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Zimbabwe Beneficiary Satisfaction Assessment to Guide Communication and Increase Acceptance of Indoor Residual Spraying

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Background/Introduction

- Indoor Residual Spraying (IRS), one of the four malaria control strategies supported by the President's Malaria Initiative (PMI), is considered effective when 85% of a community is covered. Although, the Government has implemented IRS for decades, PMI AIRS sprayed in Zimbabwe for the first time in the fall of 2014 in four of seven districts in Manicaland Province, covering 90.3% of 163,922 target houses and protecting 334,637 people.
- It is important that beneficiaries are mobilized before and are ready for spraying because spray teams may need to revisit partially-covered villages, which can add significant costs to the program budget. To ensure at least 85% IRS coverage in target villages, PMI AIRS supported, with partners, pre-IRS mobilization and communication efforts. IRS messages included IRS benefits to prevent/reduce malaria infection, the spray schedule, and household prep and post-spray requirements. The project and partners provided IRS messages to community leaders, schools, churches, health clinics, malaria committees, and advocacy and social mobilization groups at ward and district levels. Community mobilizers (warners) visited every eligible house in targeted villages the day before spraying to prepare houses for IRS.
- Staff conducted a **Beneficiary Satisfaction Assessment** from February 20-28, 2015.

Objectives

- Assess beneficiary IRS knowledge, acceptance and satisfaction of the 2014 PMI AIRS-led spray campaign
- Identify locally-preferred methods of IRS messaging to expand beneficiary reach and increase spray coverage in future campaigns. The time lapsed from spraying a house to interviewing a beneficiary post-spray ranged from 9 to 17 weeks.

Methods

- With a conservative design effect of 1.2, we sought to interview one beneficiary from 480 eligible houses. To account for clustering and variations in responses and lack of previous data from these areas, the sample size was established at 400 houses.
- We selected a representative three-stage systematic sample of eligible houses for spray in the four PMI districts and interviewed an adult present.
 - The population (i.e. the number of eligible houses found) was sorted by size and proportionately allocated at each stage (i.e. ward, village, house) for a representative sample.
 - An eligible house is a free-standing building/unit where people sleep/spend the night, and has sprayable surfaces.
 - Persons of 16 years or older were considered adults based on the local and cultural context.
- We trained 13 supervisors and interviewers on a pre-tested cross-sectional questionnaire and the sampling protocol.
- Supervisors verified data and addressed issues on a daily basis before teams left the village. Data clerks performed double-data entry and databases were reconciled. The data were verified and exported into Stata for analysis.

Results

- Approximately 88% of the sampled population reported receiving at least one message from any of the pre-IRS/IEC efforts implemented (Table 1). When prompted with specific questions, 84.4% confirmed clarity of the spray schedule and 86.1% confirmed clarity about household preparation. However, when not prompted, only 4.3% recalled a message about spray schedule [data not included in the poster].

Table 1. IRS Mobilization Coverage Pre- and During 2014 Campaign*, (N=476)

*These responses only included the following IEC activities: Meetings with IRS stakeholders and local leaders; IRS materials distribution; loud hailers (used by warners on bikes).

District	Received IRS Messages		Non-Respondents		Message clear: IRS Schedule		Message clear: IRS Preparation of House	
	(Yes, %)	(#, %)	(#, %)	(Yes, %)	(Yes, %)	(Yes, %)		
Chimanimani	69	86.3	0	0.0	66	82.5	68	85.0
Mutare	125	86.8	0	0.0	117	81.3	120	83.3
Mutasa	109	88.6	1	0.81	105	85.4	104	84.6
Nyanga	116	89.9	0	0.0	113	87.6	118	91.8
Total	419	88.0	1	0.21	401	84.4	410	86.1

- (Table 2) Residents report that nearly all beneficiaries who received IRS message(s) knew to remove their belongings, etc. from their house pre-spray.

Table 2. Knowledge of House Preparation before Spraying (N=419)

*Respondents could select more than one response

Type of IRS Preparation*	(n)	(%/419)
Remove belongings, food, animals...	415	99.0
Spray Operator covers remaining items with plastic	165	39.4
Fetch water for insecticide mixing	36	8.6
Put items unable to be removed in middle of room	29	6.9
Total Responses	645	

- (Table 3) Nearly 96% of beneficiaries who reported receiving a message knew to open house after 2 hours post-IRS and then wait another 30 minutes before entering.

Table 3. Knowledge of Post-IRS Care

*Respondents could select more than one response

Type of Activity*	(n)	(%/419)
Open house after 2 hours for 30 minutes before re-entering	401	95.7
Do not clean/plaster/paint sprayed surfaces	157	37.5
Sweep dead insects/deposits and bury/burn	93	22.2
Wash itchy skin or go to health clinic	52	12.4
Wipe floor and door handles	15	3.6
Other	12	2.9
Total Responses	730	

- The most reported locally-preferred channel of communication among residents (45.8%) was community meetings before the spray campaign begins followed by 24.6% of respondents mentioned the importance of reaching beneficiaries face-to-face by making door-to-door visits with IRS messages prior to the campaign.

Table 4. Locally-Preferred IRS Messaging Channels (N=476)

Suggested Improvement*	(n)	(%/476)	Would like to receive IRS messages by SMS (Yes, %)	
			(n)	(%)
More community meetings	218	45.8	430	90.3
Door-to-door IEC for all target houses	117	24.6		
Flyers, pamphlets, dramas	91	19.1		
Community leader involvement	53	11.1		
Health community worker involvement	51	10.7		
Road shows	47	9.9		
Use loud hailers	25	5.3		
Involve schools	20	4.2		
Radio	8	1.7		

- The two most commonly suggested improvements are 1) preference for a "strong" chemical (19.8%) because the pungent odor implies the insecticide works, it killed more insects and rodents, and resulted in fewer observed mosquitoes, and 2) greater community involvement in preparing for IRS, either via village meetings or publicizing the campaign at schools and health clinics (18.7%).

Table 5. Beneficiary-Suggested Improvements to IRS* (N=332)

*Respondents could provide more than one response to this open-ended question; not all responded

Suggested Improvement	All Districts	
	(n)	(%)
Use same chemical (i.e. OP) or one as strong	64	19.8
Involve village, schools, and health clinics more	62	18.7
Include more health education in IEC efforts	51	15.7
Communicate IRS schedule widely and early	41	12.3
Distribute nets, repellent, and coils during IRS	30	9.0
Conduct door-to-door mobilization, with health staff	24	7.2
Spray two times per year	22	6.6
Spray other structures	15	4.5
Increase adverts (flyers, radio, meetings, flyers)	15	4.5
Sub-total	332	100
Satisfied with IRS program/no changes	31	
Total	363	

Acknowledgments

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Limitations

- This was the first year that AIRS implemented IRS in Zimbabwe and did not have full responsibility of pre-IRS activities; thus, it was difficult to discern the party responsible and obtain an accurate picture of IEC efforts.
- The BSA was delayed due to the end of the year holidays; ideally a BSA should take place shortly after IRS, where as this one took place 9-17 weeks afterwards.
- Some Interviewers, although instructed, did not record non-respondents (e.g. no adult home), which affected the sample weights for our analysis and the results.
- Interviewers were trained to ask questions without prompting the respondent; however, in a few cases, supervisors observed staff volunteering response options, that may have influenced the beneficiary answers.

Key Recommendations to Improve IEC Activities and Spray Coverage

- For all proposed recommendations, **get started early!**
- Have village heads play a lead role and ensure they work closely with AIRS and all IRS stakeholders.
- Expand the reach of messages to residents through more local-level meetings.
- Involve a gender specialist to help tailor messages to women, since nearly 64% of respondents were female and represented the household.
- Conduct targeted pre-IRS meetings in areas with low 2014 spray coverage (<85%).
- Continue to use bike mobilizers carrying loud hailers, and employ comprehensive door-to-door mobilization 1-2 weeks pre-spraying.
- Disseminate more flyers, brochures and adverts to religious groups, schools and health centers.

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