COMMUNICATIONS SUPPORT FOR HEALTH (CSH) PROGRAMME

ZAMBIA COMMUNICATIONS SUPPORT FOR HEALTH: STOP MALARIA CHAMPION COMMUNITIES PROGRAMME EVALUATION

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I. Background

1.1 Background on Communications Support for Health Project

The United States Agency for International Development–funded Communications Support for Health (CSH) project provides technical assistance to the Government of the Republic of Zambia (GRZ) to help strengthen national health communication activities. The primary objective of CSH is to improve the capacity of GRZ to develop, implement, monitor, and evaluate behaviour change communication (BCC) activities and interventions. Within this mandate, CSH provides support to the Ministry of Health (MOH) and the National Malaria Control Centre (NMCC) on the STOP Malaria BCC campaign.

1.2 Background on STOP Malaria Campaign

In 2012 the CSH project launched the STOP Malaria campaign in collaboration with MOH and NMCC. The goal of the campaign is to contribute to the overall reduction of malaria incidence in the country, as well as malaria-specific mortality amongst children under 5 years of age and pregnant women. The campaign focuses on the promotion of the following key malaria prevention and control behaviours: consistent use of insecticide-treated nets (ITNs); promotion of early antenatal care (ANC) and completion of the full course of intermittent preventive treatment in pregnancy (IPTp); uptake of malaria testing and appropriate treatment, particularly amongst pregnant women and children under 5 years of age; and the promotion of appropriate feeding practices for children with malaria. The specific objectives of the campaign are as follows:

- To increase the number of people in households who sleep under ITNs, particularly children under 5 years of age and pregnant women;
- To increase the number of pregnant women who attend ANC at a health centre;
- To increase the number of pregnant women who take IPTp;
- To increase the number of people with suspected malaria who go to a health centre for testing; and
- To increase the number of people who are tested for malaria and receive treatment.

The primary audiences for the campaign include pregnant women aged 15–49 years and mothers of children under 5 years of age. The secondary audiences include male partners of pregnant women and mothers of children under 5 years of age; parents and guardians of pregnant women and mothers of children under 5 years of age; health workers at community health facilities; and community health workers.

The campaign used a participatory, community based methodology called Malaria Champion Communities along with a mix of mass media (e.g., radio spots) and small media communications products (e.g., print materials). The programme was implemented in eight districts and across four provinces (Table 1.2.1) by five civil society organisations (CSOs) that work with the CSH project. The

programme was implemented in the communities for approximately a year and a half, from April 2013 to September 2014. Participating communities mobilised their members to improve the uptake of key malaria control and prevention interventions and health services to reduce the burden of the disease in their communities.

Implemented programme activities include household interpersonal counselling visits conducted by Community Malaria Agents (CMAs) in their communities on a monthly basis along with community meetings to set goals and targets for progress in each community. These fora were also used to hold discussions about malaria prevention and treatment and the importance of ANC for pregnant women; sensitisation through drama groups hired by the CSOs; community demonstrations on how to properly hang ITNs in the household; and education on malaria prevention and control in schools, including a malaria game. . Usually, one or two CMAs worked in each community participating in the programme under the STOP Malaria campaign and were assigned to provide interpersonal counselling to 30 households in their assigned community.

Table 1.2.1. STOP Malaria Champion Communities Coverage

Province	Districts	Implementing CSO	Number of communities
Northern	Kasama	KCCC	10
	Mpulungu	KCCC	4
Eastern	Chadiza	Caritas	18
	Chipata	Caritas	18
Western	Mongu	MARCH Zambia	27
	Kaoma	MARCH Zambia	34
Luapula	Mansa	LUFAID	10
	Samfya	GFC	22

Note: KCCC = Kasama Christian Community Care; LUFAID = Luapula Families in Distress; GFC = Group Focused Consultations

As part of this programme, communities set their own goals for the uptake of malaria prevention and control behaviours by their community members and regularly monitored progress towards achieving these goals. To track their progress, CMAs collected household data on malaria prevention and control behavioural outcomes every month when they visited households to provide interpersonal counselling. Each CMA was responsible for collecting data from its assigned households. To collect the data, CMAs administered a short, simple survey that assessed household ownership of ITNs; household members' use of ITNs; fever incidence in the past two weeks amongst household members and uptake of testing and treatment for those who had suspected malaria in the past two weeks; and uptake of ANC and IPTp amongst pregnant women in the household. CMAs collected these data over the course of a week and then aggregated and shared the data with the CSOs and their respective communities. The CSOs conducted data quality checks each month, which included random checks of CMAs during data collection and review of the consistency of aggregated results per community based on the data collected by individual CMAs.

II. Survey Methodology

2.1 Study Design

At the end of the programme and after approximately 1.5 years of implementation, CSH conducted a cross-sectional household survey in the communities where the Champion Communities programme was implemented, as well as in similar communities that did not receive the programme.

2.2 Objectives of the Survey

The survey's main objectives were to assess: 1) the overall coverage of key malaria prevention and control behaviours in communities that received the Champion Communities programme; and 2) the differences between key malaria prevention and control behaviours in the Champion Communities compared to those in other similar communities. This report details the survey's findings.

2.3 Sampling Methodology

CSH conducted the survey in the districts of Kaoma in Western Province and Kasama in Northern Province across a total of 20 communities, 10 of which participated in the STOP Malaria Champion Communities programme (intervention sites) and 10 of which were comparison communities in the same districts that did not participate in the programme. In each selected community, 25 households were selected for inclusion in the study, resulting in a total of 500 households surveyed. The survey was administered to one member of each household (in most cases, the head of household). However, if a pregnant woman or mother of a child aged 0–6 months was in the household, she was also asked to participate and asked if she attended ANC and received IPTp during her current or most recent pregnancy.

The steps for the selection of the communities, households, and participants in the survey are outlined below.

Steps for the selection of communities:
Due to budgetary limitations, communities were selected only from two districts. In each of the two sampled districts, five communities with the Champion Communities programme were selected randomly for the survey. NMCC and CSO staff in each district helped select the five comparison sites after the five Champion Communities were selected. The specific criteria for selecting the comparison communities were as follows:

- The community must fall within the same health centre catchment area.
- The community must not have received the Champion Communities programme or be aware of the programme.
- The community must have at least 50 households based on CSO data.

Steps for the selection of households within the selected communities:
In the selected communities, the interview team went to the population centre of the cluster and identified four directions (north, south, east, and west) or four sections (quadrants). The interview team

wrote the four sections or directions on four slips of paper, put them in a container, and then randomly selected one of the slips of paper.

The team proceeded in the selected direction to the place that equally divided the quadrant's population in half and randomly selected (for example, by flipping a coin) which of the two ways to proceed. The team repeated this step until it had a small and manageable set of houses.

The team then counted all the households in the area that resulted from the process described above and used a random number table to select the first household to approach. To select the next household, the interview team proceeded to the house with a front door nearest to the front door of the first household selected. The team continued in this way until 25 households were selected and 25 interviews were conducted.

In the event that there was no one at a selected household or no person above the age of 15 who lived in the household, the next household with the nearest front door was selected. In the event that the head of household was not available at the time of the first visit to the household, the interviewer made at least two more attempts (at different times or days) to conduct the interview. If the interview was still not conducted after three attempts, another household was selected, using the same technique described above.

Steps for selection of participants within the selected households:
At each selected household, the identified head of the household was asked to participate in the survey. In the event that the head of the household was not available to participate, the partner or spouse of the head of the household was asked to participate in the survey. In addition, any woman who was pregnant at the time of the survey or a mother of a child aged 0–6 months was also asked to participate in the survey.

2.4 Study Instruments

The study used a household member listing form to determine the number of household members, their sex and age, and, for women household members, whether they were currently pregnant or a mother of a child aged 0–6 months. An information sheet that outlined the purpose of the study and the benefits and risks of participating in the study was provided to each eligible participant. Written consent was obtained from all participants prior to administering the survey questionnaire.

The main study instrument was a survey questionnaire that included questions on key malaria prevention and control behaviours, including bed net use (amongst children under 5 years of age, pregnant women, and the general population), fever incidence and uptake of malaria diagnostic testing and treatment, and uptake of IPTp during ANC. The questionnaire also included a series of questions to assess participants' exposure to STOP Malaria Champion Communities programme activities to determine the existence of any contamination in the comparison communities.

2.5 Data Collection

Data collection for the survey took place in Kaoma and Kasama districts between 6 and 9 August 2014. Two teams of 6 interviewers and 1 supervisor led the data collection. Prior to data collection, a four-day

training was held for the interviewers. The training included the following: an orientation to the STOP Malaria campaign, roles and responsibilities of interviewers and supervisors, procedures for selecting households and participants, interviewing skills, procedures for obtaining written consent from respondents and completing the household listing form, an orientation to the questionnaire and time to practise carrying out the interview, and ethical guidelines for protecting human subjects. Interviewers were recruited based on their competencies in quantitative data collection and their ability to speak the predominant languages in the sampled disctricts: Silozi in Kaoma District and Icibemba in Kasama District.

2.6 Data Management and Analysis

Various data quality checks were conducted, including checking the questionnaires for internal consistency, filter and skip errors, appropriate coding of responses, and other logical checks. The data were entered using CSPro software and exported to STATA for analysis. Descriptive analyses (frequency and cross-tabulations) were carried out for the household background characteristics, the key malaria prevention and control indicators, and the indicators assessing exposure to the STOP Malaria campaign. Additionally, chi-squared tests were performed for all indicators comparing intervention and comparison sites in each of the two sampled districts as well as across the two districts. For instances in which denominators were small, Fisher's exact test was used to determine statistical significance. For both tests, results were considered statistically significant if the p-value was equal to or less than 0.05.

2.7 Ethical Considerations

The evaluation was approved by the local Zambia Research Ethics board and the ICF International Institutional Review Board, and was submitted for review and approval by the MOH of GRZ and the National HIV/AIDS/STI/TB Council.

III. Findings

Malaria prevention and control behavioural outcomes are primarily displayed in charts. Additional details (e.g., numerators and denominators) can be found in the data tables in Appendix A.

3.1 Demographics

Enumerators interviewed respondents from 500 households in 20 communities (25 households in each community), equally distributed between the two sampled districts, Kaoma and Kasama, and also equally distributed between intervention and comparison sites (Table 3.1.1).

Table 3.1.1. Sampled Communities, by District and Site Type

Kaoma (N = 250)		Kasama (N = 250)	
Intervention (N = 125)	Comparison (N = 125)	Intervention (N = 125)	Comparison (N = 125)
Katongo	Chishamba	Chisanga Zone B	Chisanga Zone A
Makulu	Kalamba	Chisanga Zone F	Chisanga Zone F
Masasa	Mawilo	Nakapampa	Katongo A
Mwala	Nkangalon	Sombe Zone G	Katongo B
Situmbuko	Shikabaka	Sombe Zone I	Nakapampa 2

As shown in Table 3.1.2, the characteristics of the households were comparable between the intervention and comparison sites across districts and within each district. Overall, roughly half of the households owned a radio, 20 percent owned a television, and 70 percent owned a telephone. Approximately one-third of the households had been sprayed with indoor residual spray during the year prior to the survey. The primary survey respondents (not including any pregnant women or mothers of children aged 0–6 months) were most likely to have a primary school education (57.8 percent), while 29.6 percent attended secondary school and less than 1 percent attended school beyond the secondary level. Twelve percent never attended school. Across districts, 30.8 percent and 34.8 percent of households in intervention and comparison areas, respectively, had been treated with indoor residual spray during the year prior to the survey, and time to the nearest health facility ranged from less to 30 minutes to more than two hours.

Table 3.1.2. Select Household and Respondent Characteristics, by District and Site Type

	Overall		Kaoma		Kasama	
	Intervention (N = 250)	Comparison (N = 250)	Intervention (N = 125)	Comparison (N = 125)	Intervention (N = 125)	Comparison (N = 125)
Primary survey respondents' education						
Primary	54.8%	60.8%	56.0%	64.0%	53.6%	57.6%
Secondary	32.8%	26.4%	32.0%	24.8%	33.6%	28.0%
Higher	0.8%	0.0%	0.8%	0.0%	0.8%	0.0%
No school	11.6%	12.8%	11.2%	11.2%	12.0%	14.4%
Household possessions						
Own a radio	53.2%	52.0%	45.6%	37.6%	60.8%	66.4%
Own a television	20.8%	18.4%	12.0%	8.0%	29.6%	28.8%
Own a phone	70.4%	66.8%	64.8%	68.0%	76.0%	65.6%
Indoor residual spray						
Household (HH) sprayed during year prior to survey	30.8%	34.8%	16.8%	19.2%	44.8%	50.4%
Time to nearest health facility (minutes)						
0–29	35.4%	23.3%	24.2%	6.6%	46.7%	40.3%
30–59	29.3%	11.3%	38.7%	15.7%	19.7%	6.7%
60–119	21.5%	32.5%	25.0%	47.9%	18.0%	16.8%
120+	13.8%	32.9%	12.1%	29.8%	15.6%	36.1%

As shown in Table 3.1.3, amongst the 500 households surveyed, there were 2,612 household members, with a roughly even split between males and females. The average age of household members was 20 years old (range: less than 1 year old to 86 years old). In addition to primary respondents, 42 pregnant women and 47 mothers of children aged 0–6 months were interviewed. The average age of the pregnant women interviewed was 28 years old (range: 17–44 years old), and the average age of mothers of children aged 0–6 months who were interviewed was 27 years old (range: 17–41 years old).

Table 3.1.3. Sex and Age of Household Members, by District and Site Type

	Overall		Kaoma		Kasama	
	Comparison (N = 1,329)	Intervention (N = 1,283)	Comparison (N = 664)	Comparison (N = 666)	Intervention (N = 665)	Comparison (N = 617)
Male	52.1%	49.5%	50.9%	47.6%	53.4%	51.5%
Female	47.9%	50.5%	49.1%	52.4%	46.6%	48.5%
Age (years)						
0–4	15.3%	15.4%	16.0%	16.5%	14.6%	14.1%
5–14	32.7%	32.5%	33.4%	35.1%	32.0%	29.7%
15–24	20.0%	19.9%	19.7%	19.1%	20.3%	20.8%
25–44	21.4%	21.5%	23.5%	21.8%	19.4%	21.2%
45+	10.2%	10.4%	7.4%	7.5%	13.1%	13.6%
Missing	0.3%	0.3%	0.0%	0.0%	0.6%	0.7%

3.2 Exposure to the STOP Malaria Campaign

As shown in Table 3.2.1, almost all survey respondents in intervention areas had heard of the STOP Malaria campaign or Champion Communities programme (90.4 percent), whereas 21.6 percent of respondents in comparison areas had heard of the campaign or programme. Of those who had heard of the campaign, almost all respondents in the intervention areas (99.1 percent) and all respondents in the comparison areas had also attended at least one malaria-related community event during the past year. In intervention areas, 88.0 percent of respondents reported that a CMA or community health worker (CHW) had visited their house during the past year, whereas in comparison areas, 22.4 percent reported being visited. Amongst those who were visited, similar percentages of respondents in intervention and comparison areas reported discussing malaria prevention (approximately 90 percent) and malaria testing or treatment (approximately 25 percent).

Table 3.2.1. Campaign Exposure, by District and Site Type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% respondents who had heard of the STOP Malaria campaign or the Champion Communities programme	90.4%* (N = 250)	21.6%* (N = 250)	92.0%* (N = 125)	19.2%* (N = 125)	88.8%* (N = 125)	24.0%* (N = 125)
% respondents who had heard of the campaign and attended a malaria-related community event in the past year	99.1% (N = 226)	100% (N = 54)	99.1% (N = 115)	100% (N = 24)	99.1% (N = 111)	100% (N = 30)
% respondents who were visited by CMA or CHW in the past year	88.0%* (N = 250)	22.4%* (N = 250)	88.0% (N = 125)	18.4%* (N = 125)	88.0%* (N = 125)	26.4%* (N = 125)

* Difference is statistically significant ($p \leq 0.05$)

3.3 Household Bed Net Ownership and Coverage

Overall, 86.2 percent of households surveyed owned at least one bed net. As shown in Table 3.3.1, more households in intervention areas owned at least one bed net, compared to households in comparison areas (89.6 percent versus 82.8 percent, respectively; $p \leq 0.05$), and although a larger percentage of households in intervention areas owned at least one net compared to the comparison areas in each sampled district, the differences were not statistically significant.

Amongst households that owned at least one bed net, households most frequently owned two bed nets in both the intervention and comparison sites—43.1 percent and 42.0 percent, respectively (Table 3.3.1). Approximately one-quarter of households surveyed owned just one net, another quarter owned three nets, and very few households owned four or five bed nets.

It is important to note that in 2011, GRZ and project partners carried out a mass ITN distribution campaign in Luapula Province. During the course of the STOP Malaria campaign activities, a mass distribution campaign was carried out in Western Province and at the very end of implementation, a distribution campaign was launched in Northern Province. The objective of these mass distribution campaigns was to distribute and hang sufficient ITN to cover all sleeping spaces in a particular household.

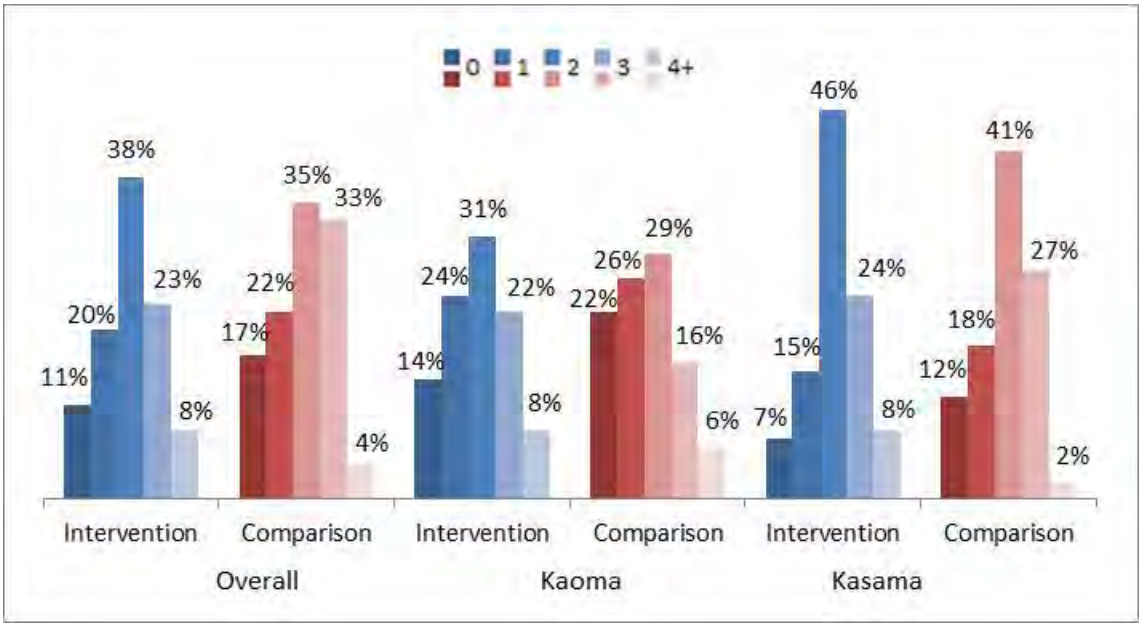
Table 3.3.1. Bed Net Ownership, Source and Coverage Indicators, by District and Site Type

Indicator		Overall		Kaoma		Kasama	
		Intervention (N = 250)	Comparison (N = 250)	Intervention (N = 125)	Comparison (N = 125)	Intervention (N = 125)	Comparison (N = 125)
% of households that own at least 1 bed net		89.6%[γ]*	82.8%*	85.6%	77.6%	93.6%[γ]	88.0%
% of households that own 1, 2, 3, 4, or 5 bed nets, amongst those who own at least 1 bed net	1	22.0%	26.6%	28.0%	34.0%	16.4%	20.0%
	2	43.0%	42.0%	36.5%	37.1%	49.1%	46.4%
	3	26.0%	26.1%	26.2%	20.6%	25.9%	30.9%
	4	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	5	8.9%	5.3%	9.4%	8.3%	8.6%	2.7%

Indicator	Overall		Kaoma		Kasama	
	Intervention (N = 250)	Comparison (N = 250)	Intervention (N = 125)	Comparison (N = 125)	Intervention (N = 125)	Comparison (N = 125)
% of households that have all sleeping spaces covered with a bed net	52.0%	44.0%	48.0%*	28.8%*	56.0%	59.2%
Source of bed nets						
Number of bed nets (N)	515	446	242	205	273	241
Government clinic/hospital	62.9%	60.3%	60.3%	55.6%	65.2%	64.3%
CHW	23.3%	29.8%	17.8%	29.3%	28.2%	30.3%
Nongovernmental organization	11.5%	5.2%	19.4%	10.7%	4.4%	0.4%
Retail shop	1.0%	1.4%	1.7%	1.0%	0.4%	1.7%
Pharmacy	0.0%	0.7%	0.0%	1.5%	0.0%	0.0%
Other	1.2%	2.0%	0.8%	0.5%	1.5%	3.3%
Don't know	0.2%	0.7%	0%	1.5%	0.4%	0.0%

γ One response missing; * Difference is statistically significant ($p \leq 0.05$)

Figure 3.3.1. Number of Bed Nets Owned, by District and Site Type



Based on the number of sleeping spots covered by a bed net and the total number of sleeping spots reported by survey participants, slightly less than 50 percent of households (52.0 percent in intervention areas and 44.0 percent in comparison areas) had all sleeping spaces in the household covered by a bed net (Table 3.3.1). The difference was statistically significant in Kaoma District, where 48.0 percent and 28.8 percent of households in intervention and comparison areas, respectively, had all sleeping spots covered.

The majority of bed nets were obtained at government clinics or hospitals (62.9 percent in intervention areas and 61.2 percent in comparison areas). CHWs were reported to be the second most common source of bed nets; 23.3 percent of bed nets in intervention areas and 29.8 percent of bed nets in comparison areas were obtained from a CHW. The third most common source mentioned was NGOs,

which accounted for 11.5 percent of nets in intervention areas and 5.2 percent of nets in comparison areas. Retail shops and pharmacies were rarely mentioned as sources, as can be seen in Table 3.3.1. Given the sources of the bed nets, it is likely that the majority of nets owned are ITNs. However, because most of the campaign messaging focused on "bed net" use, rather than distinguishing between an ITN and bed net, the questionnaire also did not include specific questions ascertaining whether the nets owned were ITNs, bed net ownership and use are reported rather than ITN ownership and use.

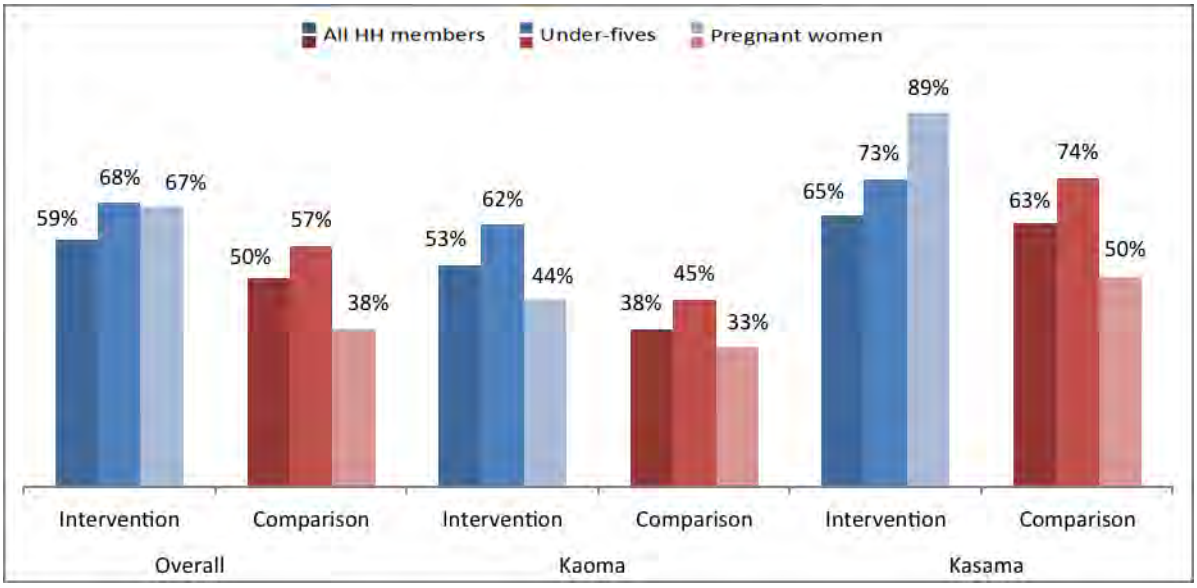
3.4 Bed Net Use

Figure 3.4.1 shows bed net use amongst all household members, children under 5 years of age, and pregnant women. More household members in intervention areas slept under a bed net the night prior to the survey than did household members in comparison areas (58.7 percent versus 49.7 percent, respectively; $p \leq 0.05$). This significant difference was also true in Kaoma District, with 52.7 percent of household members sleeping under a bed net in intervention areas compared to 37.5 percent of household members in comparison areas ($p \leq 0.05$). However, no significant difference was seen in Kasama District, where 64.7 percent and 62.7 percent of household members in intervention and comparison areas, respectively, slept under a bed net the night prior to the survey.

Similar trends were observed for children under 5 years of age, but percentages of children who slept under a bed net the night prior to the survey were all 7 to 11 percent higher than amongst household members in general. Differences between intervention and comparison areas across the two sampled districts and in Kaoma District were statistically significant ($p \leq 0.05$), but in Kasama District, the percentages were similar in intervention and comparison areas (approximately 73 percent).

Amongst pregnant women, bed net use the night prior to the survey was higher in intervention areas (66.7 percent) than in comparison areas (37.5 percent), but because of the small number of pregnant women, it was not possible to determine if the difference was statistically significant.

Figure 3.4.1. Bed Net Use Amongst All Household Members, Children Under 5 Years of Age, and Pregnant Women, by District and Site Type



When looking only amongst households that owned at least one bed net, similar trends were seen across the different populations and sites, as shown in Table 3.4.1. Differences between intervention and comparison sites were statistically significant among all household members across both sampled districts and also in Kaoma District ($p \leq 0.05$). Differences amongst children under 5 years of age were seen only in Kaoma District and amongst pregnant women across both districts ($p \leq 0.05$) – but not within individual districts because of the small sample sizes.

Table 3.4.1 Bed Net Use Amongst All Household Members, Children Under 5 Years of Age, and Pregnant Women in Households That Own At Least One Bed Net, by District and Site Type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of household (HH) members who slept under a bed net the night prior to the survey	68.1%* (N = 1199)	58.2%* (N = 1095)	60.2%* (N = 581)	46.1* (N = 542)	70.0% (N = 618)	70.0% (N = 553)
% of children under 5 years of age who slept under a bed net the night prior to the survey	74.9% (N = 183)	66.9% (N = 169)	71.0%* (N = 93)	56.3%* (N = 87)	78.9% (N = 90)	78.1% (N = 82)
% of pregnant women who slept under a bed net the night prior to the survey	80%* (N = 15)	45.0%* (N = 20)	57.1% (N = 7)	42.9% (N = 14)	100% (N = 8)	50.0% (N = 6)

* Difference is statistically significant ($p \leq 0.05$)

Meanwhile, when looking only amongst households that owned a sufficient number of nets to cover all sleeping spaces in the household, bed net use trends among all household members and children under 5 years of age in intervention and comparison sites were similar, as shown in Table 3.4.2.

Table 3.4.2. Bed Net Use Amongst All Household Members, Children Under 5 Years of Age, and Pregnant Women in Households That Have Sufficient Bed Nets, by District and Site Type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of household (HH) members who slept under a bed net the night prior to the survey	76.8% (N = 641)	72.9% (N = 527)	70.9% (N = 299)	63.4% (N = 175)	81.9% (N = 342)	77.% (N = 352)
% of children under 5 years of age who slept under a bed net the night prior to the survey	83.8% (N = 105)	85.9% (N = 85)	81.3% (N = 48)	85.7% (N = 28)	86.0% (N = 57)	86.0% (N = 57)
% of pregnant women who slept under a bed net the night prior to the survey	88.9% (N = 9)	50.0% (N = 10)	66.7% (N = 3)	50.0% (N = 6)	100% (N = 6)	50.0% (N = 4)

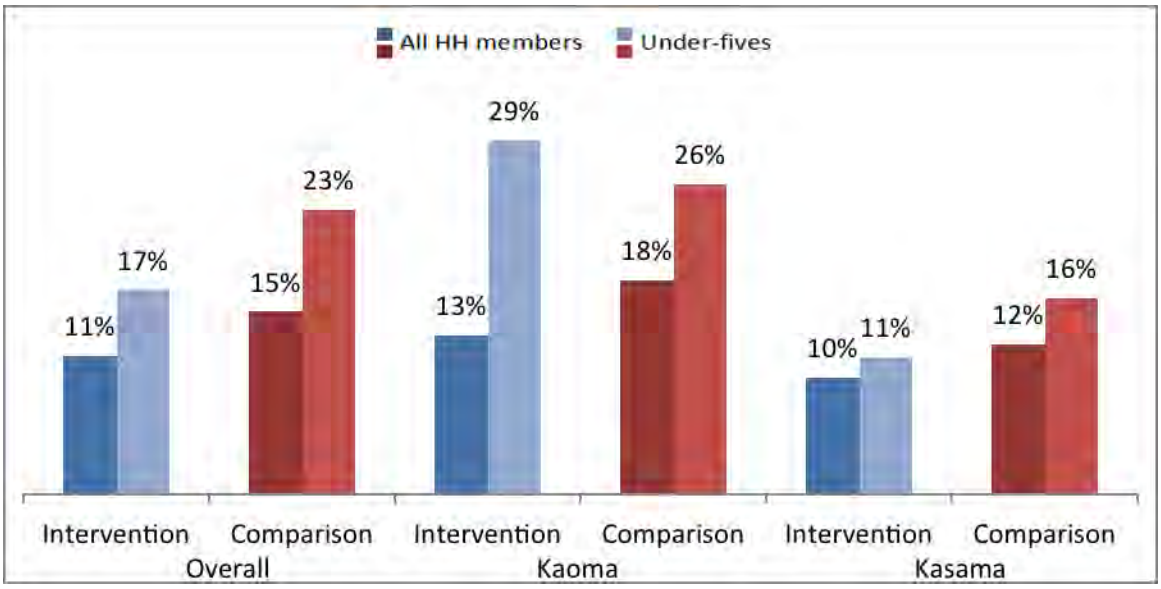
* Difference is statistically significant ($p \leq 0.05$)

3.5 Fever Prevalence and Care Seeking

As shown in Figure 3.5.1, fever prevalence amongst household members in the two weeks prior to the survey was significantly lower in intervention areas (11.4 percent) compared to comparison areas (15.0 percent; $p \leq 0.05$). This was also true in Kaoma District, where 17.6 percent of household members had a fever in the two weeks prior to the survey compared to only 13.1 percent of household members

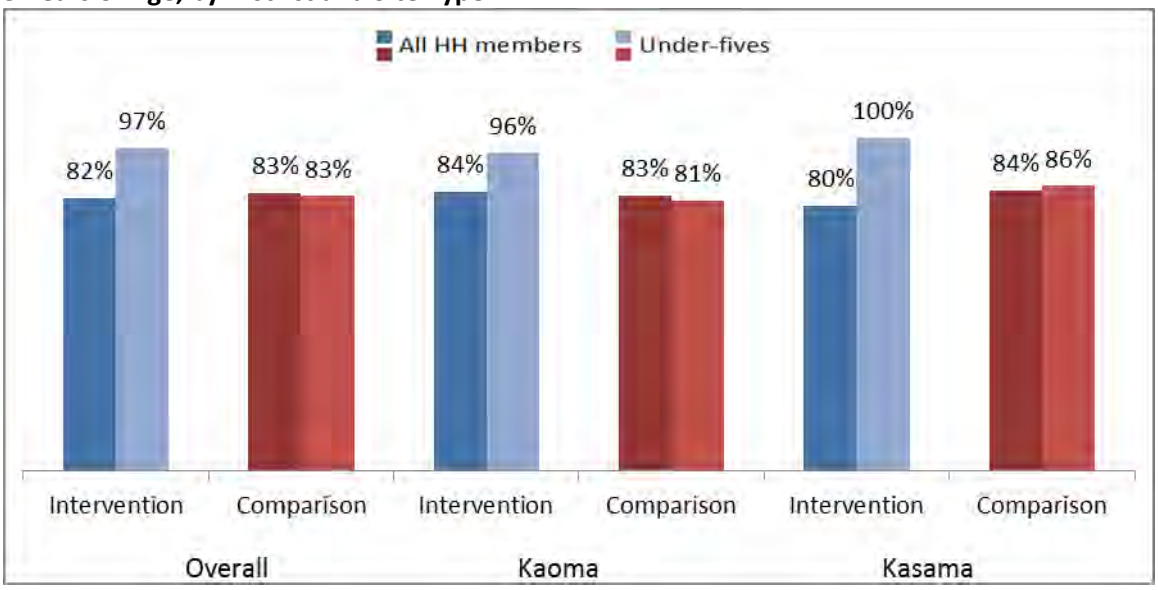
in intervention areas ($p \leq 0.05$). Fever prevalence in Kasama District was 9.6 percent in the comparison areas and 12.3 percent in comparison areas, but the difference was not statistically significant. Overall, fever was more prevalent in Kaoma District (15.3 percent) than in Kasama District (10.9 percent; $p \leq 0.05$). No differences were found amongst children under 5 years of age when comparing intervention and comparison areas overall or within districts.

Figure 3.5.1. Fever Prevalence Amongst All Household Members and Children Under 5 Years of Age, by District and Site Type



Care seeking was similar in intervention and comparison areas and also between districts; amongst all household members who were sick with fever, approximately 80 percent sought care. For children under 5 years of age, care seeking was slightly more than 80 percent in comparison areas, but 97.1 percent in intervention areas (Figure 3.5.2).

Figure 3.5.2. Care Seeking Amongst All Household Members and Caregivers of Children Under 5 Years of Age, by District and Site Type

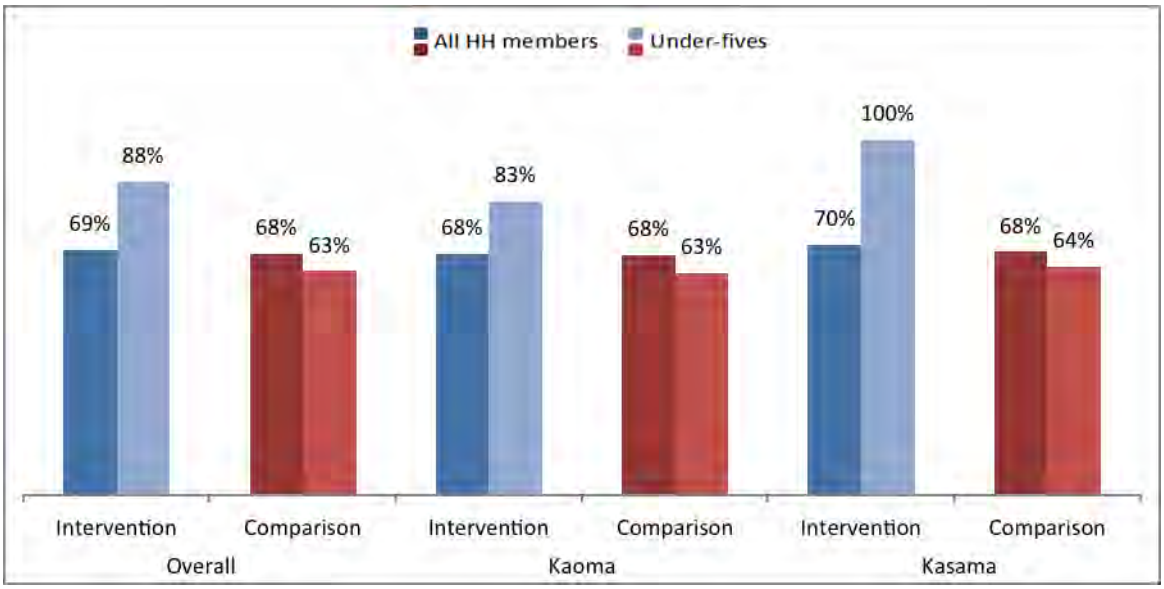


Those with fever most commonly sought care at a health facility (93.6 percent and 91.3 percent in intervention and comparison areas, respectively). Shops were a much less common source of care for those with fever; only 7.3 percent of those with fever in intervention areas and 6.2 percent of those with fever in comparison areas sought care at a shop. Only one person surveyed reported seeking care from a traditional practitioner.

3.6 Fever Testing

Overall and within each district, the percentages of those with a fever in the two weeks prior to the survey who were tested for malaria were comparable (approximately 68 percent). However, amongst children under 5 years of age, a higher percentage was tested in intervention areas (88.2 percent) than in comparison areas (63.0 percent; $p \leq 0.05$). The difference was also statistically significant in Kasama District amongst children under 5 years of age, but not statistically significant amongst children in Kaoma District (Figure 3.6.1.).

Figure 3.6.1. Malaria Testing Amongst All Household Members and Children Under 5 Years of Age With Fever, by District and Site Type



The survey data showed that among all household members, 5.8 percent and 5.3 percent of those with fever in intervention and comparison areas, respectively, reportedly did not seek care but received a malaria test at some point during the illness. This may be due to respondents interpreting "care-seeking" as seeing a trained provider for their illness. In some cases, however, they may have been able to access a malaria test elsewhere.

Amongst all household members who were sick with fever and tested for malaria, all received their test results. There were five responses missing (2.1 percent of expected responses), which could not be inferred from other information in the survey, so they were excluded from the analysis.

Amongst all respondents who received their test results, approximately 80 percent tested positive for malaria. Amongst children under 5 years of age, approximately 85 percent of children tested positive (Table 3.6.1).

Table 3.6.1. Receipt of Test Result and Result of Test Among Household Members and Children Under 5 Years of Age With Fever Who Were Tested for Malaria, by District and Site Type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of HH members who were sick with fever and tested for malaria during the two weeks prior to the survey who received the test results	100% (N = 102)[γ]	100% (N = 128)[§]	100% (N = 59)	100% (N = 76)[§]	100% (N = 43)[γ]	100% (N = 52)
% of children under 5 years who were sick with fever and tested for malaria during the two weeks prior to the survey whose caregiver received the test results	100% (N = 30)	100% (N = 29)	100% (N = 19)	100% (N = 20)	100% (N = 11)	100% (N = 9)
% of HH members who were sick with fever and tested for malaria during the two weeks prior to the survey who received the test results	80.4% (N = 102)	78.9% (N = 128)	76.3% (N = 59)	71.5% (N = 76)	86.1% (N = 43)	90.4% (N = 52)
% of children under 5 years who were sick with fever and tested for malaria during the two weeks prior to the survey whose caregiver received the test results	83.3% (N = 30)	89.7% (N = 29)	73.7% (N = 19)	85.0% (N = 20)	100% (N = 11)	100% (N = 9)

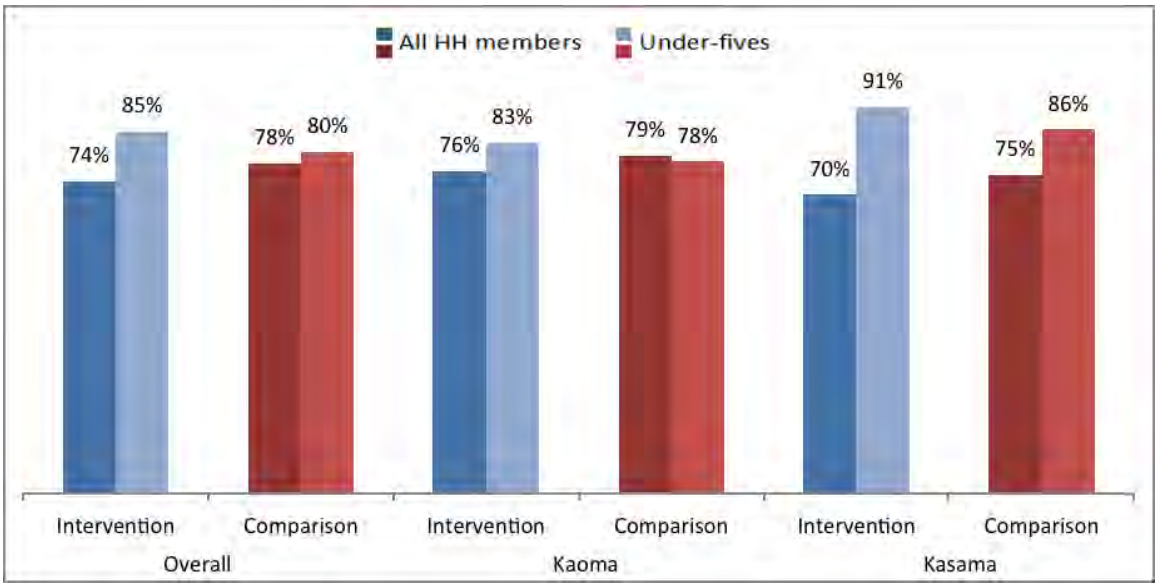
[γ] Missing two responses

[§] Missing three responses

3.7 Fever Treatment

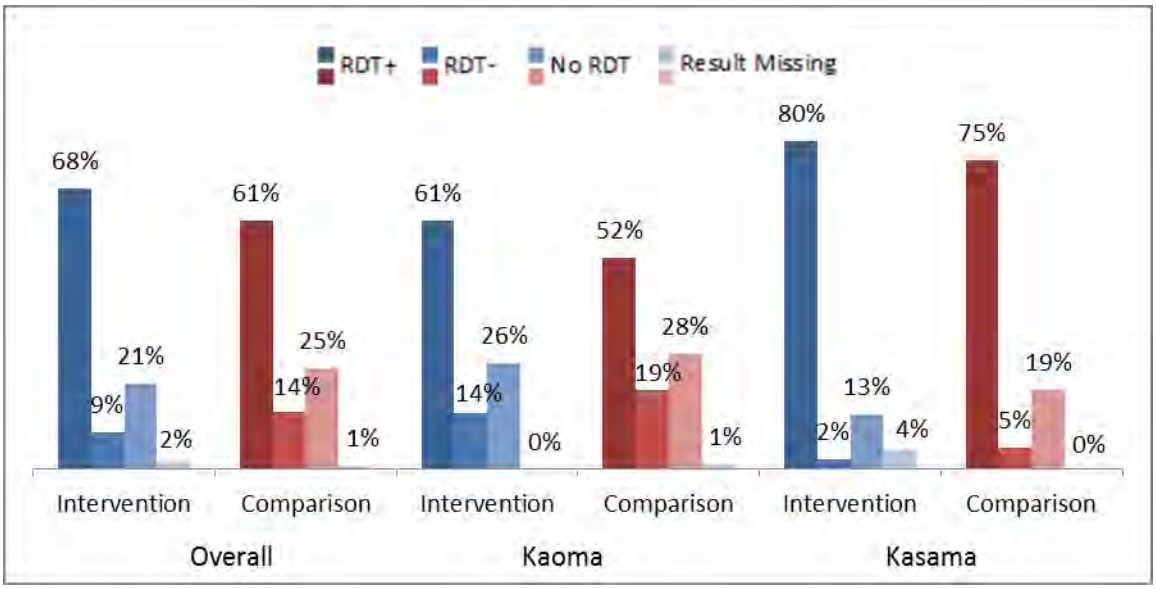
No significant differences in the percentages of those who took an antimalarial for their fever were found overall or within each district. Amongst all household members, 73.5 percent and 77.7 percent took an antimalarial in intervention and comparison areas, respectively. Amongst children under 5 years of age, 85.3 percent took a drug in intervention areas and 80.4 percent took a drug in comparison areas. As shown in Figure 3.7.1, in intervention areas, children under 5 years of age with fever were more likely to receive an antimalarial than other household members, but statistical significance was not assessed.

Figure 3.7.1. Household Members and Children Under 5 Years of Age Who Took an Antimalarial as Fever Treatment, by District and Site Type



As shown in Figure 3.7.2, a majority of those with fever who took an antimalarial drug had a positive malaria test result. However, 8.6 percent and 13.9 percent of those who took an antimalarial drug in intervention and comparison areas, respectively, had a negative test result. Further, just over 20 percent of those who took an antimalarial drug were not tested for malaria. The survey, however, did not collect information regarding why the person with fever was not tested. No differences were found among those who took an antimalarial drug between intervention and comparison areas. Similar trends were found among children under 5 years of age.

Figure 3.7.2. Household Members Who Took an Antimalarial as Fever Treatment, by Test Result, District and Site Type



In theory, all those seeking care who test positive for malaria should receive an antimalarial drug, while none of those who test negative should receive an antimalarial drug. Therefore, in addition to examining the percentage of those who had a positive malaria test who took an antimalarial drug, the percentage of those with a negative malaria test who did not take an antimalarial drug was also investigated. Fifty percent and 22.2 percent in intervention and comparison areas, respectively, fell into the latter category. However, because there were only 47 household members total in the survey who reported a negative malaria test result, none of the results shown in Table 3.7.1 were statistically significant.

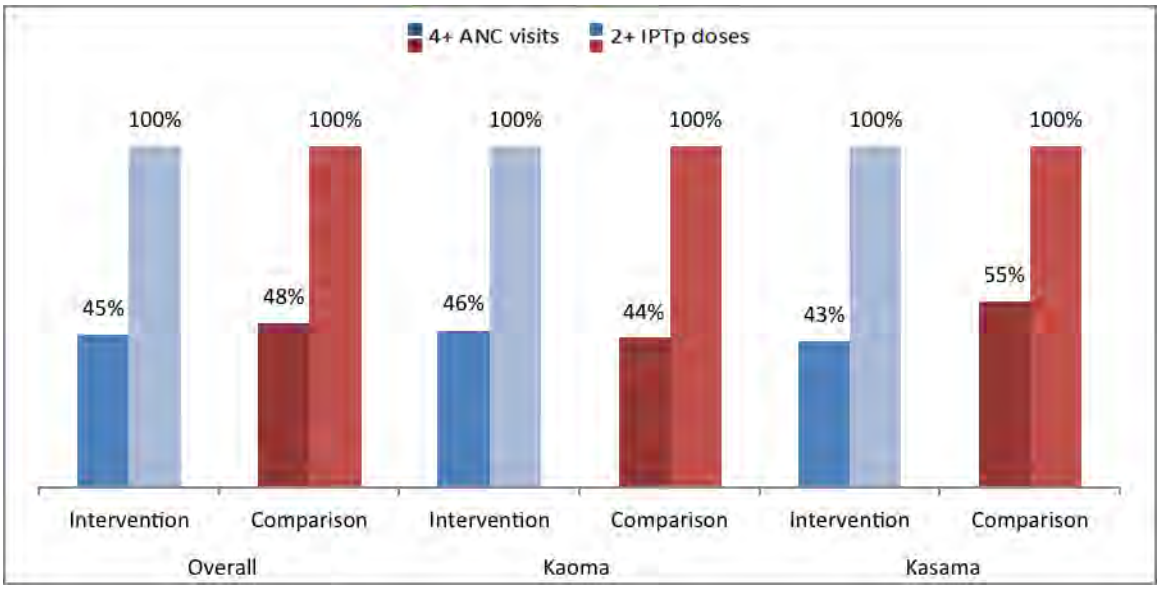
Table 3.7.1. Household Members and Children Under 5 Years of Age Who Have a Negative Malaria Test Result and Did Not Take an Antimalarial, by District and Site Type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of household (HH) members who were sick with fever and tested negative for malaria and did not take an antimalarial	50.0% (N = 20)	22.2% (N = 27)	35.7% (N = 14)	18.2% (N = 22)	83.3% (N = 6)	40.0% (N = 5)
% of children under 5 years of age who were sick with fever and tested negative for malaria and did not take an antimalarial	40.0% (N = 5)	0.00% (N = 3)	40.0% (N = 5)	— (N = 0)	— (N = 0)	0.00% (N = 3)

3.8 IPTp

All female respondents who were mothers of children aged 0–6 months attended at least two ANC visits and received two or more doses of sulfadoxine-pyrimethamine/Fansidar as IPTp against malaria when pregnant with their youngest child. As shown in Figure 3.8.1, just under half of these women attended four or more ANC visits (45.0 percent in the intervention areas and 48.2 percent in the comparison areas). Thus, no significant differences were observed in ANC or IPTp uptake between intervention and comparison areas; however, the sample size was small (47 respondents).

Figure 3.8.1. ANC and IPTp for Malaria Amongst Mothers of Children Aged 0–6 Months, by District and Site Type



IV. Discussion of Findings

4.1 Discussion

The results demonstrate that overall there was high exposure to the STOP Malaria campaign (or Champion Communities programme) in the intervention communities, with more than 90 percent of survey respondents reporting that they had heard of the campaign or programme. Furthermore, the majority of respondents in the intervention areas reported participating in a community event or meeting about malaria prevention and control and being visited by a CMA or CHW to discuss malaria-related topics. Of the households visited, a large percentage discussed malaria-related topics. This level of exposure to malaria prevention and control messages in the comparison areas may have led to higher coverage and uptake of the key malaria prevention and control behaviours observed.

Interestingly, roughly 20 percent of survey respondents in comparison areas had also heard of the campaign and had been visited at home by a CHW during the year prior to the survey. This may have resulted because of relocation; some families initially living in intervention areas may have moved to comparison areas while the campaign was being implemented. Furthermore, those in comparison areas may have been exposed to the campaign through radio skits if the coverage area of the radio stations used to broadcast those skits included comparison areas. Lastly, household visits reported in comparison areas may not have been conducted by malaria health workers; the survey did not specifically as about CMA – but asked more broadly about any community health worker or volunteer. Therefore, visits were possibly made by other health workers associated with any number of programs, including those focusing on other health issues.

Overall, bed net ownership and bed net use amongst all household members and amongst children under 5 years of age were higher in the intervention areas than in the comparison areas. However, this

was mainly due to the differences noted in Kaoma District, where bed net ownership and use were significantly higher in the intervention areas and was likely heavily influenced by the recent mass distribution of ITNs in that province. Although, the fact that USE was also higher in Kaoma intervention communities even though comparison communities also received nets during the distribution likely means that the community activities had a strong effect on promoting use of nets once a family has one. Bed net ownership and use were only slightly higher in intervention areas in Kasama District. Overall, bed net use was highest amongst children under 5 years of age. Bed net use was also higher for pregnant women overall, when compared to all household respondents in the intervention areas, but this trend was not consistent across both districts, and the findings amongst pregnant women need to be interpreted with caution due to the small sample size.

Bed net use trends looking only at members of households that owned at least one bed net were similar to trends seen when bed net ownership was not taken into account. However, bed net use trends looking only at members of households that owned a sufficient number of nets to cover all the sleeping spaces in the household were higher across the board and not different when intervention and comparison sites were compared. These results suggest that if access to bed nets is equalized, bed net use also seems to be equalized. Thus, one key lesson learned from this analysis is that general promotion of net use is not enough. A key message must be that all sleeping spaces must be covered with nets.

Fever prevalence amongst all household members was significantly lower in intervention areas compared to comparison areas, which held true across both Kaoma and Kasama districts. Meanwhile, malaria testing amongst children under 5 years of age with fever was significantly higher in intervention areas compared to comparison areas. Lastly, the tendency to seek care for children with fever appears to be higher in intervention areas—compared to both children in comparison areas and to older household members with fever—even though the difference between intervention and comparison areas was not significantly different.

The results suggest that certain malaria prevention behaviours—particularly bed net use in the general population, bed net use amongst children under 5 years of age, and treatment seeking for children with fever—are higher in areas where the STOP Malaria Champion Communities programme was implemented. This may be due to the specific interventions and goals set by the communities participating in the STOP Malaria Champion Communities programme. Because malaria prevention efforts are widespread throughout the country, however, overall coverage of other malaria prevention and control behaviours may already be high in areas that did not receive the programme. For example, overall care seeking and uptake of ANC were found to be high in both intervention and comparison areas.

4.2 Limitations

Sample Size

Due to the survey's small sample size (500 households), some of the denominators for key indicators of interest (e.g., indicators calculated for pregnant women and some indicators calculated for children

under 5 years of age) ended up being too small to show statistically significant differences, and therefore it was not possible to conclude whether there were any differences in uptake or coverage of these key indicators between the intervention and comparison areas.

Non-Representative Sample

Although the responses detailed in this report are reflective of the members of the 20 communities surveyed, the responses do not necessarily represent the entire programme area. As previously mentioned, the survey included only two of eight programme districts. The communities surveyed may differ from those in other districts. Travel costs and staff availability restricted the number of districts that could feasibly be included in the survey.

Social Desirability Bias and Context

Depending on whether participants truly believed their answers were confidential, participants may have responded with what they believed to be the socially desirable answer, rather than the answer that best reflected their true behaviours.

V. Conclusion

This evaluation found exposure to the STOP Malaria campaign (Champion Communities programme) to be widespread within intervention communities. While the evaluation does not allow for causal relationships to be established, there were some notable results. Bed net ownership and use among all household members and children under the age of five years were all higher in intervention areas than in comparison areas, while fever prevalence was lower in intervention areas than in comparison areas. Further, care seeking for children under the age of five with fever and subsequent malaria testing was more likely to occur in intervention areas than in comparison areas, although the difference was not significant because of the small sample size.

Some of these results were likely influenced by malaria prevention and control messages from the STOP Malaria campaign. However, it is important to note that exposure to malaria prevention and control programmes and messages was also found in the comparison sites. Additionally, care seeking, malaria testing, and antimalarial treatment indicators were high (at least 60 percent) across all groups surveyed (i.e., Kasama and Kaoma districts and intervention and comparison sites) and not just the intervention areas, suggesting that other programs or interventions may be contributing to the increasingly high prevalence of malaria prevention and control behaviours.

Appendices

A. Data Tables

Table A1. Bed net use amongst all household members, children under 5 years of age, and pregnant women, by district and site type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of household (HH) members who slept under a bed net the night prior to the survey	58.7%* (N = 1329)	49.7%* (N = 1283)	52.7%* (N = 664)	37.5%* (N = 666)	64.7% (N = 665)	62.7% (N = 617)
% of children under 5 years of age who slept under a bed net the night prior to the survey	67.5%* (N = 203)	57.4%* (N = 197)	62.3%* (N = 106)	44.6%* (N = 110)	73.2% (N = 97)	73.6% (N = 87)
% of pregnant women who slept under a bed net the night prior to the survey	66.7% (N = 18)	37.5% (N = 24)	44.4% (N = 9)	33.3% (N = 18)	88.9% (N = 9)	50.0% (N = 6)

* Difference is statistically significant ($p \leq 0.05$)

Table A2. Care seeking for fever amongst all household members and children under 5 years of age, by district and site type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of HH members who were sick with fever during the two weeks prior to the survey	11.4%* (N = 1329)	15.0%* (N = 1283)	13.1%* (N = 664)	17.6%* (N = 666)	9.6% (N = 665)	12.3% (N = 617)
% of HH members under 5 years of age who were sick with fever during the two weeks prior to the survey	16.8% (N = 203)	23.4% (N = 197)	29.1% (N = 106)	25.5% (N = 110)	11.3% (N = 97)	16.1% (N = 87)
% of HH members who were sick with fever during the two weeks prior to the survey and sought care	82.1% (N = 151)	83.4% (N = 193)	83.9% (N = 87)	82.9% (N = 117)	79.7% (N = 64)	84.2% (N = 76)
% of children under 5 years of age who were sick with fever during the two weeks prior to the survey for whom care was sought	97.1% (N = 34)	82.6% (N = 46)	95.7% (N = 23)	81.3% (N = 32)	100% (N = 11)	85.7% (N = 14)

Table A3. Malaria testing, by district and site type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of HH members who were sick with fever during the two weeks prior to the survey who were tested for malaria	68.9% (N = 151)	67.9% (N = 193)	67.8% (N = 87)	67.5% (N = 117)	70.3% (N = 64)	68.4% (N = 76)
% of children under 5 years of age who were sick with fever during the two weeks prior to the survey who were tested for malaria	88.2%* (N = 34)	63.0%* (N = 46)	82.6% (N = 23)	62.5% (N = 32)	100%* (N = 11)	64.3%* (N = 14)
% of HH members who were sick with fever and tested for malaria during the two weeks prior to the survey who received the test results	100% (N = 102)[γ]	100% (N = 128)[§]	100% (N = 59)	100% (N = 76)[§]	100% (N = 43)[γ]	100% (N = 52)
% of children under 5 years who were sick with fever and tested for malaria during the two weeks prior to the survey whose caregiver received the test results	100% (N = 30)	100% (N = 29)	100% (N = 19)	100% (N = 20)	100% (N = 11)	100% (N = 9)
% of HH members who were sick with fever and tested for malaria during the two weeks prior to the survey who received the test results	80.4% (N = 102)	78.9% (N = 128)	76.3% (N = 59)	71.5% (N = 76)	86.1% (N = 43)	90.4% (N = 52)
% of children under 5 years who were sick with fever and tested for malaria during the two weeks prior to the survey whose caregiver received the test results	83.3% (N = 30)	89.7% (N = 29)	73.7% (N = 19)	85.0% (N = 20)	100% (N = 11)	100% (N = 9)

[γ] Missing two responses

[§] Missing three responses

Table A4. Fever treatment amongst all household members and children under 5 years of age, by district and site type

Indicator	Overall		Kaoma		Kasama	
	Intervention	Comparison	Intervention	Comparison	Intervention	Comparison
% of HH members who were sick with fever during the two weeks prior to the survey who took a took a drug for the illness	84.8% (N = 151)	86.5% (N = 193)	85.1% (N = 87)	87.2% (N = 117)	84.4% (N = 64)	85.5% (N = 76)
% of HH members under 5 years of age who were sick with fever during the two weeks prior to the survey who took a drug for the illness	94.1% (N = 34)	82.6% (N = 46)	91.3% (N = 23)	81.3% (N = 32)	100% (N = 11)	85.7% (N = 14)
% of HH members who were sick with fever during the two weeks prior to the survey who took an antimalarial	73.5% (N = 151)	77.7% (N = 193)	75.9% (N = 87)	79.5% (N = 117)	70.3% (N = 64)	75.0% (N = 76)
% of HH members under 5 years of age who were sick with fever during the two weeks prior to the survey who took an antimalarial	85.3% (N = 34)	80.4% (N = 46)	82.6% (N = 23)	78.1% (N = 32)	90.9% (N = 11)	85.7% (N = 14)

Table A5. Antenatal care and intermittent preventive treatment against malaria amongst mothers of children 0–6 months of age, by district and site type

	Overall		Kaoma		Kasama	
	Intervention (N = 20)	Comparison (N = 27)	Intervention (N = 13)	Comparison (N = 16)	Intervention (N = 7)	Comparison (N = 11)
% mothers of 0–6 month olds who attended 2+ ANC visits	100%	100%	100%	100%	100%	100%
% mothers of 0–6 month olds who attended 4+ ANC visits	45.0%	48.2%	46.2%	43.8%	42.9%	54.6%
% mothers of 0–6 month olds who received 2+ doses of IPTp	100%	100%	100%	100%	100%	100%

B. Survey Instrument