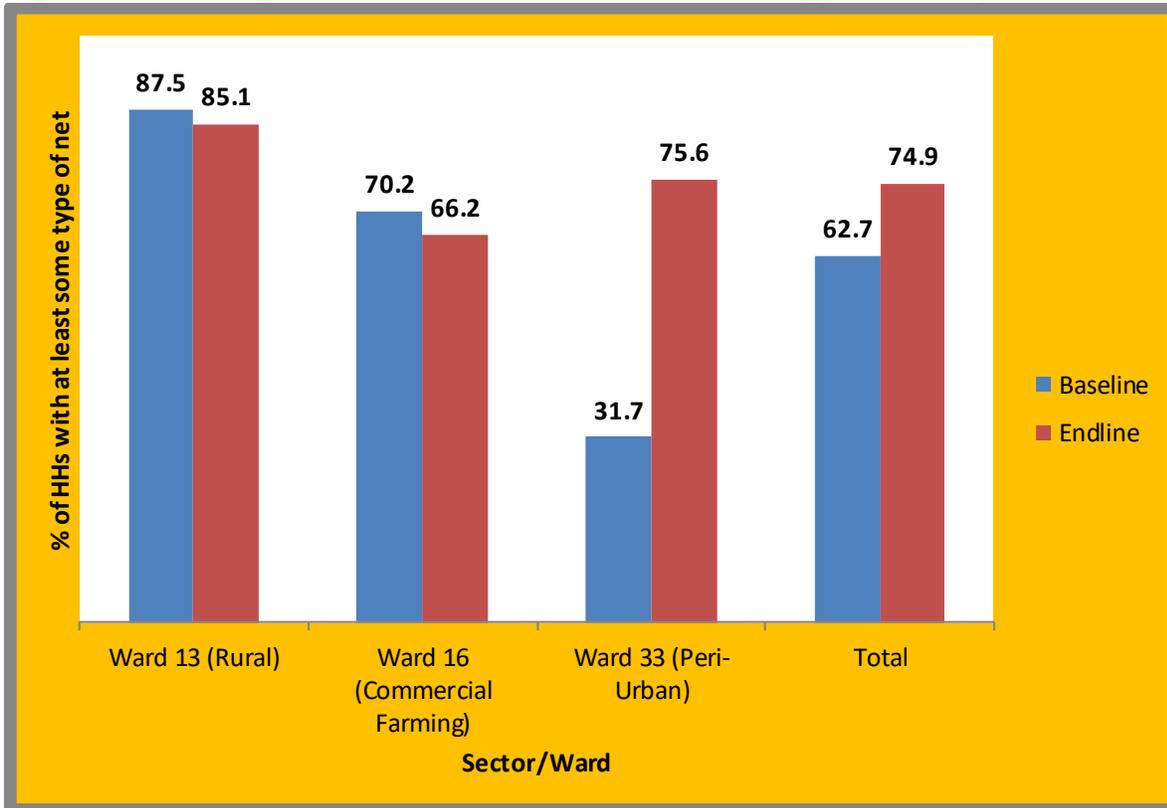
Assets Ownership	Number and Percentage of Households							
	Ward 13 – Rural		Ward 16 – Commercial		Ward 33 – Peri-Urban		Total	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Livestock/herds or farm animals	79.5%	1,080	42.9	741	10.2	194	40.3	2,015
Radio	61.5	835	52.8	913	55.5	1,060	56.2	2,808
TV	30.6	415	42.3	731	70.8	1,351	50.0	2,497
Mobile phone	86.3	1,172	73.9	1,277	92.9	1,773	84.5	4,222
Fixed phone	0.2	3	0.4	7	3.0	58	1.4	68
Bicycle	41.3	561	40.2	695	31.3	597	37.1	1,853
Car	4.1	55	4.6	79	15.8	302	8.7	436
Scotch-cart	29.9	406	2.9	50	0.6	12	9.37	468
Solar panel	67.5	917	34.9	604	24.3	463	39.7	1,984
Motorcycle	1.0	14	1.6	27	2.8	53	1.9	94
Electric stove	6.4	87	24.7	427	66.3	1,265	35.6	1,779
Cooker	8.2	111	11.5	199	68.1	1,300	32.2	1,610
Tractor	0.2	3	1.4	24	1.0	19	0.9	46
Refrigerator	5.2	71	11.3	196	43.9	838	22.1	1,105
Satellite dish	5.2	71	9.9	171	38.7	738	19.6	980
Total		1,358		1,729		1,909		4,996

3.3 MOSQUITO NET OWNERSHIP

This section presents findings on the ownership of mosquito nets by households interviewed in the three wards. Data were collected from households on ownership and number of mosquito nets owned, with particular focus on LLINs. Respondents were also asked to indicate the number of sleeping spaces

in the household and those that had LLINs. The information was used to assess the adequacy of LLINs for sleeping spaces and people in households. Figure 3 below compares the ownership of at least some type of net between the baseline and endline stages. The baseline and endline results were comparable in the rural and commercial farming settlement sectors. In the peri-urban ward there was an increase in the percentage of households with at least one net from the baseline (31.7 percent) to the endline stage (75.6 percent).

Figure 3: Percentage of Households with At Least Some Type of Net, by Sector



Baseline Survey: N=4,277, Endline Survey: N=4,996

Overall, 74.9 percent of all households owned at least some type of a net at the endline stage compared to 62.7 percent at the baseline stage.

For the endline survey, further analysis was done on the ownership of at least some type of mosquito net by religion. The data in Table 6 shows that ownership of nets is high across two religions, Christian (45.8 percent) and Apostolic Faith (41.7 percent).

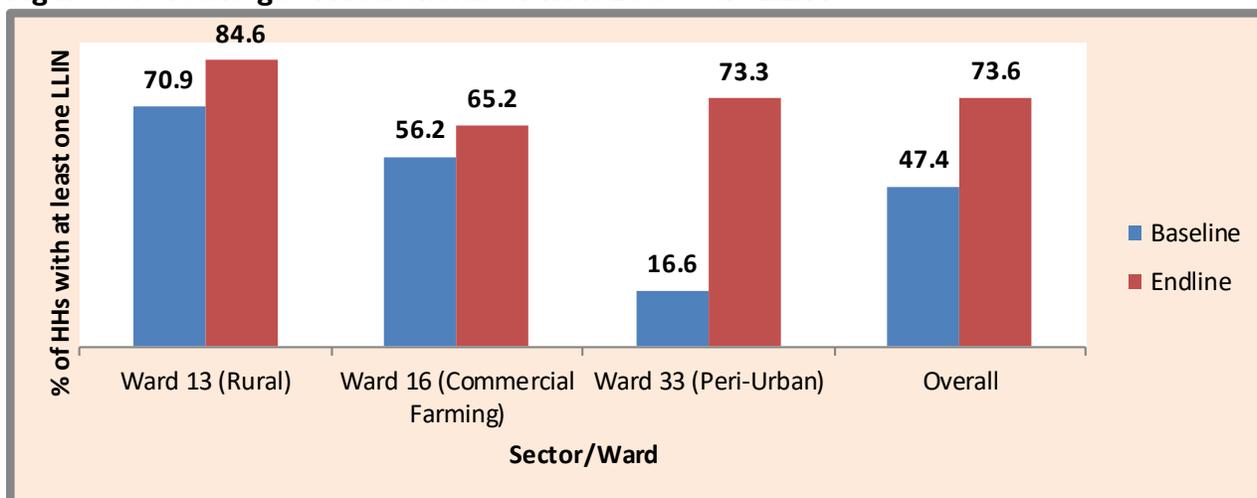
Table 6 Household's Ownership of At Least Some Type of Net, by Religion

Percentage distribution of the household's ownership of at least some type of net by religion, Mazowe Endline Survey 2016, Zimbabwe

Household's Religion	Own at least one type of net				Total	
	Yes		No		Number	Percent
	Number	Percent	Number	Percent		
Christian	1,715	45.8	569	45.4	2,284	45.7
Muslim	63	1.7	10	0.8	73	1.5
Buddhism	5	0.1	2	0.2	7	0.1
Atheist	225	6.0	116	9.3	341	6.8
Apostolic	1,562	41.7	471	37.6	2,033	40.7
Traditional	174	4.7	84	6.7	258	5.2
Total	3,744	100.0	1,252	100.0	4,996	100.0

The ownership of LLINs was higher across all the sectors at the endline survey than at the baseline stage. The difference was notable in the peri-urban ward, where only 16.6 percent of all the households owned at least a LLIN at baseline compared to 73.3 percent at endline stage. This sector accounts for the biggest contribution to the overall percentage increase in ownership (47.4 percent baseline and 73.6 percent endline).

Figure 4: Percentage of Households with At Least One LLIN



The respondents were asked to cite any reasons for not having LLINs. The main reasons were that they were not available when LLIN distribution took place (53.4 percent), had just moved to the area (17.8 percent), and did not know where to get an LLIN (7.3 percent). Other reasons stated were that they did not have identification documents for registration (2.1 percent), had no time to collect the nets, had other commitments, and had never received information about nets distribution.

3.3.1 SOURCES OF NETS

Data were collected on the sources of household nets. The predominant source of LLINs was mass distribution campaigns, accounting for over 70 percent of the households. This was followed by health facilities (13.6 percent) and village health workers (5 percent). These channels were the predominant channels used during the 2014 mass LLIN distributions. A similar trend was noted at the baseline stage, where both mass campaigns and health facilities were found to be the major sources of household nets (84.6 percent). Few households obtained nets from primary school (2.2 percent), retail shops (2.7 percent), and friends or family members (2.2 percent). At the baseline stage, few respondents reported obtaining LLINs from retail shops (4.2 percent) and “other” sources (1.6 percent).

3.4 USE OF MOSQUITO NETS

The use of LLINs to prevent malaria remains a key strategic intervention in Zimbabwe. Respondents were asked to indicate the number of LLINs they use, number of sleeping spaces in their household, sleeping spaces with LLINs, and sleeping spaces used last night. Most importantly, the respondents were asked to indicate particular household members who had slept under each net the night prior to the interview. Use of nets in the night before the survey is taken as a typical indicator of net use.

3.4.1 SUMMARY: USE OF MOSQUITO NETS

Before observation of the mosquito nets by the research assistants, respondents were asked to indicate the number of LLINs used by the household, total number of sleeping spaces, number of sleeping spaces with LLINs, and the number of sleeping spaces used the previous night. Out of the 3,744 households that owned LLINs, 3,050 (81 percent) indicated that they used LLINs, when asked the question, “How many LLINs do[es] your household use?” However, only 725 households (14.5 percent) reported having sleeping spaces with LLINs. This was lowest in the peri-urban ward (8.7 percent). The calculations were based on the number of households that reported having sleeping spaces with LLINs (numerator) over the number of households with sleeping spaces (denominator). On average, a household had a maximum of three sleeping spaces.

Table 7 Use of Mosquito Nets

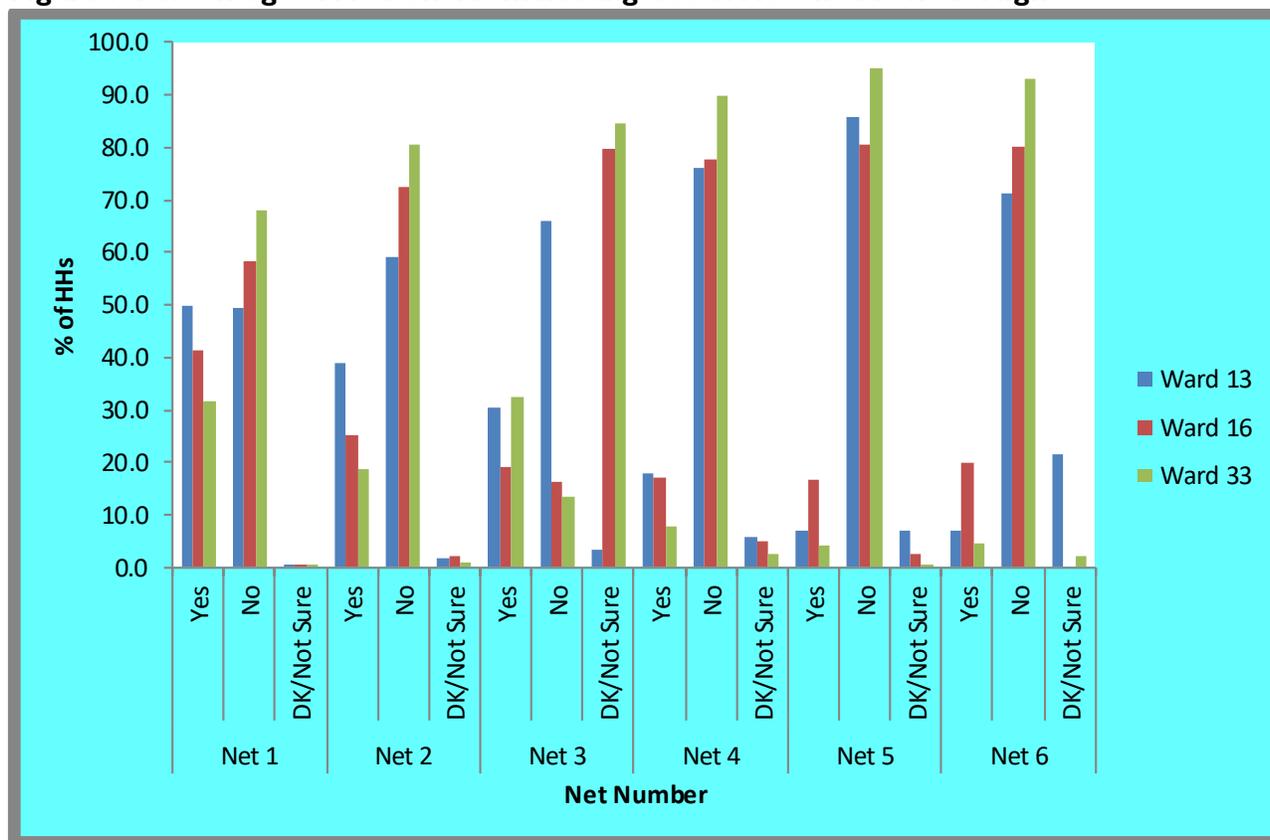
Percentage distribution of households by number of LLINs used, number of sleeping spaces, sleeping spaces with LLINs, and sleeping spaces used last night, according to the sector or ward, Mazowe Endline Survey 2016, Zimbabwe

	Number and Percentage of Households							
	Ward 13 – Rural		Ward 16 – Commercial		Ward 33 – Peri-Urban		Total	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
LLINs Used								
0	3.1	34	9.1	101	28.0	376	14.4	511
1	28.8	320	41.5	459	27.3	367	32.2	1,146
2	39.3	437	30.9	342	21.8	293	30.1	1,072
3	21.6	240	15.8	170	15.9	214	17.5	624
4	5.4	60	2.4	26	4.6	62	4.2	148
5	1.5	17	0.6	7	1.6	22	1.3	46
5+	0.3	3	0.1	1	0.7	10	0.4	14
Total	100.0	1,111	100.0	1,106	100.0	1,344	100.0	3,561
Sleeping Spaces								
1	12.2	166	23.1	400	21.7	402	19.4	968
2	34.5	468	38.7	669	39.7	757	37.9	1,894
3	34.5	468	28.6	494	27.7	529	29.8	1,491
4	13.1	178	7.1	122	8.9	170	9.4	470
5	3.3	45	1.7	29	2.6	41	2.3	115
5+	2.4	33	0.9	15	0.5	10	1.7	58
Total	100.0	1,358	100.0	1,729	100.0	1,909	100.0	4,996
Sleeping Spaces with LLIN								
1	97.2	212	97.7	333	94.6	157	96.8	702
2	1.9	4	1.5	5	4.2	7	2.2	16
3	1.9	4	0.8	3	1.2	2	1.0	7
Total	100.0	218	100.0	341	100.0	166	100.0	725
Sleeping Spaces Used Last Night								
0	0.7	10	0.9	15	0.7	14	0.8	39
1	24.7	335	29.8	516	29.3	559	28.2	1,410

2	39.9	542	36.7	634	39.5	754	38.6	1,930
3	24.5	332	24.7	427	23.0	439	24.0	1,198
4	7.4	101	5.9	103	5.7	109	6.3	313
5	1.5	21	1.2	20	1.3	24	1.3	65
5+	1.3	17	0.8	14	0.5	10	0.8	41
Total	100.0	1,358	100.0	1,729	100.0	1,909	100.0	4,996

After observing the nets, the data collectors asked the respondents whether anyone had slept under them the previous night. Figure 5 shows the use of the mosquito nets; overall, there was very low net use in the night preceding the interviews. Two-fifths (40.3 percent) of the respondents indicated use of the first net, 27 percent use of the second net, 19.2 percent use of the third net, 12.1 percent use of the fourth net, 6.6 percent use of the fifth net, and 6.3 percent use of the sixth net. Ninety-nine percent of the households in each sector had used their sleeping spaces in the night preceding the interviews.

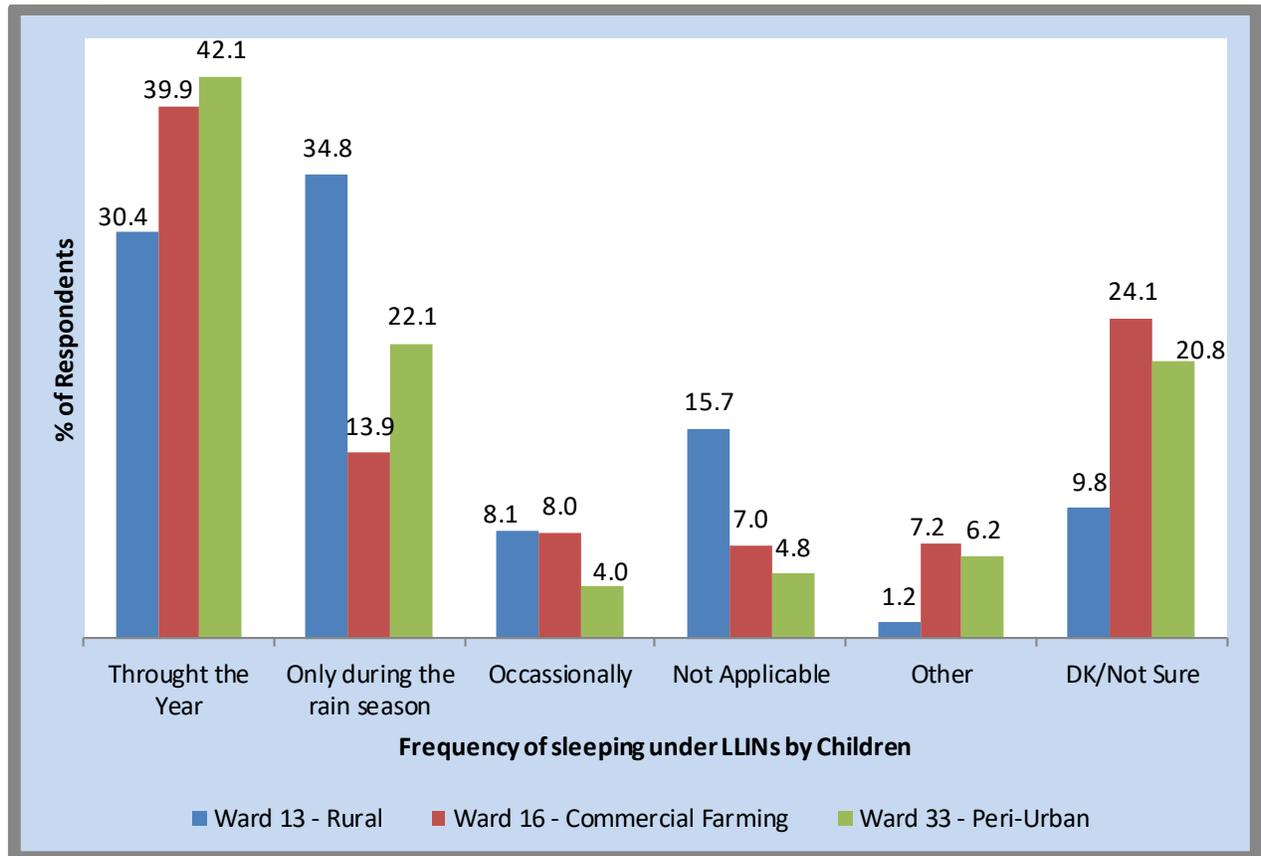
Figure 5: Percentage of Households Indicating Use of Net the Previous Night



3.4.2 FREQUENCY OF SLEEPING UNDER LLINs AMONG CHILDREN UNDER 5 YEARS OLD

The respondents that reported having nets were asked a general question on how often children under the age of 5 years slept under LLINs in a year. According to Figure 6 below, over three-fifths of children under 5 years old (61.3%) slept under LLINs throughout the year or only during the rainy season. Over two-fifths (42.1 percent) of households in the peri-urban ward said children under 5 years old slept under LLINs throughout the year, compared with fewer respondents in the rural (30.4 percent) and commercial farming wards (39.9 percent). It is noteworthy that a substantial percentage (34.8 percent) of households or respondents in the rural ward indicated the use of LLINs by children *only* during the rainy season. Also noteworthy is the finding that almost one-fifth of respondents (18.4 percent) did not know or were unsure of the frequency of sleeping under a net among children under the age of 5 years in a year.

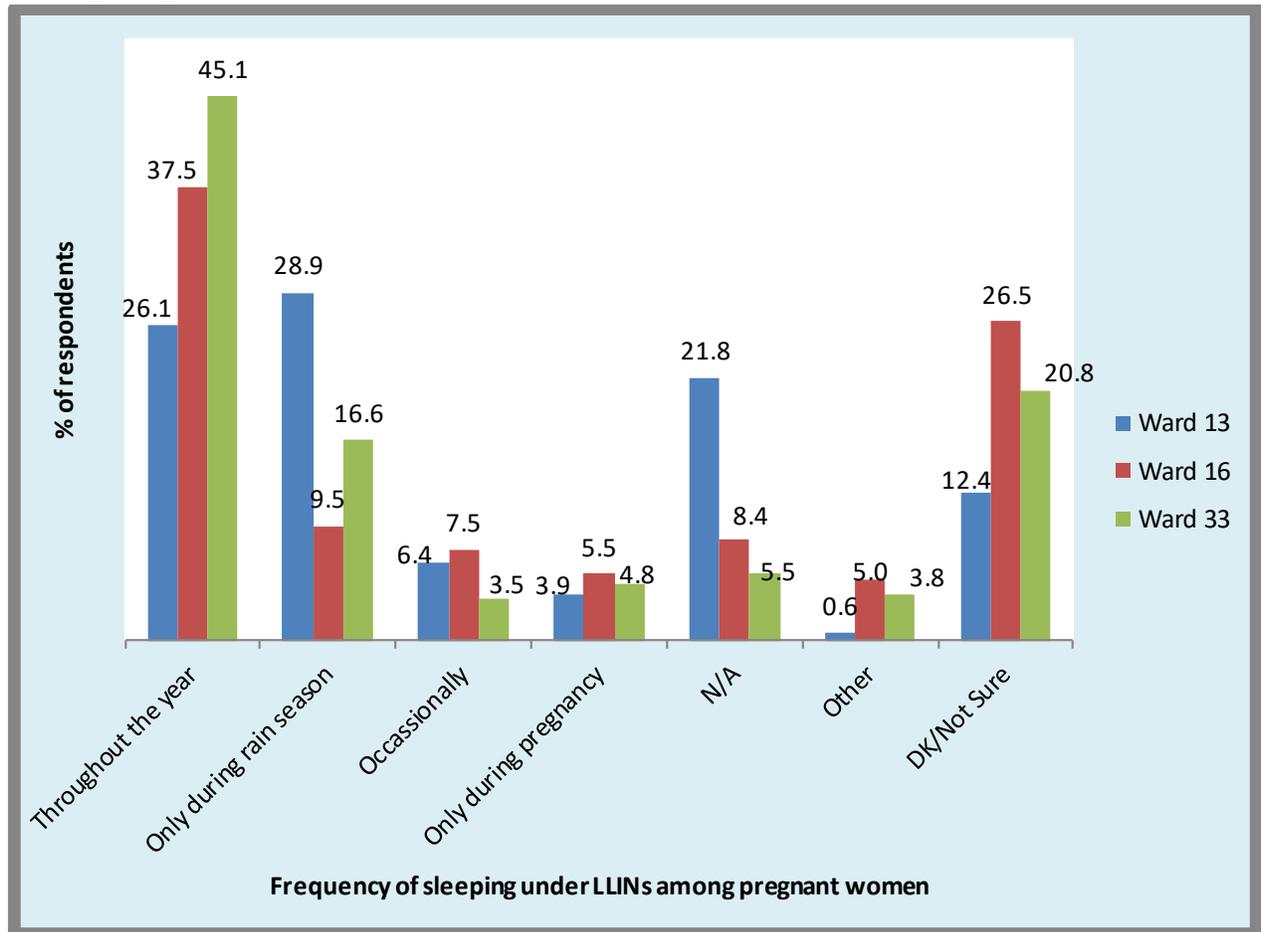
Figure 6: Percentage of Households Indicating the Frequency of Sleeping under LLINs among Children under 5 Years Old in a Year



3.4.3 FREQUENCY OF SLEEPING UNDER LLINs AMONG PREGNANT WOMEN

The respondents were also asked a general question on how often pregnant women slept under LLINs in a year. Similar trends observed with children under 5 years of age were also noted with pregnant women. Figure 7 below indicates that 45.1 percent of households in the peri-urban ward responded that pregnant women slept under LLINs throughout the year compared, to 26.1 percent in rural and 37.5 percent in commercial farming areas. Twenty-nine percent of the households in the rural ward said pregnant women slept under LLINs only during the rainy season, compared to households in the peri-urban (16.6 percent) and commercial farming ward (9.5 percent).

Figure 7: Percentage of Households Indicating the Frequency of Sleeping under LLINs among Pregnant Women in a Year



3.4.4 PREFERRED METHODS OF GETTING LLINs AMONG THE HOUSEHOLDS

The respondents were asked to identify their preferred method of getting LLINs. Overall, over half (55.5 percent) of household respondents reported a preference for obtaining LLINs from the health facility. There was an exception in the commercial farming areas, whose most preferred method was for the health worker to bring the LLINs to a central point in the community (31.9 percent); these respondents cited the health facility as the second best method (25.3 percent). In the rural areas, 75.6 percent of the respondents cited the health facility as a preferred method; and 63.6 percent in the peri-urban ward cited the same method. Other preferred methods were mass campaign (11.3 percent) and distribution of LLINs to households by health workers (8.7 percent).

Table 8 Preferred Methods of Getting LLINs Among the Households

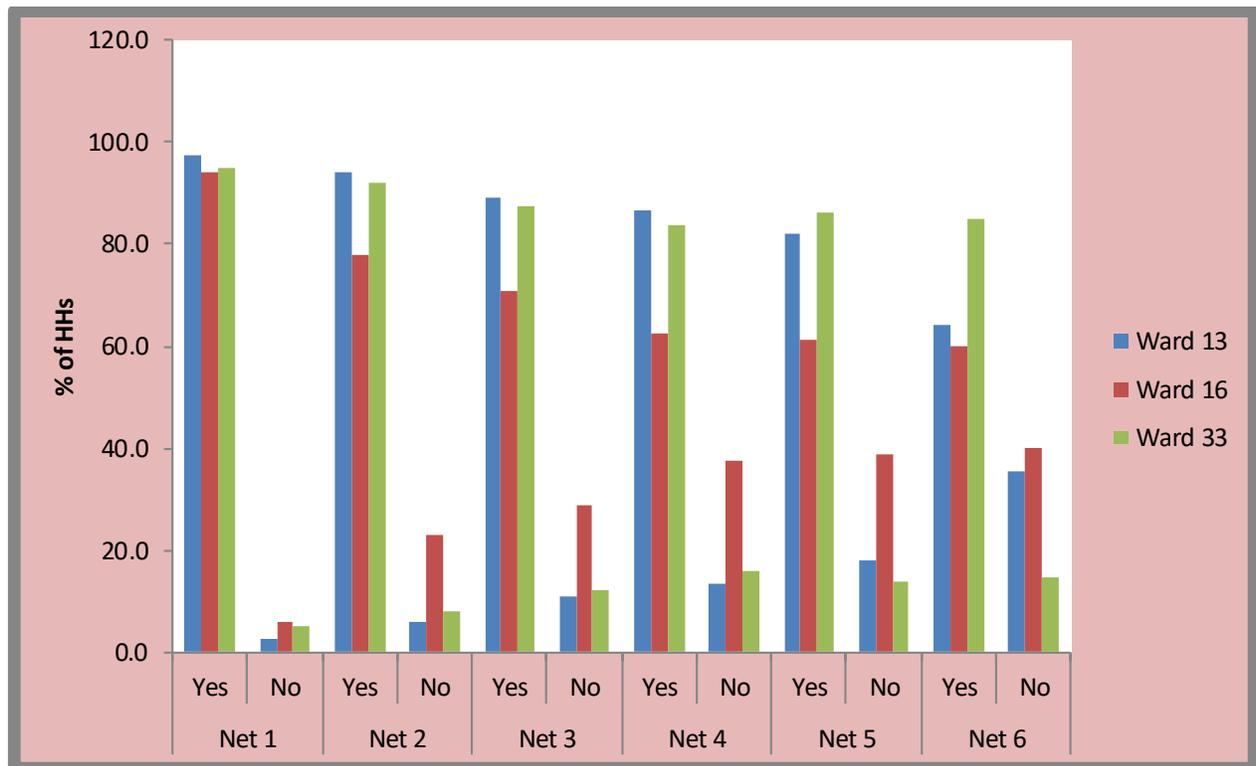
Percentage distribution of households or respondents by preferred method of getting LLINs, according to the sector or ward, Mazowe Endline Survey 2016, Zimbabwe

Preferred Method	Number and Percentage of Households							
	Ward 13 – Rural		Ward 16 – Commercial		Ward 33 – Peri-Urban		Total	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Retail Outlet	1.5	17	1.2	14	1.2	17	1.3	48
Health Facility	75.6	875	25.3	292	63.6	920	55.5	2,087
ANC	0.6	7	0.1	1	0.1	2	0.3	10
EPI	0.2	2	0.1	1	0.0	0	0.1	3
School	1.6	18	1.3	15	0.1	2	0.9	35
Coupon from VHWs	3.7	43	6.9	80	5.6	81	5.4	204
Health worker brings to my house	2.8	32	15.3	177	8.2	119	8.7	328
Health worker brings to central point in community	2.1	26	31.9	369	2.4	34	11.4	429
Mass campaign	10.0	116	11.9	138	11.8	171	11.3	425
Other	1.0	11	1.3	15	4.6	66	2.5	92
Do not know (DK)/not sure	0.9	10	4.7	54	2.4	34	2.6	98
Total	100.0	1,157	100.0	1,156	100.0	1,446	100	3,759

3.4.5 OBSERVATION OF LLINs IN DIFFERENT LOCATIONS

Permission to observe the mosquito nets was sought from the household respondents. It is important to note that the denominators used to calculate the percentage of households whose mosquito nets were observed or not observed for each net were not the same, since the numbers of nets owned by the households were not equal. Figure 8 below shows the denominators used for each net number. However, there were some noteworthy trends. Overall, the proportion of households whose nets were observed was highest in the rural areas, followed by the peri-urban areas and then the commercial farming areas. See Figure 8 below.

Figure 8: Percentage of Households Whose Mosquito Nets Were Observed or Not Observed



Net 1: N=3,741; Net 2: N=2,897; Net 3: N=1,659; Net 4: N=630; Net 5: N=275; Net 6: N=111

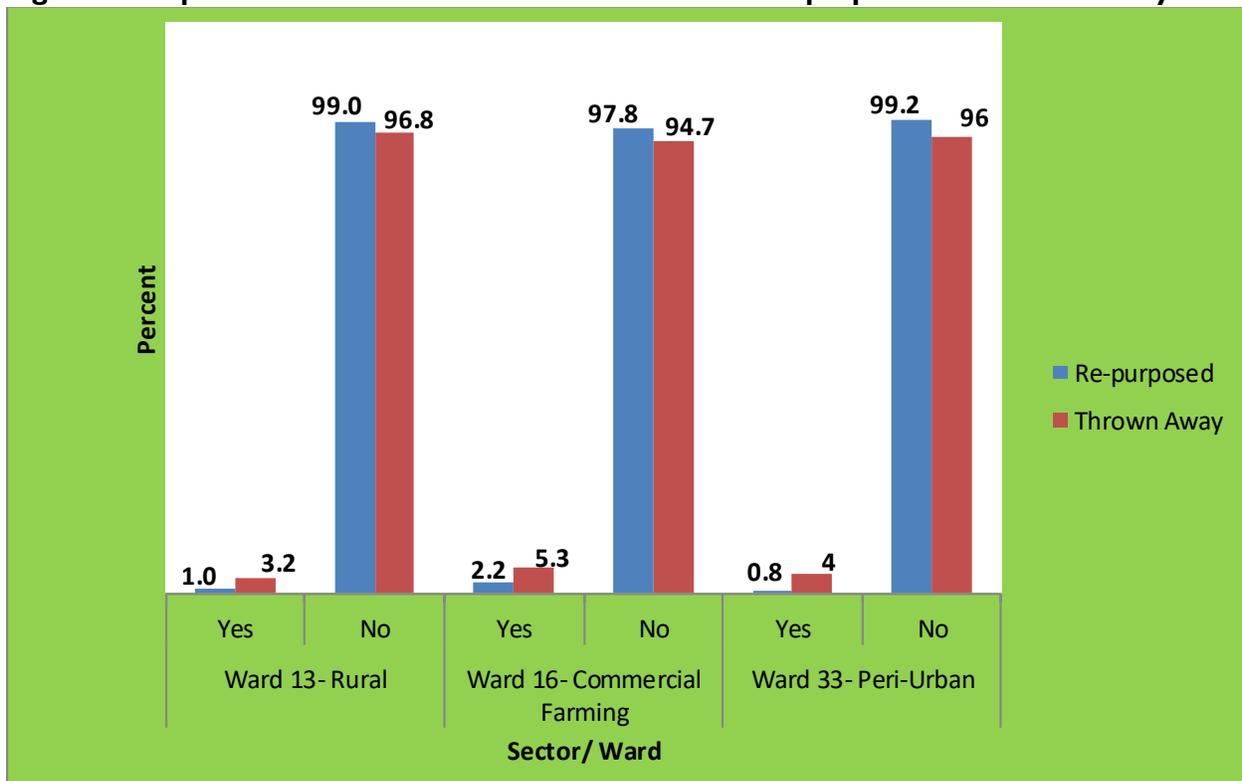
During the observation of the nets, information was also collected on where the net was hung, and data collectors saw *how* it was hung or stored. Overall, 60 percent of households had Net 1 hanging loose over a sleeping place; or hanging and folded up, or tied up, over the sleeping place. The majority of these households were in the rural areas (73.9 percent), followed by those in commercial farming settlements (62.9 percent); with the lowest proportion in the peri-urban sector (47.3 percent). A similar trend was noted for the other five nets.

In 33 percent of households, Net 1 was not hung. The net was either not hanging but not stored either, removed from packaging but stored away, or stored away and still in packaging. This observation was most prevalent in the peri-urban sector (50 percent), followed by the commercial farming settlements (30 percent), and lowest in the rural sector (20 percent). Again, the same trend was noted for the other five nets.

3.4.6 RE-PURPOSING AND DISPOSAL OF LLINs

In this survey, the respondents were asked whether the household had re-purposed or thrown away nets in the past 12 months. Figure 9 below shows the percentage of households that re-purposed and threw away nets across the three sectors. Overall, more households (4.2 percent) indicated that they threw away the nets than said they had re-purposed them (1.3 percent). Disaggregated by sector, households in the rural ward (1 percent), commercial farming ward (2.2 percent), and peri-urban (0.8 percent) had re-purposed the nets in the past 12 months. On the other hand, 3.2 percent of households in the rural ward, 5.3 percent in commercial farming settlements, and 4 percent in the peri-urban ward had thrown away nets in the past 12 months.

Figure 9: Proportion of Households Whose Nets Were Re-purposed or Thrown Away



Overall, there was a relative increase in the proportion of households that re-purposed or threw away the nets in all the sectors compared to in the baseline survey. Table 9 below compares the endline and baseline survey results.

Table 9: Comparison of the Baseline and Endline Survey Results – Proportion of Households That Re-purposed or Threw Away the Nets

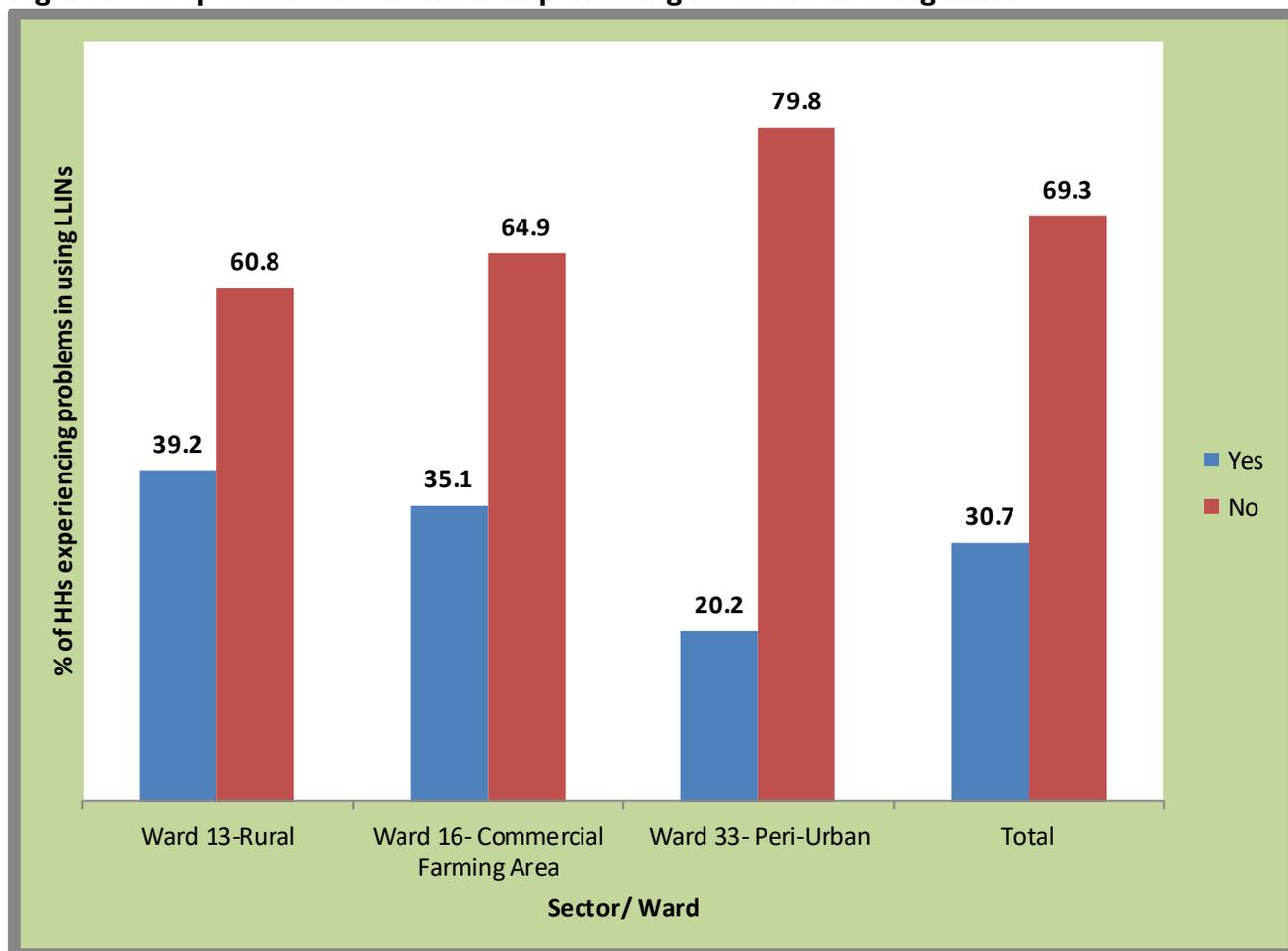
Sector	Baseline Survey	Endline Survey
Rural	0.5%	2.1%
Commercial Farming	1.9%	3.8%
Peri-Urban	2.5%	2.4%
Total	4.9%	8.3%

In all the three sectors, the households threw away the nets mainly because they were torn beyond repair or eaten by rats or mice. The main uses for re-purposing nets in rural areas were for fishing; housing chicken, fowl, or other animals; and covering vegetables. Households in the commercial farming ward re-purposed LLINs mainly for door screens and chicken, fowl, or other animal housing, and for covering vegetables. In the peri-urban area, there were no major reasons cited for re-purposing the nets.

3.4.7 PROBLEMS EXPERIENCED IN USING LLINs

The respondents were asked whether the household had experienced problems in using LLINs. Figure 10 highlights that the rural sector had the highest percentage of households (39.2 percent) indicating that they had experienced problems in using LLINs. This was followed by the commercial farming areas (35.1 percent), with the peri-urban ward having the lowest percentage of households (20.2 percent) confirming that they had experienced problems in using LLINs.

Figure 10: Proportion of Households Experiencing Problems in Using LLINs



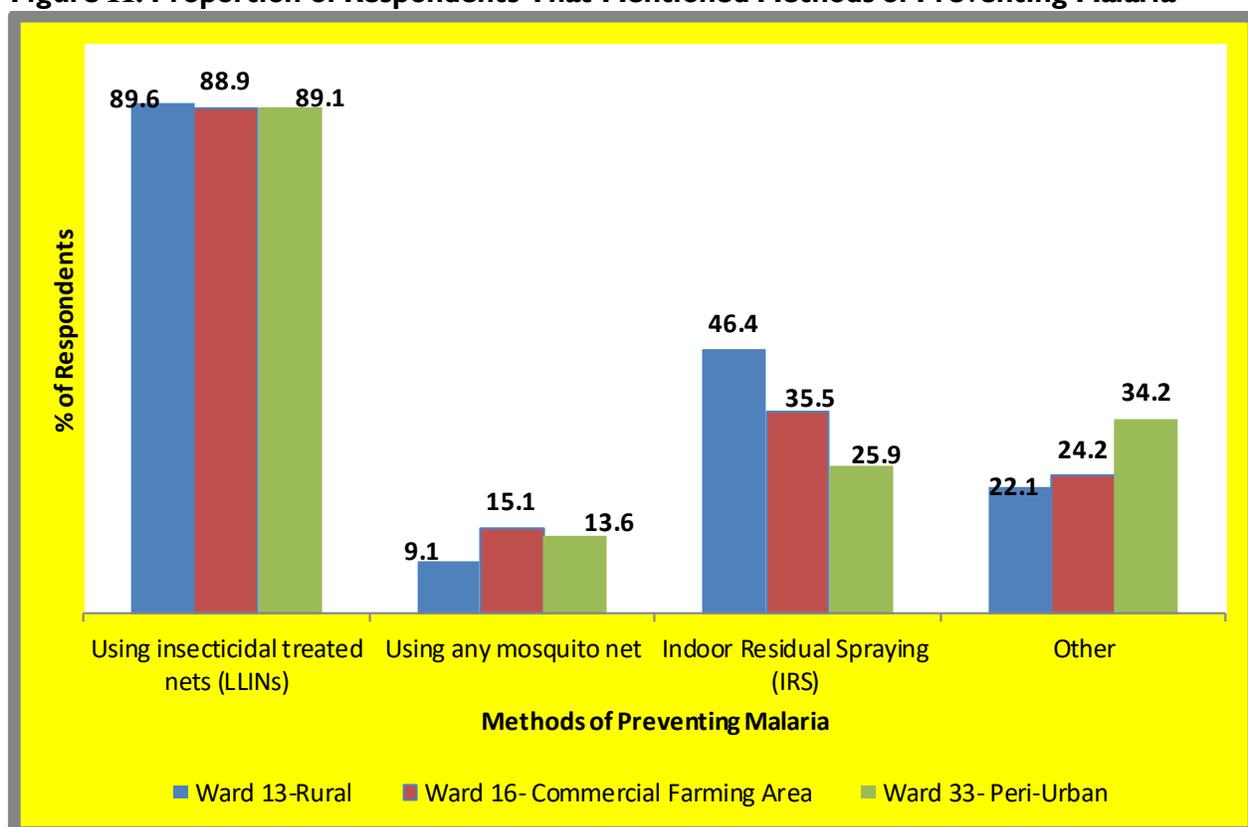
The main problem encountered in using LLINs was itchiness (rural areas, 93.5 percent; commercial farming areas, 86.1 percent; and peri-urban areas, 71.1 percent). Difficulty breathing inside the net was cited as the second main problem. This was highest in the peri-urban ward (14.3 percent) and lowest in the rural ward (4.4 percent). Though only a small percentage of respondents reported this, bad smell was also cited as a problem (peri-urban, 5.6 percent; commercial farming, 4.3 percent; and rural, 0.8 percent). Religious beliefs, no place to hang the LLINs, and sleeping space not compatible with mosquito net were not cited as major problems.

According to the baseline report, about 30 percent of households with LLINs had reported problems with using them. Among these, the major problem encountered was itching, 91.3 percent. Other less frequent problems experienced included bad smell of the LLINs (9.7 percent), lack of a place to hang the net (2.0 percent), and challenges of breathing when sleeping under an LLIN (9.7 percent).

3.5 MALARIA PREVENTION KNOWLEDGE

The respondents were asked about their knowledge of malaria prevention. There were high levels of knowledge about malaria prevention methods in all the three sectors. As shown in Figure 11 below, the most cited prevention methods include: use of LLINs (rural, 89.6 percent; commercial farming, 88.9 percent; and peri-urban, 89.1 percent), and indoor residual spraying (rural, 46.4 percent; commercial farming, 35.5 percent; and peri-urban, 25.9 percent). Methods cited in the “other” category include spraying of mosquito breeding places (16.2 percent) and use of mosquito repellents (4.3 percent). At the baseline stage the most mentioned prevention methods included use of LLINs (57 percent), and indoor residual spraying (48 percent).

Figure 11: Proportion of Respondents That Mentioned Methods of Preventing Malaria



3.6 MOSQUITO NET PREFERENCE

The survey also sought information on the shape and color of nets that the household respondents preferred. This finding was elicited as a personal preference of the respondent and should not be generalized as the preference of all the household members. Overall, the conical (71.4 percent) was the most preferred shape in all the three sectors, followed by the rectangle shape (23.3 percent). Three-fifths of the respondents (61 percent) picked blue as their most preferred color for mosquito nets.

Further breakdown of the “other” response shows that the respondents also preferred the pink color (6.2 percent). In the 2015 baseline survey, the conical was also the dominant shape of choice, with as many as 82 percent of the respondents preferring this shape. According to the 2015 baseline report, 74 percent of the respondents cited blue as the most preferred color.

Table 10 Preferred Shape and Color of Mosquito Nets

Percentage distribution of respondents by preferred shape and color of mosquito nets, according to the sector or ward, Mazowe Endline Survey 2016, Zimbabwe

Number and Percentage of Respondents								
Preferred Shape	Ward 13–Rural		Ward 16–Commercial		Ward 33–Peri-Urban		Total	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Rectangle	32.2	373	21.6	250	17.6	254	23.3	877
Conical	64.0	740	69.5	803	78.9	1,141	71.4	2,684
Never used bed net	0.4	5	6.0	69	2.0	29	2.7	103
Other	2.9	34	1.3	15	1.2	18	1.8	67
DK/not sure	0.4	5	1.6	19	0.3	4	0.7	28
Total	100.0	1,157	100.0	1,156	100.0	1,446	100.0	3,759
Preferred Color								
White	16.7	193	9.7	112	16.0	231	14.3	536
Green	16.0	185	17.8	206	9.2	133	13.9	524
Blue	55.5	642	58.3	674	67.6	978	61.0	2,294
Never used bed net	0.0	0	0.0	0	0.3	4	0.1	4
Other	11.7	135	13.8	160	6.8	98	10.5	393
DK/not sure	0.2	2	0.4	4	0.1	2	0.2	8
Total	100.0	1,157	100.0	1,156	100.0	1,446	100.0	3,759

4. CONCLUSION AND RECOMMENDATIONS

4.1 CONCLUSION

The following were the major conclusions drawn from this survey.

- Overall, the percentage of households with at least one LLIN increased from 47.4 percent (baseline survey) to 73.6 percent. This is more than the current national baseline of 48

percent (Zimbabwe National Statistics Agency, 2015). The percentage of households with at least some type of net also rose, from 62.7 percent (baseline survey) to 74.9 percent. Ownership of at least one LLIN by household was highest in the rural sector at both the baseline and endline stages. Net ownership varied by sector. This could be an effect of the varying channels used to distribute LLINs during and after the mass distribution of 2014. The 2015 baseline report further postulates that the mass distribution of 2014 favored rural and commercial farming settlements more than the urban populations, due to the urban populations' relatively higher mobility and unavailability to receive the nets because they were otherwise engaged, in economic activities. The observation supported Hetzel et al.'s assertion that "urban populations are also relatively more migratory hence mass distribution exercises may be limited in improving LLINs ownership levels over time" (Hetzel et al., 2012).

- Although net ownership was relatively high and higher than at baseline, this did not necessarily translate to use of these nets. Use of nets was slightly lower across the three sectors compared to the baseline. This could be linked to the problems cited by the households in using LLINs, such as itching, difficulty breathing inside the net, and the bad smell. In the endline survey, the general trend indicated that in 63.1 percent of households, children under 5 years old slept under LLINs either throughout the year. Thirty-seven percent of the surveyed households indicated that pregnant women slept under LLINs throughout the year.
- Over half (55.5 percent) of household respondents reported a preference for obtaining LLINs from the health facility except in commercial farming areas, whose preferred method was for the health worker to bring the LLINs to a central point in the community (31.9 percent of respondents in this area). In the rural areas, 75.6 percent of the respondents cited the health facility as a preferred method, and 63.6 percent in the peri-urban areas cited the same method. In order to increase the uptake of nets, different methods can be used to provide nets to the communities.
- From the baseline and endline survey findings, levels of knowledge about malaria prevention methods by the respondents in all the three sectors were high.

4.2 RECOMMENDATIONS

Based on the above conclusions, the following recommendations are worth considering;

- There is evidence to suggest that high ownership of nets does not translate to high levels

of use of nets. There is need to scale up social behavior change campaigns, especially on the importance of using nets, with approaches targeted to address the more common reasons for non-use as revealed through this survey and others.

- LLIN coverage remained low, particularly in the commercial farming and peri-urban wards.. This suggests that there is need for continuous distribution through the community channels since the communities are highly mobile and health facilities are few and widely dispersed.
- In order to increase the uptake of nets, different methods can be used to provide nets to the communities in different sectors. It is therefore important to consider the households' most preferred method of getting LLINs, which is the through health facility, when distributing the nets. Specifically, it is recommended that LLINs be distributed through the ANC, EPI and community channels. This will increase access of LLINs at household level which eventually will lead to utilization.
- Though it is commendable that knowledge levels about malaria prevention methods were high in all the three sectors, interventions should continue to be scaled up, to keep up with the dynamic nature of the disease epidemiology and transmission patterns.
- LLIN hang-up demonstrations need to be scheduled at regular intervals to improve general understanding and practices amongst households. These demonstrations could be incorporated more frequently in campaigns and at health facilities, schools, and communities.

REFERENCES

Hetzel MW, Gideon G, Lote N, Makita L, Siba PM, Mueller I. 2012. Ownership and usage of mosquito nets after four years of large-scale free distribution in Papua New Guinea. *Malaria Journal*, 11:192.

Ministry of Health and Child Care. 2015. Health Management Information System (HMIS), Harare.

PSI, Zimbabwe. 2015. Malaria net baseline survey for routine distribution amongst households in Mazowe District of Zimbabwe.

Zimbabwe National Statistics Agency. 2015. Zimbabwe Demographic and Health Survey.

APPENDICES

APPENDIX I: DATA ANALYSIS FRAMEWORK

ZAPIM LLIN Endline Survey (2016) data analysis framework

Research Objectives/ Domains	Questionnaire Section		Question	Analysis Notes
	Section	Sub-Objective	Endline	

Research Objectives/ Domains	Questionnaire Section		Question	Analysis Notes
	Section	Sub-Objective	Endline	
Background and Household Characteristics	Section 1: Household Characteristics	Demographics	Q101 (A3, A5–A7), Q112, ID 03, ID 05	Sex, Age, Slept last night, Pregnant, Religion Calculate: 1. Proportion of males and females 2. No. of people resident in the households surveyed by sector 3. No. of households surveyed by sector 4. Mean (SD) age 5. Proportion that slept in household the previous night (denominator: total number of members in household (Q101)) 6. Proportions/distribution of relationship to household 7. Proportion of pregnant women 8. Proportion of children under 5 years 8. Proportion of the different religions 9. Proportion by sector type
			Q102–111	Calculate proportions of the different household features (flooring, walls, and roof), electricity source, and property owned (particularly ownership of livestock, land and durable goods). Calculate proportion of hygiene features (toilet facilities and source of drinking and cooking water). These will be useful in computing socioeconomic difference patterns with respect to LLIN availability and use.
Availability and coverage What proportion of households has received LLINs from January 2014?	Section 2: Mosquito Net Availability	Net Availability	Q200–202, 203, 304 and 207	Calculate: 1. Proportion of households that own any mosquito net (denominator – total households surveyed as unit of measurement), and that own any ITN, disaggregated by SES and ward 2. Distribution of households by number of nets owned 3. Average length of ownership of nets (denominator – total number of nets identified in the survey), disaggregated by cut-off at 16 months and 36 months 4. Tabulate response trends for reasons for not having LLINs. Isolate number of

Research Objectives/ Domains	Questionnaire Section		Question	Analysis Notes
	Section	Sub-Objective	Endline	
				households not available when LLIN distribution took place (new denominator 2).
		Net coverage	Q101A1, Q202, Q203	Calculate: 1. Proportion of available nets per individuals (denominator – total number of individuals identified within the household Q 101 and 101A) disaggregated by LLINs and non-LLINs 2. Proportion of households that own at least 1 ITN for every 2 people in their household 3. Proportion of sleeping places with LLINs 4. Proportion of nets that are LLINs (denominator: total nets possessed) 5. Proportion of LLINs used (denominator – total LLINs identified) Disaggregate by sector (ID 05) and SES.
Source/channels From what source did the households get the LLINs?	Section 3: Mosquito Net Utilization	Net brand	Q 301	Calculate distribution of type/brand of nets. Disaggregate by sector (ID 05).
		Source of net	Q303, 317	Tabulate 1. The distribution of the sources of nets. 2. The distribution of responses to preferred method of getting LLINs. Disaggregate by socioeconomic characteristics of indicators for wealth (e.g., owns specific durable goods – TV, etc.). Disaggregate by sector (ID 05).
Utilization and disposal of nets What percentage of the target population report using mosquito nets?	Section 3: Mosquito Net Utilization	Net utilization, care and storage	Q 203, 302, 305–306, 310, 313–314, 326–329	Calculate: 1. Proportion of identified nets that were slept in the previous night 2. Percent of study population that slept under any net and under any ITN the previous night, by ward and by SES 3. Proportion of sleeping places with LLINs used last night 4. Tabulate trends in distribution of how net is hung or where and how stored. Denominator=total number of identified nets. 5. Proportion of nets repaired 6. Tabulate trends in frequency of washing nets

Research Objectives/ Domains	Questionnaire Section		Question	Analysis Notes
	Section	Sub-Objective	Endline	
				7. Tabulate proportion of under 5 and pregnant women sleeping under any net and any ITN, by SES
		Net re-purpose	Q320–322,	Calculate: 1. Proportion of nets re-purposed disaggregated by re-purpose use/function 2. Distribution of original users of re-purposed nets Disaggregate by sector (ID 05).
		Net disposal	Q323–325	Calculate proportion of nets thrown away and disaggregate by reason for disposal. Disaggregate by sector (ID 05).
Net adequacy and preferences	Section 2: Mosquito Net Availability	Adequacy of LLINS	Q101A1, Q204–206	Calculate: Proportion of sleeping spaces with LLINs.
Are there adequate LLINs for sleeping spaces and persons available in the household?	Section 4: Net Preference	Net preference	Q401–404	Tabulate trend in preference responses, and disaggregate by sector (ID 05).
Factors influencing uptake and utilization What are the factors that influenced the ownership uptake and use of LLINs in the various sectors of Mazowe District?	Section 3: Mosquito Net Utilization	Factors influencing utilization	Q307,315, 318–319	1. Tabulate distribution of responses to “why was net not used?” 2. Tabulate response to problems encountered while using LLINs.
Knowledge of malaria	Section 3: Mosquito Net Utilization		Q316	Calculate respondents who correctly describe all three methods.

APPENDIX 2: FIELD SUPERVISION CHECKLIST



MAZOWE ENDLINE SURVEY FIELD SUPERVISION CHECKLIST AUGUST-SEPTEMBER 2016

District _____ Ward _____ Sector/Village: _____

Team Number _____ ### of Research Assistant _____

ID of Household being interviewed: _____

Name of Team Leader/ Supervisor: _____

Monitoring done by: _____

Designation of Monitor _____

Date and Time of Monitoring _____

What was the interviewer doing on your arrival? _____

Observe the seeking of consent process: _____

Observe the use and handling of smart phone: _____

Does the interviewer have all consent forms: Yes _____ No _____

INTERVIEW PROCEDURE BEING OBSERVED:

No.	Variable	Yes (Tick)	No (Tick)
1.	Is the Research Assistant dressed decently?		
2.	The house was thoroughly briefed about the survey?		
3.	Consent sought?		
4.	Consent form signed?		
5.	Is the interview being held in privacy?		
6.	Is the Research assistant clearly asking the questions?		
7.	Is the Research Assistant not asking leading questions?)		
8.	Is the Research Assistant maintaining the right speed and consistency?		
9.	Did Research Assistant observe the LLINs?		
10.	Did Research Assistant properly code the brand of the LLIN?		
11.	Are the questions being properly coded?		
12.	Is the data being saved?		
13.	Is the Research Assistant eating/drinking during the interview?		
14.	Did the Research Assistant put a sticker on the door of the house?		
15.	Is the phone charged?		

16.	Hard copy of questionnaire available?		
17.	Completed Adult Consent forms available and collected?		
18.	Child headed h/holds consent procedure being followed?		
19.	Did the Research Assistant properly thank the respondent?		
20.	Is the research Assistant confident about his/her work?		

OTHER OBSERVATIONS; (information to the community, discipline?)

.....

Date and Time Interview was observed _____

APPENDIX 3: CHECKLIST FOR DATA QUALITY MONITORING DURING DATA COLLECTION – SUPERVISORS





Malaria Net Endline Survey for Routine Nets Distribution amongst households in Mazowe District of Zimbabwe, August-September 2016

Checklist for Data Quality Monitoring during Data Collection – Supervisors

CATEGORY A: Field Monitoring

Date: _____

Location: _____

Name: _____

Designation: _____

1. Define the monitoring objective

<input type="checkbox"/>	Regular compliance for the study
<input type="checkbox"/>	Local authority support
<input type="checkbox"/>	Respondents' receptiveness
<input type="checkbox"/>	Supervisors effectiveness
<input type="checkbox"/>	Data collectors effectiveness
<input type="checkbox"/>	Software functionality
<input type="checkbox"/>	Devices (smart phones) functionality
<input type="checkbox"/>	Other

2. Local leaders participation

Willing to participate in the study _____

Attitude towards the study _____

Attitude towards data collectors _____

Support _____

Concern (if any) _____

3. Households participation

Willingness to participate in the study _____

Positive attitude towards the study _____

Positive attitude towards data collectors _____

Openness in sharing information _____

Concern (if any) _____

4. Supervisors/team leaders effectiveness

Evidence of presence in the field _____

Effectiveness in responding to issues whilst in the field _____

Evidence of data review _____

General support to data collectors _____

Concern (if any) _____

5. Data collectors effectiveness

Adherence to the study protocol _____

Attitude towards respondents _____

Use of the survey tool and the smartphones _____

Fluency _____

Precision _____

Completeness _____

Concern (if any) _____

6. Software functionality

	Is the survey version up-to-date?
	Is the survey in the production mode?
	Are the inbuilt data quality controls functional?
	User credentials?
	Does the survey complete?
Concerns	

7. Devices (smart phones) functionality

	Are the devices up to standard?
	Do the devices connect to the internet?
	Do the devices Sync Survey?
	Do the devices capture GPS coordinates?
	Are the power banks functioning well?
Concerns	

8. General observations and recommendations

.....

APPENDIX 4: DAILY SUMMARY REPORT FORM

DAILY SUMMARY REPORT OF ENDLINE SURVEY ACTIVITIES (for Team Leaders)

DATE: _____ **PROVINCE:** _____ **DISTRICT:** _____ **WARD:** _____

VILLAGE/FARM/LOCATION: _____ **NO. OF RESEARCH ASSISTANTS IN TEAM:** ____ **TEAM NUMBER** ____

VARIABLES	NAME OF RESEARCH ASSISTANT (*indicate name of research assistant below)						
							Total
1. No. of Households reached:							
2. No. Of household interviewed							
3. No. of children Child Headed Household interviewed							
4. No. of sleeping places found							
5. No of sleeping places with LLINs							
6. No of LLINs seen/observed							
6. Households Revisited							
7. Issues /challenges encountered							
8. Issues/Challenges resolved							

NAME OF TEAM LEADER _____ Signature _____ Date _____

NAME OF SUPERVISOR _____ Signature _____ Date _____

APPENDIX 5: ENDLINE SURVEY QUESTIONNAIRE





Study Title: Malaria Net Endline survey for routine distribution amongst households in Mazowe District: Zimbabwe. August-September 2016

001 QUESTIONNAIRE IDENTIFICATION NUMBER

SPEAK TO THE HEAD OF THE HOUSEHOLD: Hello. My name is . . . and I am working for We are interviewing people here in Mazowe District in order to obtain information on mosquito net availability, utilization and adequacy. We are intending to interview all households in this ward and your ward was randomly selected to participate in this study having received insecticide treated mosquito nets since 2014 from PSI Zimbabwe. We would like to interview one respondent in this household who is at least 15 years of age and has been staying in this household for at least 6 months.

We would like your permission to identify a respondent and begin the interview. [Note: Ensure formal consent (and assent if needed) process is done prior to interviewing the selected respondent].

I certify that the nature and purpose, the potential benefits and possible risks associated with participating in this research have been explained to the participant. Yes [] No []

Makadii. Ini ndinonzi..... uye ndinoshandira..... Tirikuita hurukuro nevanhu muno mudunhu reMazowe kuti tiwane mashoko ekuwanikwa kwemosikito neti ekudzivirira Malaria, kushandiswa kwawo uye kukodzera kwawo. Tirikutarisira kuita hurukuro mudzimba dzose munharaunda ino uye nharaunda ino yasarudzwa zvinechinangwa kuti iongororwe. Tinokumbirawo kuita hurukuro nemunhu mumwechete pamusha uno anemakore akadarika gumi nemashanu uye anga achigara pamusha uno kwemwedzi mitanhatu yapfuura.

Tinokumbirawo mvumo yekusarudza achatipindura mibwunzo tichibva tatanga hurukuro yedu

Ndinotsinhira kuti ongororo ino, zvinangwa, zvingabatsire uye zvikanganiso zvinechekuita nekuve muongororo ino zvatsanangurwa kumuongorowi. Hongu [] Kwete []

IDENTIFICATION	
ID01	Province: Mashonaland Central
ID02	District : Mazowe
ID03	Ward []
ID04	Locality Name (Village) _____
ID05	Sector Rural-----1 Commercial Farming settlement -----2 Growth Point -----3

ID06	Household Number _____			
INTERVIEWER VISITS				
		A	B	C
		Visit 1	Visit 2	Visit 3
ID07	DATE	_____	_____	_____
ID08	RESULTS	_____	_____	_____
				INTERVIEW STATUS
Completed interview-----				1
Partially completed interview-----				2
Respondents not available for interview-----				3
ID09	Interviewer Number _____			
ID10	Supervisor Number _____			
SECTION 1. HOUSEHOLD CHARACTERISTICS				
Q 101	How many members do you have in your household? __ __ __ __			
(Count those who have resided in household for 6 months or more) Pamusha pano panogara vanhu vangani?				

Q 101A	101A1 LIST NAMES OF NORMAL RESIDENCE (MAZITA TICHITANGA NEMUKURU WEPANO PAMUSHA NYORA MAZITA OSE EVANHU VANOGARA PANO	101A2 RELATIONSHIP TO HEAD OF HOUSEHOLD HUKAMA HUPI HURIPO PAKATI PAKE NEMUKURU WEMUSHA UNO	101A3 MALE OR FEMALE MURUME HERE KANA KUTI MUKADZI		101A4 WHAT IS (NAME)'S DATE OF BIRTH? KO (ZITA) AKABEREKWA RIINI?		101A5 HOW OLD IS HE/SHE ANE MAKORE MANGANI EKUZVARWA		101A6 DID SHE/HE SLEEP HERE LAST NIGHT AKARARA PANO HERE HUSIKU HWAPFUURA	101A7 FOR A WOMAN AGED 15- 49 IS SHE PREGNANT ANE PAMUVIRI HERE
			M	F	98 DK	9998 DK	YEAR	AGE		
LINE	NAME	RELATION*	M	F	MONTH	YEAR	YEAR	AGE	Y N	Y N
01		01	1	2	--	--	----	--	1 2	1 2
02		-- --	1	2	--	--	----	--	1 2	1 2
03		-- --	1	2	--	--	----	--	1 2	1 2
04		-- --	1	2	--	--	----	--	1 2	1 2
05		-- --	1	2	--	--	----	--	1 2	1 2
06		-- --	1	2	--	--	----	--	1 2	1 2
07		-- --	1	2	--	--	----	--	1 2	1 2
08		-- --	1	2	--	--	----	--	1 2	1 2

Q 101A	101A1 LIST NAMES OF NORMAL RESIDENCE (MAZITA TICHITANGA NEMUKURU WEPANO PAMUSHA NYORA MAZITA OSE EVANHU VANOVARA PANO	101A2 RELATIONSHIP TO HEAD OF HOUSEHOLD HUKAMA HUPI HURIPO PAKATI PAKE NEMUKURU WEMUSHA UNO	101A3 MALE OR FEMALE MURUME HERE KANA KUTI MUKADZI		101A4 WHAT IS (NAME)'S DATE OF BIRTH? KO (ZITA) AKABEREKWA RIINI?		101A5 HOW OLD IS HE/SHE ANE MAKORE MANGANI EKUZVARWA		101A6 DID SHE/HE SLEEP HERE LAST NIGHT AKARARA PANO HERE HUSIKU HWAPFUURA		101A7 FOR A WOMAN AGED 15- 49 IS SHE PREGNANT ANE PAMUVIRI HERE	
			M	F	98 DK MONTH	9998 DK YEAR	YEAR	AGE	Y N	Y N		
10		__ __	1	2	__	__	__	__	1	2	1	2
11		__ __	1	2	__	__	__	__	1	2	1	2
12		__ __	1	2	__	__	__	__	1	2	1	2
13		__ __	1	2	__	__	__	__	1	2	1	2
14		__ __	1	2	__	__	__	__	1	2	1	2
15		__ __	1	2	__	__	__	__	1	2	1	2
16		__ __	1	2	__	__	__	__	1	2	1	2
17		__ __	1	2	__	__	__	__	1	2	1	2
18		__ __	1	2	__	__	__	__	1	2	1	2
19		__ __	1	2	__	__	__	__	1	2	1	2
20		__ __	1	2	__	__	__	__	1	2	1	2

SECTION 1. HOUSEHOLD CHARACTERISTICS				
Q102	What is the main material of the roof? Denga remba rakavakwa kana kuti rakapfirirwa nei Observe and record without asking	No Roof	1	
		Thatch/Grass	2	
		Wooden	3	
		Zinc/Iron sheets	4	
		Tiles	5	
		Asbestos	6	
		Cement	7	
		Plastics	8	
		Other (specify) _____	9	
Q103	What is the main material of the exterior walls? Madziro epanze emba akavakwa nei Observe and record without	Grass/Cane/trunk	1	
		Mud	2	
		Stone with mud	3	
		Plywood	4	
		Carton	5	

	asking	Reused wood Cement Stone with lime/cement Bricks Cement blocks Wood plank/shingles Plastics Other (specify) _____	6 7 8 9 10 11 12 13	
Q104	What is the main material of the floor? Pasi pemumba mamunogara pakavakwa kana kugadzirwa nechii? Observe and record without asking	Earth/Sand Dung Cement Carpet Ceramic Tiles Polished wood Vinyl /Asphalt strips Other (specify)_____	1 2 3 4 5 6 7 8	
Q105	What is the main type of toilet facility used by members of the household? Imhandoi yechimbudzi inowanzoshandiswa nevanhu vepamusha pano?	Own flush toilet Shared flush toilet Own pit latrine Shared pit latrine Bush or field Other specify _____	1 2 3 4 5 6	
Q106	What is your household's main source of drinking and cooking water? Pamusha uno mwura yokunwa pamwe nokubikisa munoiwana kana kutora kubva kupi?	Piped Water Inside house Mwura yepapombi mumba Piped Water Outside house Mwura yepombi panze Communal Tape Pombi yenharaunda yose Borehole Chibhorani Well – Protected Mugodhi Well – Unprotected Mugodhi usina kuchengetedzwa Rainwater harvested Mwura yekunaya River/Stream/Dam Nzizi/Dhamu Other (Specify)_____	1 2 3 4 5 6 7 8 9	
Q107	In your house, is there: Mumba menyu mune zvinotevera here: READ LIST OF ITEMS	Radio Cassette player CD player VCR TV Camera Fixed phone Mobile phone Gas/Paraffin cooker Refrigerator	No Yes 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	

		Fan Iron Bicycle Motorcycle Car Electric Stove Tractor Scotch-cart Solar Panel Satellite Dish (Decoder e.g. Wiztech, DSTV)	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	
Q108	Does this household own livestock, herds or farm animals? Pamusha pano munozvipfuyo here?	Yes Hongu No Kwete	1 0	0→ Q110
Q109	How many of these animals do the household own? Pazvipfuwo zvamuinazvo munezvingani zvemhando imwe neimwe?	Cattle Mombe Donkeys Madhongi Goats Mbudzi Sheep Makwayi Pigs Ngurube Chickens/Poultry Huku Rabbits Tsuru Other (specify) _____ Zimwewo (Nyatsodamai)	[] [] [] [] [] [] [] [] [] []	
Q110	Does this household have access to the following land? READ LIST Mumusha uno mune mvumo kana kuti mugove wenzvimbo iyi here?	Owned (Title deeds) Nzvimbo yenyu pamurawu Leased Yamunobhadhara muripo kushandisa A1 A2 Communal Nzvimbo yedunhu Cooperative Nzvimbo yemushandira pamwe Other (specify) _____ Imwewo (Nyatsodamai)	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	
Q111	What is the main source of energy for your household? Munonyanya kushandisa mhando ipi yesimba kana moto?	Electricity Magetsi etambo Solar Magetsi ezuva Gas Firewood	1 2 3 4	

		Huni Cow Dung Ndove Other (Specify)_____	5 6	
Q112	What is your household's main religion? Chitendero chikuru chenyu pamusha pano ndechipi?	Christian ChiKristu Muslim (Islam) African Traditional Chitendero chevatema Apostolic Faith Chipostori Buddhism Atheist Vasinganamate mwari Other (Specify)_____ Zimwewo (Nyatsodamai)	1 2 3 4 5 6 7	

Section 2: MOSQUITO NET AVAILABILITY

In the next section, I am going to ask some questions regarding mosquito net availability in your household. I will ask questions that pertain to mosquito nets in general and insecticide treated nets. The long lasting insecticide treated nets (LLINs) are mosquito nets that pre-immersed in an insecticide to repel mosquitos. Ndakuzobvunza nezvekuwanikwa kwemaneti. Ndichabvunza zvevaneti ose uye zvevaneti ane mushonga. MaLLIN maneti anemushonga wekudzinga mosikito.

No.	QUESTIONS, INSTRUCTIONS & FILTERS	RESPONSES	GO TO
Q200	Do you own mosquito nets? Mune mamosikito neti here?	Yes 1 Hongu No 0 Kwete	0 → Go to Q 204 then skip Q205
Q201	How many nets do you possess? Mune mamosikito neti mangani? (Include both treated and untreated nets)	<input type="text"/>	
Q202	Of the total number of mosquito nets, how many are long lasting insecticide treated nets (LLINs)? Pamamosikito neti amuinawo mangani erudzi rweLLINs?(Anemushonga)	<input type="text"/>	0 → Go to Q 204 then skip Q205

Q203	How many LLINs does your household use? Munoshandisa mamosikito neti erudzi rwemaLLINs (anemushonga) mangani?	<input type="text"/>		
Q204	How many sleeping spaces do you have in your household? Pamusha uno munenzvimbo ngani dzekurara?	<input type="text"/>		
Q205	How many of these sleeping places have an LLIN? Inzvimbo ngani dzekurarira dzinemamosikito neti erudzi rwemaLLINs(anemushonga)?	<input type="text"/>		
Q206	How many sleeping places were used last night in your household? (including sleeping places outside and temporary spaces) Inzvimbo ngani dzekurara dzakashandiswa pamusha wenyu manheru apfuura (kusanganisira nzvimbo zekurara kunze uye nenzvimbo dzisingawanzorarwe)	<input type="text"/>		
Q207	Reasons for not having LLINs? Ndezvipi zvikonzero zvakaita kuti musave nemosikito neti emaLLINs (anemushonga)? Probe for other reasons Zvimwe zvikonzero NB: If respondent answers “Just moved to area”, probe whether s/he was not available when LLIN distribution took place and mark #1 if respondent says yes.	Not available when LLIN distribution took place Ndaive ndisipo paakapihwa Just moved to the area Tichangobva kutamira munzvimbo ino Religion does not allow use of nets Chitendero hachibvumidze kushandisa mosikito neti? Do not know where to get an LLIN Handizive kwekuwana mamosikito ema LLINs Other (specify) _____ Zimwewo zvikonzero (Nyatsodamai)	1 2 3 4 5	→ Then end interview

SECTION 3: MOSQUITO NET UTILIZATION

In the next section, I am going to ask you some questions regarding mosquito net utilization for the control and prevention of malaria. Ndichabvunza nezvekushandiswa kwemaneti kudzimirira malaria.

		1 ST NET	2 ND NET	3 RD NET
Q300	Mosquito net observed?	OBSERVED 1 NOT OBSERVED 2	OBSERVED 1 NOT OBSERVED 2	OBSERVED 1 NOT OBSERVED 2
Q301	Observe or ask the brand/type of mosquito net. If brand is unknown and you cannot observe the net, show pictures of typical net types/brands to respondent.	<i>Long-lasting treated nets</i> <i>Olyset</i> 1 <i>Permanet</i> 2 <i>Dawa</i> 3 <i>Duranet</i> 4 <i>Interceptor</i> 5 <i>Other (specify)</i> 6 <i>DK brand / type</i> 98	<i>Long-lasting treated nets</i> <i>Olyset</i> 1 <i>Permanet</i> 2 <i>Dawa</i> 3 <i>Duranet</i> 4 <i>Interceptor</i> 5 <i>Other (specify)</i> 6 <i>DK brand / type</i> 98	<i>Long-lasting treated nets</i> <i>Olyset</i> 1 <i>Permanet</i> 2 <i>Dawa</i> 3 <i>Duranet</i> 4 <i>Interceptor</i> 5 <i>Other (specify)</i> 6 <i>DK brand / type</i> 98
Q302	Observe where the net is hung and determine how it is hung or where and how stored. Tarisa kuti Mosikito neti iri panzvimbo ipi ikozvino?	Hanging loose over sleeping place. 1 Hanging and Folded up or tied Up over sleeping place. 2 Hanging but not over sleeping place. 3 Not hanging but not stored. 4 Stored away unpacked. 5 Stored away still in package. 6 No net reported available for observation. 7 Re-purposed. 8	Hanging loose over sleeping place. 1 Hanging and folded up or tied Up over sleeping place. 2 Hanging but not over sleeping place 3 Not hanging but not stored. 4 Stored away unpacked. 5 Stored away still in package. 6 No net reported available for observation. 7 Re-purposed. 8	Hanging loose over sleeping place. 1 Hanging and folded up or tied up over sleeping place. 2 Hanging but not over sleeping place. 3 Not hanging but not stored. 4 Stored away unpacked. 5 Stored away still in package. 6 No net reported available for observation. 7 Re-purposed. 8
Q303	Where did you obtain this net? Makariwana kupi mosikito neti iri?	<i>Mass Campaign</i> 1 <i>ANC</i> 2 <i>EPI</i> 3 <i>VHW</i> 4 <i>Primary School</i> 5 <i>Friend/Family</i> 6 <i>Shop or supermarket</i> ... 7 <i>Other (specify)</i> 8 <i>DK</i> 98	<i>Mass Campaign</i> 1 <i>ANC</i> 2 <i>EPI</i> 3 <i>VHW</i> 4 <i>Primary School</i> 5 <i>Friend/Family</i> 6 <i>Shop or supermarket</i> ... 7 <i>Other (specify)</i> 8 <i>DK</i> 98	<i>Mass Campaign</i> 1 <i>ANC</i> 2 <i>EPI</i> 3 <i>VHW</i> 4 <i>Primary School</i> 5 <i>Friend/Family</i> 6 <i>Shop or supermarket</i> ... 7 <i>Other (specify)</i> 8 <i>DK</i> 98
Q304	How many months ago did your household get the mosquito net? Mwedzi mingani	Months ago ____ More than 36 months ago	Months ago ____ More than 36 months ago	Months ago ____ More than 36 months ago

	yapfuura mave nemosikito neti iyi? 95 DK / Not sure..... 98	DK / Not sure..... 98 95 DK / Not sure 98
Q305	Did anyone sleep under this mosquito net last night? Pane akarara mumosikito neti iyi manheru apfuura here?	Yes..... 1 No..... 2 IF 2 Go To Q307 DK / Not sure..... 8 IF 8 Go To Q300 (NET #2)	Yes..... 1 No..... 2 IF 2 Go To Q307 DK / Not sure..... 8 IF 8 Go To Q300 (NET #3)	Yes..... 1 No..... 2 IF 2 Go To Q307 DK / Not sure..... 8 IF 8 Go To Q300 (NET #4)
Q306	Who slept under this mosquito net last night? Ndiyani akarara mumosikito neti iyi usiku hwapfuura? Record the person's line number from the List of Household Members	Name _____ Line number ____ Name _____ Line number ____ Name _____ Line number ____ Name _____ Line number ____	Name _____ Line number.... ____ Name _____ Line number.... ____ Name _____ Line number.... ____ Name _____ Line number.... ____	Name _____ Line number..... ____ Name _____ Line number..... ____ Name _____ Line number..... ____ Name _____ Line number..... ____
Q307	Why was the mosquito net not used? Sei mosikito neti iyi isina kushandiswa usiku hwapfuura? (Multiple responses possible)	Nowhere to hang it..... 1 User not present..... 2 It is difficult to 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 Colour..... 13	Nowhere to hang it..... 1 User not present..... 2 It is difficult to 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 Colour..... 13	Nowhere to hang it..... 1 User not present..... 2 It is difficult to 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 Colour..... 13

		Other Specify: _____96	Other Specify: _____96	Other Specify: _____96
		Go back to Q300 for next net. If no more nets, go to next module	Go back to Q300 for next net. If no more nets, go to next module	Go back to Q300 next net. If no more nets, go to next module

Tick here if additional questionnaire used

		4 TH NET	5 TH NET	6 TH NET
Q308	Mosquito net observed?	OBSERVED.....1 NOT OBSERVED.....2	OBSERVED.....1 NOT OBSERVED.....2	OBSERVED.....1 NOT OBSERVED.....2
Q309	Observe or ask the brand/type of mosquito net. If brand is unknown and you cannot observe the net, show pictures of typical net types/brands to respondent.	<i>Long-lasting treated nets</i> <i>Olyset</i>1 <i>Permanet</i>2 <i>Dawa</i>3 <i>Duranet</i>4 <i>Interceptor</i>5 <i>Other (specify)</i>6 <i>DK brand / type</i>98	<i>Long-lasting treated nets</i> <i>Olyset</i>1 <i>Permanet</i>2 <i>Dawa</i>3 <i>Duranet</i>4 <i>Interceptor</i>5 <i>Other (specify)</i>6 <i>DK brand / type</i>98	<i>Long-lasting treated nets</i> <i>Olyset</i>1 <i>Permanet</i>2 <i>Dawa</i>3 <i>Duranet</i>4 <i>Interceptor</i>5 <i>Other (specify)</i>6 <i>DK brand / type</i>98
Q310	Observe where the net is hung and determine how it is hung or where and how stored. Tarisa kuti Mosikito neti iri panzvimbo ipi ikozvino?	Hanging loose over sleeping place. 1 Hanging and Folded up or tied Up over sleeping place. 2 Hanging but not over sleeping place. 3 Not hanging but not stored. 4 Stored away unpacked. 5 Stored away still in package. 6 No net reported available for observation. 7 Re-purposed. 8	Hanging loose over sleeping place. 1 Hanging and folded up or tied Up over sleeping place. 2 Hanging but not over sleeping place. 3 Not hanging but not stored. 4 Stored away unpacked. 5 Stored away still in package. 6 No net reported available for observation. 7 Re-purposed. 8	Hanging loose over sleeping place. 1 Hanging and folded up or tied up over sleeping place. 2 Hanging but not over sleeping place. 3 Not hanging but not stored. 4 Stored away unpacked. 5 Stored away still in package. 6 No net reported available for observation. 7 RE-PURPOSED. 8

Q311	Where did you obtain this net? Makariwana kupi mosikito neti iri?	<i>Mass Campaign</i> 1 <i>ANC</i>2 <i>EPI</i>3 <i>VHW</i>4 <i>Primary School</i>5 <i>Friend/Family</i>6 <i>Shop or supermarket</i> ...7 <i>Other (specify)</i>8 <i>DK</i> 98	<i>Mass Campaign</i> 1 <i>ANC</i>2 <i>EPI</i>3 <i>VHW</i>4 <i>Primary School</i>5 <i>Friend/Family</i>6 <i>Shop or supermarket</i> ...7 <i>Other (specify)</i>8 <i>DK</i> 98	<i>Mass Campaign</i> 1 <i>ANC</i>2 <i>EPI</i>3 <i>VHW</i>4 <i>Primary School</i>5 <i>Friend/Family</i>6 <i>Shop or supermarket</i> ...7 <i>Other (specify)</i>8 <i>DK</i> 98
Q312	How many months ago did your household get the mosquito net? Mwedzi mingani yapfuura mawana nemosikito neti iyi?	Months ago..... ____ ____ More than 36 months ago 95 DK / Not sure..... 98	Months ago..... ____ ____ More than 36 months ago 95 DK / Not sure..... 98	Months ago..... ____ ____ More than 36 months ago 95 DK / Not sure 98
Q313	Did anyone sleep under this mosquito net last night? Pane akarara mumosikito neti iyi usiku hwapfuura here?	Yes..... 1 No.....2 IF 2 Go To Q315 DK / Not sure.....8 IF 8 Go To Q300 (NET #5)	Yes..... 1 No.....2 IF 2 Go To Q315 DK / Not sure..... 8 IF 8 Go To Q300 (NET #6)	Yes..... 1 No.....2 IF 2 Go To Q315 DK / Not sure..... 8 IF 8 Go To Q316
Q314	Who slept under this mosquito net last night? Ndiyani akarara mumosikito neti iyi usiku hwapfuura? Record the person's line number from the List of Household Members	Name _____ Line number ____ ____ Name _____ Line number ____ ____ Name _____ Line number ____ ____ Name _____ Line number ____ ____	Name _____ Line number ____ ____ Name _____ Line number ____ ____ Name _____ Line number ____ ____ Name _____ Line number ____ ____	Name _____ Line number ____ ____ Name _____ Line number ____ ____ Name _____ Line number ____ ____ Name _____ Line number ____ ____
Q315	Why was the mosquito net not used? Sei mosikito neti iyi isina kushandiswa	Nowhere to hang it..... 1 User not present.....2 It is difficult to hang.....3 Not malaria season....4 Causes itching.....5	Nowhere to hang it..... 1 User not present.....2 It is difficult to hang.....3 Not malaria season....4 Causes itching.....5	Nowhere to hang it..... 1 User not present.....2 It is difficult to hang.....3 Not malaria season....4 Causes itching.....5

usiku hwapfuura?		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 Colour.....13 Other Specify: _____96	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 Colour.....13 Other Specify: _____96	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 Colour.....13 Other Specify: _____96
		Go back to 300 for next net. If no more nets, go to next module	Go back to 300 for next net. If no more nets, go to next module	Go back to 300 in first column of a new questionnaire for next net. If no more nets, go to next module

No.	QUESTIONS, INSTRUCTIONS & FILTERS	RESPONSES	GO TO
Q316	How can malaria be effectively prevented? Chirwere cheMalaria chingadzivirirwa nemazvo sei? Multiple responses possible Do not read response options	Using insecticidal treated nets (LLINs) 0 1 Kushandisa mosikito neti erudzi rweLLINs 0 1 Using any mosquito net Kushandisa chero mosikito neti ekudzivirira Malaria 0 1 Indoor Residual Spraying (IRS) Kufirita nemushonga mumba Other (Specify) _____ Zimwewo zvikonzero (Nyatsodomai)	

Q317	What is the preferred method of getting LLINs by this household? Ndeipi nzira inodikanwa nevanhu vepamussha pano kuti vawane mamosikito neti emaLLINs Do not read responses Musaverenge mhinduro	Retail outlet (Muchitoro) 1 Health Facility (Chipatara kana clinic) 2 ANC 3 EPI 4 School 5 Community channel (VHWs gives coupon I take to health facility) 6 Health worker brings to my house 7 Health workers brings to central point in community 8 Mass campaign 9 Other (specify) _____ 96 DK / Not sure 98	
Q318	Have you experienced problems in using LLINs in your house? Makambosanagana nematambudziko here mukushandisa mamosikitoneti mumba menyu?	Yes 1 Hongu No 2 Kwete	2→ Q320
Q319	What were the main problems? Ndeapi matambudziko makuru amakasangana nawo?	Nowhere to hang it 0 1 Kushaiwa pekuturika Itchiness 0 1 Kuvava Bad smell 0 1 Kunhuhwa Difficult to breath inside the net 0 1 Dambudziko rekufema mukati memosikito neti 0 1 Religious beliefs Chitendero 0 1 Inconvenient shape Mamiriro emosikito neti asinakunaka 0 1 Roof type not suitable Denga remba risingaite 0 1 Sleeping space not compatible with mosquito net Pokurara pasingaisike mosikito neti Other (Specify) _____ Zimwewo zvikonzero (Nyatsodamai)	
Q320	Have you re-purposed any mosquito nets in the past 12 month? Makamboshandisa mamosikito neti here mumakore gumi nemaviri apfuura kuita rimwe basa?	Yes 1 Hongu No 2 Kwete	1→Q321 2→Q323

Q321	IF REPURPOSED; What other uses have you re-purposed mosquito nets? Kana makashandisa kuita rimwe basa ndezvipi zvakashandisa mamosikito neti aya?	Window screen Kamafafitera Door screen Pamusuwo Fishing Kuredza hove Chicken/Fowl/Animal housing, cover vegetables Pachikwere kana danga rezvipfuwo, kuvhara vegetables Other (specify) _____ Zimwewo (Nyatsodamai)	1 2 3 4 5	
Q322	Who were the main users of the nets you have re-purposed? Ndiani vainyanya kushandisa mamosikito neti aya kuitisa rimwe basa?	Adults above 15 years (excluding pregnant women) Vakuru vadarika makore gumi nemashanu (tisingsangnisire madzimai akazvitakura) Children below 5 years Vana vadiki varipasi pemakore mashanu. Children 5-15 years Vana vadiki vari pakati pemakore mashanu negumi nemashanu. Pregnant women Vakadzi vakazvitakura	0 1 0 1 0 1 0 1	
Q323	Have you thrown away any mosquito nets in the past 12 months? Makamborasa mamosikito neti here mumakore gumi nemaviri apfuura?	Yes Hongu No Kwete	1 2	1 → Q324 2 → Q326
Q324	IF THROWN AWAY, What were the reasons for throwing away the mosquito nets? Kana makarasa ndezvipi zvikonzero zvakaita kuti murase mosikito neti?	Eaten by rats/mice Kudyiwa nemakonzo kana mbeva Burnt Kutsva Torn beyond repair Raive rabvaruka rine maburi mahombe Other (specify) _____ Zimwewo (Nyatsodamai)	1 2 3 4	
Q325	Who were the main users of the nets you threw away? Ndiani vainyanya kushandisa mamosikito neti amakarasa?	Adults above 15 years (excluding pregnant women) Vakuru vadarika makore gumi nemashanu (tisingsangnisire madzimai akazvitakura) Children below 5 years Vana vadiki varipasi pemakore mashanu. Children 5-15 years Vana vadiki vari pakati pemakore mashanu negumi nemashanu. Pregnant women Vakadzi vakazvitakura	0 1 0 1 0 1	
Q326	Have you ever repaired damaged LLINs? Makambogadzira kana kusona mosikito neti rainge yabvaruka here?	Yes Hongu No Kwete	1 2	

Q327	How often do you wash mosquito nets? Munowacha kangani mosikito neti?	Once a month Kamwe pamwedzi	1	
		Once in 3 months Kamwe pamwedzi mitatu	2	
		Once in 6 months Kamwe pamwedzi mitanhatu	3	
		Not at all Hamuwachi	4	
		Other (specify) _____ Zimwewo (Nyatsodomai)	5	
Q328	In general, how often do children under the age of 5 years sleep under LLINs in a year? Ko vana varipasi pemakore mashanu vanowanzorara mumosikito neti yerudzi rweLLIN kangani pagore?	Throughout the year Gore rose	1	
		Only during the rainy seasons Mumwaka wekunaya kwemvura	2	
		Occasionally Pano neapo	3	
		Not applicable DK / Not sure	4	98
		Other (Specify) _____ Zimwewo zvikonzero) (Nyatsodomai)	5	5
Q329	In general, how often do pregnant women in your household sleep under an LLIN in a year? Ko vakadzi vakazvitakura vanowanzorara mumosikito neti yerudzi rweLLIN kangani pagore?	Throughout the year Gore rose	1	
		Only during the rainy seasons Mumwaka wekunaya kwemvura	2	
		Occasionally Pano neapo	3	
		Only during pregnancy Kana vakazvitakura	4	
		Not applicable DK / Not sure	5	98
		Other (Specify) _____ Zimwewo zvikonzero) (Nyatsodomai)	6	6

SECTION 4: NET PREFERENCE

Q401	WHAT SHAPE(S) OF MOSQUITO NETS HAVE YOU EVER USED? MAKAMBOSHANDISANETI YEMHANDOI? <i>(Multiple response)</i>	Rectangle.....	1	
		Conical.....	2	
		Never used a bed net.....	3	
		Other (Specify) _____	4	
		DK.....	98	
Q402	WHAT SHAPE OF NET DO YOU PREFER? MUNGADA KUVE NEMOSIKITO NETI YEMHANDOI?	Rectangle.....	1	
		Conical.....	2	
		No preference.....	3	
		Other (Specify) _____	4	
		DK.....	98	
Q403	WHAT COLOURS OF NETS HAVE YOU EVER	White.....	1	

	<p>USED?</p> <p>MAKASHANDISA RUVARA RWUPI RWE MOSIKITO NETI?</p> <p><i>(Multiple response)</i></p>	<p>Green..... 2</p> <p>Blue 3</p> <p>Never used a bed net..... 4</p> <p>Other (Specify) _____ 5</p> <p>DK98</p>	
Q404	<p>WHAT COLOUR OF NET DO YOU PREFER?</p> <p>MUNGADA KUVE NEMOSIKITO NETI YERUVARA RUDZII?</p>	<p>White..... 1</p> <p>Green..... 2</p> <p>Blue 3</p> <p>No preference..... 4</p> <p>Other (Specify) _____ 6</p>	

Record time of starting interview : [] Record time of ending interview : []

Total time taken for the interview : [] minutes

The interview is now finished. Thank you for taking the time to answer these questions.
Hururkuro ino yapera. Tinotenda nekutipa nguva kupindura mibvunzo.