

Malaria is one of the leading causes of death in sub-Saharan Africa. While malaria is endemic throughout Zimbabwe and is a common cause of hospital admissions for all age groups, it is important to note that there is an ecological distribution of specific areas where malaria is found. In Zimbabwe, these areas are defined as “malaria-prone areas.” This factor should be taken into account when reviewing the malaria prevalence and treatment data. The 2005-06 ZDHS obtained data on a number of topics related to the prevention and treatment of malaria, including the ownership of mosquito nets, use of mosquito nets by children and pregnant women, prophylactic use of antimalarial drugs by pregnant women, and the prevalence and prompt treatment of fever among young children. The survey also obtained information on the use of indoor residual spraying.

### 12.1 OWNERSHIP OF MOSQUITO NETS

Insecticide-treated nets (ITNs) are a principal tool in efforts to reduce malaria transmission in Zimbabwe. All households in the 2005-06 ZDHS were asked whether they owned a mosquito net, and if so, how many of the various types of nets. Table 12.1 shows household ownership of nets by degree of protection offered by the net and selected background characteristics.

Table 12.1 Ownership of mosquito nets

Percentage of households with at least one and more than one mosquito net (treated or untreated), an ever-treated mosquito net, and an insecticide-treated net, and average number of nets of each type per household, by background characteristics, Zimbabwe 2005-2006

Background characteristic	Any type of mosquito net			Ever-treated mosquito net <sup>1</sup>			Insecticide-treated mosquito nets (ITNs) <sup>2</sup>			Number of households
	Percentage with at least one	Percentage with more than one	Average number of nets per household	Percentage with at least one	Percentage with more than one	Average number of ever-treated nets per household	Percentage with at least one	Percentage with more than one	Average number of ITNs per household	
<b>Residence</b>										
Urban	34.4	12.3	0.5	11.6	3.9	0.2	11.0	3.8	0.2	3,201
Rural	12.8	3.4	0.2	7.4	2.0	0.1	7.2	1.9	0.1	6,084
<b>Province</b>										
Manicaland	13.0	5.0	0.2	9.1	3.6	0.1	8.8	3.5	0.1	1,166
Mashonaland Central	20.4	5.1	0.3	11.8	3.0	0.2	11.5	2.8	0.2	960
Mashonaland East	15.0	3.7	0.2	4.9	1.4	0.1	4.9	1.4	0.1	914
Mashonaland West	18.3	7.1	0.3	8.8	3.4	0.1	8.7	3.4	0.1	924
Matabeleland North	19.7	7.9	0.3	8.9	2.9	0.1	8.2	2.2	0.1	617
Matabeleland South	15.0	5.5	0.2	6.9	2.1	0.1	6.2	1.9	0.1	472
Midlands	22.8	8.1	0.3	12.5	2.6	0.2	12.4	2.5	0.2	1,268
Masvingo	9.7	2.3	0.1	4.1	1.1	0.1	3.5	0.9	0.0	1,067
Harare	31.9	9.3	0.4	11.6	3.9	0.2	11.1	3.7	0.2	1,249
Bulawayo	37.6	12.0	0.5	7.0	1.8	0.1	5.9	1.7	0.1	648
<b>Wealth quintile</b>										
Lowest	8.8	2.7	0.1	5.8	1.8	0.1	5.4	1.5	0.1	1,744
Second	10.6	2.4	0.1	7.6	1.4	0.1	7.5	1.4	0.1	1,661
Middle	11.1	2.5	0.1	6.3	1.4	0.1	6.1	1.4	0.1	1,774
Fourth	23.3	5.2	0.3	8.7	2.3	0.1	8.2	2.2	0.1	2,258
Highest	44.9	19.2	0.7	15.6	6.3	0.2	15.0	6.0	0.2	1,848
Total	20.3	6.5	0.3	8.9	2.7	0.1	8.5	2.5	0.1	9,285

<sup>1</sup> An ever-treated net is a pretreated net or a non-pretreated net that has subsequently been soaked with insecticide at any time.

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

Twenty percent of all households interviewed during the survey had at least one mosquito net, while 7 percent had more than one. Nine percent of all households—fewer than half the households owning any net—had a net that had ever been treated with an insecticide. Most of the households owning an ever-treated net had at least one net meeting one of the ITN criteria, i.e., it was a factory-treated net that did not require retreatment, a pretreated net obtained within one year of the survey interview, or a net soaked in insecticide at some time during the year before the survey.

Urban areas, particularly the urban provinces of Harare and Bulawayo, had the highest percentage of households with at least one mosquito net (treated or untreated). About one-third of the nets owned by urban households were ITNs. Masvingo province had the lowest rates of ownership of all types of nets. Midlands province had the highest percentages of households owning an ever-treated mosquito net and an ITN, followed closely by Mashonaland Central and Harare. Looking at the relationship with wealth, households in the highest wealth quintile were five times more likely to own at least one mosquito net (regardless of type) and three times more likely to own an ITN than the poorest households.

## 12.2 USE OF MOSQUITO NETS

The 2005-06 ZDHS asked about the use of mosquito nets by household members during the night before the survey. These data are used in Tables 12.2 and 12.3 to assess the usage of bednets among the two groups most vulnerable to malaria's effects—children under the age of five and pregnant women. Some caution must be exercised in interpreting these results. Use on the night before the survey is taken as typical of net usage. However, because the prevalence of mosquitoes varies within Zimbabwe according to season and other climatic conditions, usage of the nets on the night before the survey may not be representative of the patterns of net usage during high transmission periods.

### 12.2.1 Children under Age Five

Bednet usage among young children is especially important given their vulnerability to malaria. For about six months following birth, antibodies acquired from the

Table 12.2 Use of mosquito nets by children

Percentage of children under five years of age who slept under a mosquito net (treated or untreated), an ever-treated mosquito net, and an insecticide treated net (ITN) the night before the survey, by background characteristics, Zimbabwe 2005-2006

Background characteristic	Percentage who slept under any net last night	Percentage who slept under an ever-treated net last night <sup>1</sup>	Percentage who slept under an ITN last night <sup>2</sup>	Number of children
<b>Age in years</b>				
<1	7.7	3.9	3.3	1,113
1	8.5	4.2	3.4	1,112
2	8.0	4.0	3.7	1,121
3	4.8	2.8	2.1	1,149
4	4.5	2.7	2.2	1,255
<b>Sex</b>				
Male	6.7	3.5	2.9	2,899
Female	6.6	3.5	3.0	2,852
<b>Residence</b>				
Urban	16.1	6.6	5.1	1,537
Rural	3.2	2.4	2.1	4,214
<b>Province</b>				
Manicaland	3.6	2.4	1.7	745
Mashonaland Central	4.4	3.6	3.6	639
Mashonaland East	6.2	2.9	2.9	492
Mashonaland West	10.1	5.2	5.2	586
Matabeleland North	6.3	3.3	2.3	420
Matabeleland South	1.7	0.3	0.3	309
Midlands	8.1	4.5	3.8	876
Masvingo	3.1	2.3	1.5	756
Harare	10.7	4.9	4.3	654
Bulawayo	15.2	4.2	2.1	275
<b>Wealth quintile</b>				
Lowest	2.6	1.9	1.7	1,357
Second	1.9	1.5	1.5	1,289
Middle	3.1	2.4	2.4	1,111
Fourth	10.5	5.5	4.0	1,100
Highest	19.4	7.8	6.1	894
Total	6.7	3.5	2.9	5,751

<sup>1</sup> An ever-treated net is a pretreated net or a non-pretreated net that has subsequently been soaked with insecticide at any time.

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

mother during pregnancy protect children born in areas of endemic malaria. This immunity is gradually lost, and children start to develop their own immunity to malaria. The pace at which immunity is developed depends on their exposure to malaria infection, and in high malaria-endemic areas, children are thought to have attained a high level of immunity by their fifth birthday. Such children may experience episodes of malaria illness but usually do not suffer from severe, life-threatening malaria. Immunity in areas of low malaria transmission is acquired more slowly.

Table 12.2 looks at the extent to which children under age five in the ZDHS household sample slept under various types of nets on the night before the interview. Overall, 7 percent of children slept under any type of net, 4 percent under an ever-treated net, and 3 percent under an ITN. The likelihood of sleeping under a bednet generally declined with the child's age. Children slept under bednets more often in urban than rural areas (16 percent and 3 percent, respectively in the case of any net, and 5 percent and 2 percent, respectively, in the case of an ITN). Bulawayo had the highest rate of use of any net by young children (15 percent), and Mashonaland West had the highest rate of use of ITNs (5 percent). Net usage generally rose with the wealth quintile.

### 12.2.2 Women Age 15-49

In malaria-endemic areas, adults usually have acquired some degree of immunity to severe, life-threatening malaria. However, pregnancy leads to a depression of the immune system so that pregnant women, especially those in their first pregnancy, have a higher risk to malaria. Moreover, malaria among pregnant women may be asymptomatic. Malaria during pregnancy is a major contributor to low birth weight, maternal anaemia, infant mortality, spontaneous abortion, and stillbirth. Pregnant women can reduce the risk of the adverse effects of malaria by sleeping under insecticide-treated mosquito nets.

Table 12.3 shows for all women age 15-49 years interviewed in the ZDHS and for currently pregnant respondents the percentage who slept under a mosquito net (treated or untreated), an ever-treated mosquito net, and an ITN the night before the survey. Overall, 8 percent of women slept under some type of net, 4 percent slept under an ever-treated net, and 3 percent slept under an ITN. Net usage rates were somewhat lower among pregnant women than all women; 7 percent of pregnant women age 15-49 years slept under a mosquito net during the night before the survey, and 3 percent slept under an ever-treated net or an ITN.

Pregnant women in urban areas were around four times as likely to sleep under any net and three times as likely to sleep under an ITN as pregnant women in rural areas. Harare had the highest percentage of pregnant women sleeping under any type of net (13 percent), and Midlands the highest rate of ITN usage among pregnant women (5 percent). Net usage rates generally increased with the woman's education level and with the wealth quintile. For example, the proportion sleeping under an ITN varied from less than 1 percent among pregnant women in the lowest wealth quintile to 8 percent among pregnant women in the highest quintile.

Table 12.3 Use of mosquito nets by women

Percentage of all interviewed women age 15-49 and of pregnant women age 15-49 who slept under a mosquito net (treated or untreated), an ever-treated mosquito net, and an insecticide-treated net (ITN) the night before the survey, by background characteristics, Zimbabwe 2005-2006

Background characteristic	Percentage of all women age 15-49 who:				Percentage of pregnant women age 15-49 who:			
	Slept under any net last night	Slept under an ever-treated net last night <sup>1</sup>	Slept under an ITN last night <sup>2</sup>	Number of women	Slept under any net last night	Slept under an ever-treated net last night <sup>1</sup>	Slept under an ITN last night <sup>2</sup>	Number of women
<b>Residence</b>								
Urban	13.6	5.1	4.1	3,349	15.8	6.6	6.1	148
Rural	4.4	2.7	2.3	5,514	3.7	2.2	2.2	435
<b>Province</b>								
Manicaland	4.7	3.3	2.8	1,093	2.6	2.6	2.6	81
Mashonaland Central	8.3	4.7	4.3	862	7.7	3.9	3.9	74
Mashonaland East	8.9	3.3	3.1	717	6.5	4.1	4.1	55
Mashonaland West	11.0	4.4	4.4	813	6.2	2.6	2.6	55
Matabeleland North	4.9	3.3	2.2	570	(1.1)	(1.1)	(1.1)	35
Matabeleland South	4.8	2.3	2.2	444	(9.0)	(4.5)	(4.5)	24
Midlands	8.6	3.4	2.5	1,270	6.6	5.1	5.1	94
Masvingo	4.1	2.7	1.9	1,039	6.1	1.3	1.3	76
Harare	10.7	4.3	4.0	1,382	13.3	3.5	3.5	73
Bulawayo	10.8	3.0	1.2	673	*	*	*	16
<b>Education</b>								
No education	5.0	3.1	2.8	281	*	*	*	23
Primary	6.3	3.6	2.9	2,831	3.3	1.4	1.4	210
Secondary	8.5	3.4	2.9	5,570	9.0	4.3	4.3	340
More than secondary	17.3	9.2	6.3	180	*	*	*	10
<b>Wealth quintile</b>								
Lowest	2.5	1.8	1.6	1,502	0.7	0.7	0.7	123
Second	2.6	1.9	1.9	1,555	1.7	1.0	1.0	144
Middle	3.8	2.2	2.1	1,623	3.6	2.6	2.6	116
Fourth	10.8	4.7	3.6	1,963	10.5	6.3	5.7	124
Highest	15.7	6.0	4.7	2,218	24.5	8.0	8.0	77
Total	7.9	3.6	3.0	8,863	6.8	3.3	3.2	584

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

<sup>1</sup> An ever-treated net is a pretreated net or a non-pretreated net that has subsequently been soaked with insecticide at any time.

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

### 12.3 USE OF ANTIMALARIAL DRUGS DURING PREGNANCY

As a protective measure, it is recommended that pregnant women should receive intermittent preventive treatment (IPT) with SP/Fansidar during antenatal care. To obtain information on the use of antimalarial drugs during pregnancy, women who gave birth during the five years before the survey were asked in the ZDHS whether they took any medications during pregnancy to keep them from getting malaria and, if so, which drugs were taken. They were also asked whether the drugs they received were received as part of an antenatal care visit. Women who received the drugs during an antenatal visit are considered to have received IPT. It should be noted that obtaining information about drugs can be difficult, and some respondents may not have known or remembered the name or even the type of drug that they received.

Table 12.4 shows the percentage of women who took any antimalarial drugs for prevention, who took SP/Fansidar, and who received IPT during the pregnancy for their last live birth in the two years preceding the survey, by background characteristics. Overall, 38 percent of women who had their last birth in the two years before the survey took an antimalarial drug during the pregnancy. Around one-third of pregnant women who took any antimalarial drug—12 percent of all pregnant women—took at least one dose of SP/Fansidar during their pregnancy. Seven percent reported taking two or more doses of SP/Fansidar. Almost all of the women who took SP/Fansidar were given the drug during an antenatal care visit and, thus, are considered to have had IPT.

Table 12.4 Prophylactic use of antimalarial drugs and use of intermittent-preventive treatment (IPT) by women during pregnancy

Percentages of women who took any antimalarial drugs for prevention, who took SP/Fansidar, and who received IPT during an antenatal care (ANC) visit during the pregnancy for their last live birth in the two years preceding the survey, by background characteristics, Zimbabwe 2005-2006

Background characteristic	Percentage who took any anti-malarial drug	SP/Fansidar		Intermittent-preventive treatment <sup>1</sup>		Number of women
		Percentage who took any SP/Fansidar	Percentage who took 2+ doses	Percentage who received any SP/Fansidar during an ANC visit	Percentage who received 2 + doses, at least one during an ANC visit	
<b>Residence</b>						
Urban	21.7	8.3	4.2	6.5	3.2	607
Rural	44.7	13.6	7.8	13.0	7.5	1,537
<b>Province</b>						
Manicaland	46.2	8.5	5.0	7.3	3.9	283
Mashonaland Central	70.8	34.6	21.7	34.0	21.1	226
Mashonaland East	25.5	9.2	6.2	9.2	6.2	167
Mashonaland West	44.0	14.7	6.5	13.3	6.5	201
Matabeleland North	39.2	21.4	11.8	20.7	11.1	147
Matabeleland South	9.0	5.7	5.7	5.7	5.7	100
Midlands	49.5	14.4	7.0	13.9	7.0	310
Masvingo	43.6	6.1	2.9	4.8	2.2	344
Harare	7.1	3.1	0.8	1.2	0.0	259
Bulawayo	8.1	2.2	2.2	1.3	1.3	108
<b>Education</b>						
No education	27.3	5.9	4.6	5.9	4.6	72
Primary	43.6	12.1	7.5	11.2	6.9	772
Secondary	36.3	12.5	6.5	11.6	6.0	1,249
More than secondary	(18.8)	(11.4)	(5.8)	(9.6)	(5.8)	51
<b>Wealth quintile</b>						
Lowest	43.2	11.9	7.1	11.5	6.7	542
Second	48.1	12.7	7.9	12.2	7.6	451
Middle	42.5	15.8	8.0	14.7	7.9	373
Fourth	33.8	13.2	8.0	11.7	6.5	464
Highest	16.6	5.6	1.4	4.2	1.4	313
Total	38.2	12.1	6.8	11.2	6.3	2,144

Note: Figures in parentheses are based on 25-49 unweighted cases.  
<sup>1</sup> IPT is preventive intermittent treatment with SP/Fansidar during an ANC visit.

Overall, use of antimalarial drugs was twice as high among rural as urban women (45 percent and 22 percent, respectively). Among the provinces, Mashonaland Central (71 percent) had the highest rate of use of antimalarial drugs among pregnant women, and Harare had the lowest rate of use (7 percent). Women with a primary education were more likely to report antimalarial drugs were used during pregnancy than women with no education and those with a secondary or higher education. Although the pattern was not uniform, use of antimalarial drugs during pregnancy typically declined with the wealth quintile.

SP/Fansidar use and IPT were reported more often by rural than urban women. Pregnant women from Mashonaland Central had the highest rates of usage of SP/Fansidar (35 percent) and the highest IPT rate (34 percent). Around one in five pregnant women in Mashonaland Central said that they had taken at least two doses of SP/Fansidar and that at least one of the doses was received during an antenatal visit. In contrast, less than 1 percent of women giving birth in Harare in the two years prior to the survey received IPT with SP/Fansidar. Both the usage of SP/Fansidar and the IPT rate were markedly lower among women with higher education and among women in the highest wealth quintile than among other women.

## **12.4 PREVALENCE AND PROMPT TREATMENT OF FEVER AMONG YOUNG CHILDREN**

Fever is a major manifestation of malaria in young children, although it also accompanies various illnesses. As discussed in Chapter 10, in the 2005-06 ZDHS, mothers were asked whether their children under five years had had a fever in the two weeks preceding the survey and, if so, what was done to treat the fever. Table 12.5 shows the percentage of children under five who had a fever in the two weeks preceding the survey, the percentage who took antimalarial drugs among those sick with fever, and the percentage receiving treatment soon after the onset of illness, by selected background characteristics. Table 12.6 shows the type of antimalarial drugs received by children with a fever in the two weeks before the survey and the proportion of children with fever who were given antimalarial drugs on the same day or the day after the fever developed.

Eight percent of children under age five had a fever in the two weeks preceding the survey. Among those sick with fever, 5 percent took antimalarial drugs, and 3 percent of the sick children received the drugs the same day or the day after the fever started. Around seven in ten children whose fever was treated with an antimalarial drug were given chloroquine (Table 12.6), and the drug was available in the home when the child became ill in 34 percent of all cases (not shown in table).

The differentials in treatment patterns in Table 12.5 and Table 12.6 must be interpreted with some caution because comparatively few children were suffering from fever in many subgroups. However, the results indicate that children with fever were most likely to be treated with antimalarials and to be given the drugs promptly if they lived in rural areas, if their mother had a primary education, and they were in the two lowest wealth quintiles.

Table 12.5 Prevalence and prompt treatment of fever

Percentage of children under age five with fever in the two weeks preceding the survey, and among children with fever, the percentage who took antimalarial drugs and the percentage who took the drugs the same/next day following the onset of fever, by background characteristics, Zimbabwe 2005-2006

Background characteristic	Among children under age five:		Among children under age five with fever:		
	Percentage with fever in the two weeks preceding the survey	Number of children	Percentage who took antimalarial drugs	Percentage who took antimalarial drugs same or next day	Number of children
<b>Age (in months)</b>					
<12	6.7	1,046	1.2	0.0	70
12-23	8.7	1,019	4.9	2.4	89
24-35	7.4	936	8.0	6.5	69
36-47	8.9	914	3.8	3.1	82
48-59	5.9	956	6.1	6.1	57
<b>Residence</b>					
Urban	7.3	1,417	0.7	0.7	103
Rural	7.6	3,454	6.3	4.5	263
<b>Province</b>					
Manicaland	8.9	610	0.9	0.9	54
Mashonaland Central	9.2	548	12.5	10.9	51
Mashonaland East	8.5	367	(2.8)	(0.0)	31
Mashonaland West	11.5	481	5.3	3.4	55
Matabeleland North	3.9	320	*	*	13
Matabeleland South	7.5	232	(0.0)	(0.0)	17
Midlands	6.6	722	0.0	0.0	48
Masvingo	3.8	738	(7.6)	(7.6)	28
Harare	9.8	620	(0.0)	(0.0)	61
Bulawayo	3.5	234	*	*	8
<b>Mother's education</b>					
No education	10.8	199	*	*	21
Primary	8.4	1,789	7.0	4.8	149
Secondary	6.9	2,764	2.8	2.3	191
More than secondary	4.2	119	*	*	5
<b>Wealth quintile</b>					
Lowest	7.6	1,205	6.7	4.5	92
Second	7.7	1,009	6.2	4.8	78
Middle	9.3	845	5.0	3.9	79
Fourth	6.2	1,024	2.6	1.3	63
Highest	7.0	787	(1.4)	(1.4)	55
Total	7.5	4,871	4.7	3.4	367

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

**Table 12.6 Type and timing of antimalarial drugs taken by children with fever**

Among children under five years of age with fever in the two weeks preceding the survey, percentage who took specific antimalarial drugs and percentage who took each type of drug the same/next day after developing the fever, by background characteristics, Zimbabwe 2005-2006

Background characteristic	Percentage of children who took drug:			Percentage of children who took drug the same or next day:		Number of children with fever
	SP/Fansidar	Chloroquine	Quinine	SP/Fansidar	Chloroquine	
<b>Age (in months)</b>						
<12	1.2	0.0	0.0	0.0	0.0	70
12-23	0.9	4.3	1.6	0.0	2.4	89
24-35	2.1	5.9	0.0	2.1	4.4	69
36-47	0.0	3.8	0.0	0.0	3.1	82
48-59	1.0	6.1	0.0	1.0	6.1	57
<b>Residence</b>						
Urban	0.0	0.7	0.0	0.0	0.7	103
Rural	1.4	5.2	0.5	0.8	3.9	263
<b>Province</b>						
Manicaland	0.0	0.9	0.0	0.0	0.9	54
Mashonaland Central	1.7	10.8	1.6	1.7	9.1	51
Mashonaland East	(2.8)	(0.0)	(0.0)	(0.0)	(0.0)	31
Mashonaland West	0.0	5.3	0.0	0.0	3.4	55
Matabeleland North	*	*	*	*	*	13
Matabeleland South	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	17
Midlands	0.0	0.0	0.0	0.0	0.0	48
Masvingo	(0.0)	(7.6)	(0.0)	(0.0)	(7.6)	28
Harare	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	61
Bulawayo	*	*	*	*	*	8
<b>Mother's education</b>						
No education	*	*	*	*	*	21
Primary	2.1	5.5	0.0	1.0	3.8	149
Secondary	0.3	2.8	0.4	0.3	2.3	191
More than secondary	*	*	*	*	*	5
<b>Wealth quintile</b>						
Lowest	0.9	6.1	0.6	0.0	4.5	92
Second	2.6	4.3	0.0	2.6	3.0	78
Middle	1.1	3.9	0.0	0.0	3.9	79
Fourth	0.0	2.6	1.3	0.0	1.3	63
Highest	(0.0)	(1.4)	(0.0)	(0.0)	(1.4)	55
Total	1.0	3.9	0.4	0.6	3.0	367

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

## 12.5 INDOOR RESIDUAL SPRAYING

Indoor residual spraying is another component of efforts to control malaria transmission in Zimbabwe. To obtain information on the prevalence of indoor residual spraying, all households interviewed in the ZDHS were asked if the interior walls of their dwelling had been sprayed against mosquitoes during the 12-month period before the survey and, if yes, who had sprayed the dwelling and how many months it had been since the dwelling had been sprayed.

Table 12.7 shows that 15 percent of households reported that the interior walls of their dwelling had been sprayed, principally as part of a government programme (11 percent). Among households reporting that the walls of their dwelling had been sprayed, 35 percent reported that it had been less than three months since the walls were sprayed, while 23 percent indicated that it had been at least nine months since the walls had been sprayed.

Indoor spraying rates vary markedly by residence. Rural households were more than twice as likely as urban households to report the interior walls of their dwelling had been sprayed (19 percent and 8 percent, respectively). By province, the prevalence of indoor spraying varied from 7 percent in Harare to 25 percent in Matebeleland North and Mashonaland Central. Households in the top two wealth quintiles were about half as likely as in the bottom two quintiles to report that their dwelling walls had been sprayed.

Among households reporting that spraying had taken place, there was also considerable variation in the length of time since the walls had last been sprayed. Urban households were more likely to report that the walls had last been sprayed within three months of the survey interview. Around seven in ten of the households in Bulawayo and Matebeleland South that reported any spraying had taken place indicated that the walls of their dwelling had last been sprayed within three months of the survey interview. The likelihood that spraying had taken place within the three-month period before the survey also generally increased with the wealth quintile.

Table 12.7 Interior walls of dwelling sprayed against mosquitoes

Percentage of households reporting interior walls were sprayed against mosquitoes, by the organisation or individual last spraying the walls, and percent distribution of households reporting walls were sprayed by the number of months since the walls were last sprayed, by background characteristics, Zimbabwe 2005-2006

Background characteristic	Percentage of households reporting interior walls of dwelling sprayed against mosquitoes by:										Number of households sprayed				
	Any	Government programme	Private company	Household member/other	Don't know/missing	Household not sprayed	Total	Number of households	Number of months since walls sprayed					Total	
									0-2	3-5		6-8	9-11		12+
<b>Residence</b>															
Urban	8.2	1.2	2.3	4.6	0.4	91.5	100.0	3,201	48.2	17.5	18.3	13.9	2.0	100.0	262
Rural	18.9	16.3	1.3	1.0	0.5	80.9	100.0	6,084	31.7	16.3	27.7	21.6	2.7	100.0	1,150
<b>Province</b>															
Manicaland	19.6	14.6	2.2	1.7	1.2	80.3	100.0	1,166	47.1	14.9	21.0	14.3	2.6	100.0	228
Mashonaland Central	25.2	22.7	1.1	1.1	0.4	74.7	100.0	960	41.9	13.0	11.0	29.3	4.8	100.0	241
Mashonaland East	9.7	8.0	0.3	1.5	0.3	89.9	100.0	914	26.9	11.0	24.7	34.3	3.1	100.0	89
Mashonaland West	15.9	12.2	1.2	2.4	0.7	83.5	100.0	924	44.1	13.1	24.5	15.9	2.4	100.0	147
Matabeleland North	25.3	23.2	1.5	0.5	0.4	74.4	100.0	617	9.4	18.2	52.6	16.7	3.1	100.0	156
Matabeleland South	18.2	15.2	2.7	0.2	0.1	81.8	100.0	472	71.5	8.1	12.2	8.2	0.0	100.0	86
Midlands	14.0	12.0	0.4	1.4	0.2	86.0	100.0	1,268	14.1	26.6	33.4	25.9	0.0	100.0	177
Masvingo	12.9	7.6	3.3	1.6	0.7	86.8	100.0	1,067	9.7	25.2	39.7	24.2	1.4	100.0	138
Harare	6.8	0.4	2.5	3.9	0.1	93.1	100.0	1,249	40.9	19.3	23.9	15.9	0.0	100.0	85
Bulawayo	10.0	0.3	0.7	9.0	0.1	89.9	100.0	648	68.8	8.7	10.6	3.8	8.1	100.0	65
<b>Wealth quintile</b>															
Lowest	21.7	20.0	0.6	0.4	0.8	78.1	100.0	1,744	19.2	18.2	33.8	25.0	3.8	100.0	378
Second	20.1	18.8	0.3	0.7	0.5	79.7	100.0	1,661	33.8	12.7	31.3	20.0	2.1	100.0	333
Middle	15.4	12.9	1.2	1.1	0.3	84.5	100.0	1,774	43.8	15.8	17.0	21.6	1.8	100.0	273
Fourth	10.1	4.9	2.7	2.3	0.4	89.6	100.0	2,258	37.9	20.7	22.2	17.4	1.7	100.0	228
Highest	10.7	1.4	2.7	6.5	0.4	89.0	100.0	1,848	50.1	16.1	18.4	12.8	2.7	100.0	198
Total	15.2	11.1	1.6	2.3	0.5	84.6	100.0	9,285	34.8	16.5	25.9	20.2	2.5	100.0	1,411