

Uganda Coverage Survey 2017 Recommendations Report



1 Programmatic Recommendations

This report reviews the coverage evaluation survey which was conducted in four districts in Uganda in June 2017 following mass preventive chemotherapy (PC) for schistosomiasis (SCH) from January to March 2017. These districts have received more than 5 rounds of annual PC. The following programmatic recommendations are:

Table 1: Observations and programmatic actions to help improve coverage in Uganda.

Finding or observation	What to look for	Programmatic action
Reported coverage was higher than survey coverage in three districts.	Figures on total population and eligible population (i.e. the denominator) are incorrect or outdated	<p>Vector Control Division, Ministry of Health (VCD-MoH) to investigate, update and correct population data and reported treatment data. Will be important to obtain latest data available at the Uganda Bureau of Statistics. .</p> <p>VCD-MoH, with support from SCI, to review June 2017 Data Quality Assessment (DQA) to diagnose where the data reporting system is breaking down and prepare an action plan for resolving the pain points.</p>
Reported coverage was lower in one district when compared to the survey coverage.	<p>All sub-district reports are not returned on time for inclusion in final national level report.</p> <p>Treatment registers are incomplete and/or aggregated data are incorrect.</p>	<p>VCD-MoH to strengthen registration process in mass treatment campaigns and extended practice on reporting treatment numbers during training. Reiterate the importance of sending reports back to the central level on time.</p> <p>See above re DQA.</p>
In Gomba district, only 16 of the 31 sub-district areas surveyed were treated. The validated coverage, using the entire population as a denominator, is therefore skewed to 41.5%, compared to the reported coverage of 84.6% using the denominator of the target population in areas treated.	Figures on total population and eligible population (i.e. the denominator) are incorrect.	<p>Village selection should only be done in those sub-districts/districts where treatment has been distributed.</p> <p>VCD-MoH to ensure accurate data are used for sample size calculations in future surveys.</p>

Finding or observation	What to look for	Programmatic action
Only Busia and Kalangala district achieved the WHO target of 75% coverage for school-age children (SAC).	Absenteeism was a reported issue.	VCD-MoH to increase sensitisation prior to mass drug administration (MDA) to ensure all target populations have good awareness of upcoming treatment. VCD-MoH to consider additions or alternatives to reaching children not attending school in 2018/19 annual planning.
Absenteeism was reported as a reason for not swallowing the drugs in 27.9% in Kibarole and 21.7% in Kalangala.	Poor communication of MDA in the communities.	VCD-MoH to increase sensitisation prior to MDA to ensure populations have good awareness of upcoming treatment.
Survey coverage in SAC is higher than adult coverage in Kalangala and Kibarole and Gomba.	MDA is conducted during the day when adults are occupied with work or other duties.	VCD-MoH to investigate feasibility of increasing the number of days and time of distribution in the communities. Investigate ways to improve coverage in hard to reach populations.
Fear of side effects was the reason for not swallowing the tablets stated by 31.1% in Kalangala, 25% in Kibarole and 54% in Busia.	Poor education of treatment and side effect in the communities	VCD-MoH to provide re-fresher training of community medicine distributors and their supervisors with a focus on effective communication to community members about MDA, the medicines to be given and the rationale for the mass drug administration.

Finding or observation	What to look for	Programmatic action
Communication channels were under-utilised.	Main method of sensitisation is through teachers, other methods in the workplan e.g. dissemination of health messages, delivery of Information Education Communication (IEC) material, sensitisation of community leaders are under-utilised.	<p>VCD-MoH to reinforce the importance of sensitisation messages during training.</p> <p>Consider conducting a needs assessment of all social mobilisation and evaluation of current tools (radio, posters, town criers, health professionals, etc.) in Uganda</p> <p>Consider reducing number of levels in the cascade training to decrease loss of information</p>
Surveyed coverage rate was similar between male and female for both children and adults in all four districts but only Busia has a surveyed coverage rate above 75%.	Coverage survey indicated equity by gender in all districts, but the low coverage can be due to poor communication	VCD-MoH to sustain a gender equitable approach in treatment interventions for SCH.
Surveyed coverage is much higher among attending school than non-attending school the highest difference can be noted in Kalangala where 0% of the surveyed non-attending children took the PZQ and 100% of the school attending children were treated. The lowest difference can be observed in Busia where attending and non-attending children showed a coverage above 75%	Poor education of treatment and side effect in the communities	<p>VCD-MoH to consider compiling lessons learned from Busia, adapting them to the other districts and implementing them as adequate.</p> <p>VCD-MoH to reinforce the importance of sensitisation messages during training.</p>

2 Methods

All methods described in associated protocol:

https://imperiallondon.sharepoint.com/:w:/r/sites/fom/schisto/mer/2_Country_M%26E/UGA/Coverage/FY_1617/1_Protocol_%26_pre-survey/UGA_Coverage_Survey_Protocol_2017.docx?d=w4f5da811c5a940e898a31e1686a434cd&csf=1&e=cHF62H

2.1 Field methods

- Data were collected on paper forms with team leaders assigned to supervise data entry in the field.
- The data were double entered by two independent data clerks and supervised by the data manager.

2.2 Deviations from protocol

- Villages were replaced by those in near geographical distance. A reserve list was not available as per [WHO Coverage Evaluation Surveys for Preventive Chemotherapy field guide](#).
- The protocol states 12 households should have been visited in each village. However, in four cases in Gomba and two cases in each Kabarole and Kalanagala only 10 or 11 households were surveyed and there was no replacement. In total 6 out of 120 villages were affected, with 10 households fewer than expected.
- The protocol states all eligible individuals should have been interviewed. However, not all the individuals were available at the time of the survey and the data entries for these missing individuals were incomplete and considered as missing.
- Dataset contained 215 pre-SAC case (39 in Gomba, 171 in Kabarole, and 5 in Kalanaga – none in Busia). These cases were not used in the analysis.
- Information on the administrative division of the country to do site selection (list of villages by district, subcounty, parish, and village) was not consistent with reality on the ground, causing confusion for both enumerators and the monitoring team.
- Data entered in the field for categorical variables often reporting values out of range (e.g., code 4 if options are only 1-3) or incorrect (e.g., boys coded as not taking PZQ because of pregnancy).
- Village Bugaba, Bufumira subcounty, Kalangala district has only adults interviewed, no children.

2.3 Ethical approval

Ethical approval was granted by the Uganda National Council of Science and Technology referenced [UGA Ethical Approval UNCST REF 1993 UGA Ethical Approval VCDREC055 Clearance](#). It also has approval from Imperial College Research Committee ICREC_8_2_2).

3 Survey Recommendations

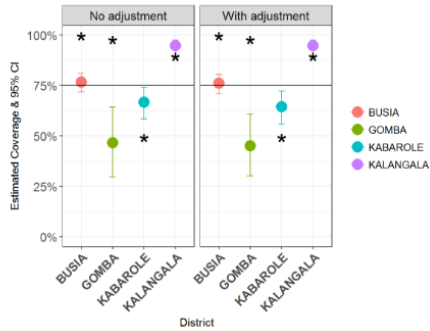
Table 2: Observations and corrective measures for the survey process itself

Finding or observation	What to look for	Corrective action
Survey was conducted by VCD-MoH prior to inputs by SCI.	Multiple issues with the data were identified during cleaning.	Ensure good communication between the VCD-MoH team and SCI to ensure timely delivery of protocol.
Reported coverage information is not clear.	Reported coverage has changed over time in the documentation. Latest data are not broken down by adult / SAC status.	SCI to document compilation of reported coverage over time, accompany and support national MoH team wherever possible.
WHO Coverage Survey Builder used for sample size selection used too large average household size.	Sample size is slightly smaller than expected.	SCI and VCD-MoH to use the lower bound of a CI on the average household size as worst case scenario when using the coverage builder for determining the sample size.
Protocol mentions the MDA target of achieving 75% benzimidazoles coverage for pre-SAC but does not set out to test that coverage in the study objectives.	215 pre-SAC cases responses recorded in the data may be due to unclear targets.	SCI and VCD-MoH to agree in protocol development what programmatic MDA targets are and set these out clearly in the protocol.
Wrong data entered for categorical variables by enumerators.	Values out of range or inconsistent with previous entries.	SCI to pursue introduction of electronic data capture, if not possible, SCI and VCD-MoH to introduce more rigorous supervision of paper-based data entry.

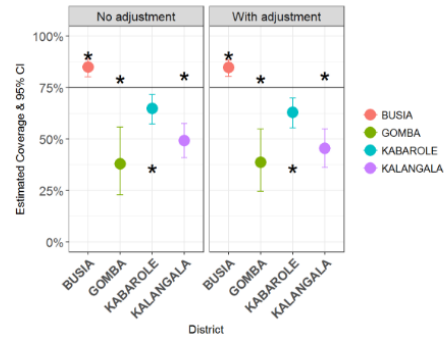
4 Results

4.1 Dashboard

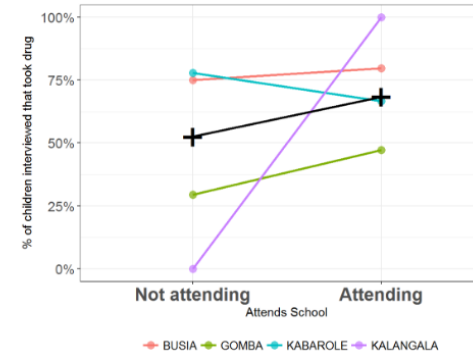
Uganda 2017 PZQ District Coverage & 95% CI for Children
Split by whether adjusted for population size
* reported coverage



Uganda 2017 PZQ District Coverage for Adults & 95% CI
Split by whether adjusted for population size
* reported coverage



PZQ coverage of children in each district split by school attendance
(Overall mean in black)

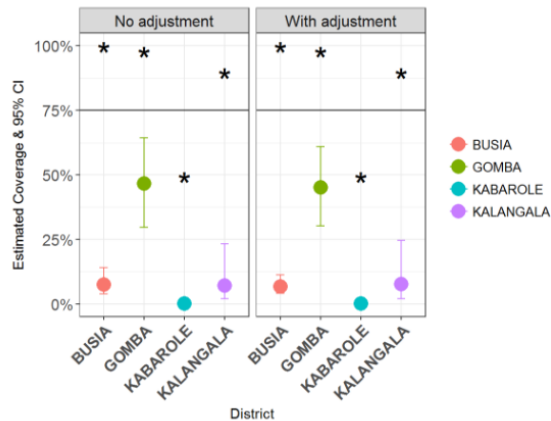


Comments

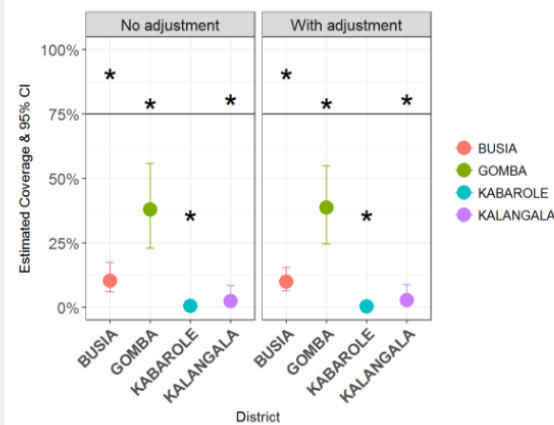
Surveyed coverage in Busia and Gomba is below reported coverage for children. Only Busia and Kalangala are above the WHO's 75% target threshold. For adults, all districts but Kabarole show coverage below the reported ones. In addition, only in Busia were more than 75% of adults covered by PZQ.

Attendance significantly increases the coverage for children, especially in Kalangala, where none of the not attending children received treatment.

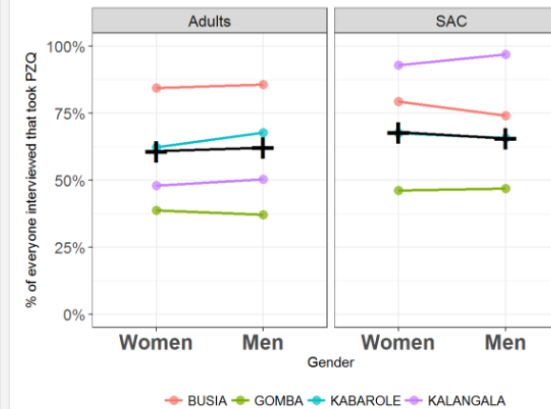
Uganda 2017 ALB District Coverage & 95% CI for Children
Split by whether adjusted for population size
* reported coverage



Uganda 2017 ALB District Coverage for Adults & 95% CI
Split by whether adjusted for population size
* reported coverage



PZQ coverage in each district split by gender (children and adults)
(Overall mean in black)

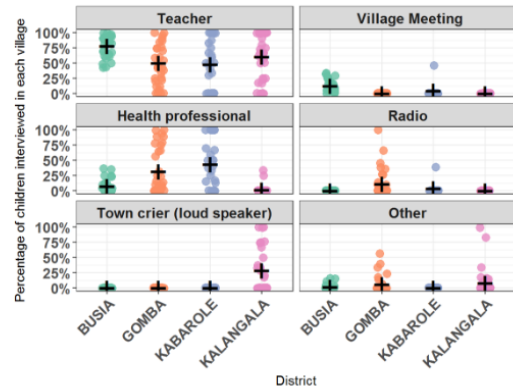


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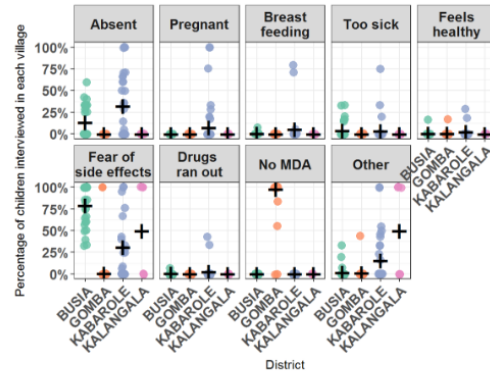
ALB coverage is lower than PZQ coverage in all districts and well below the WHO among both children and adults.

Gender has no impact on ALB coverage for either SAC or adults (only PZQ shown, ALB results available in the Recommendations Report tables).

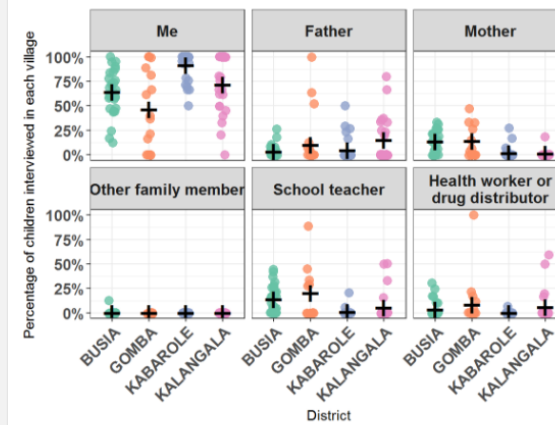
Child sensitization: How did you hear about MDA?
(District mean in black)



Not covered child: Reasons for not swallowing PZQ
(District mean in black)



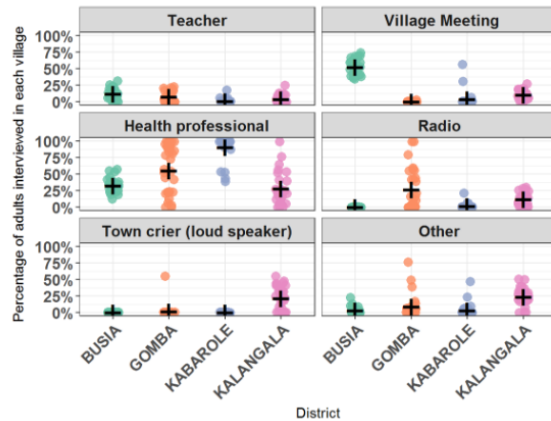
Child decision making: Who decided whether you took the treatment?
(District mean in black)



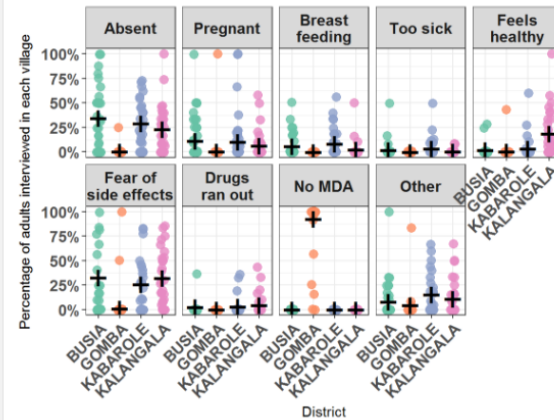
Comments

Children were sensitized mostly by a teacher or a health professional. If they did not take PZQ it was because they were absent or feared the side effects, except in Gomba, where only part of the district was targeted and thus received drugs for treatment. Parents and teachers play a role in deciding whether the children take the medicine but the vast majority claim that they themselves choose whether they take PZQ or not.

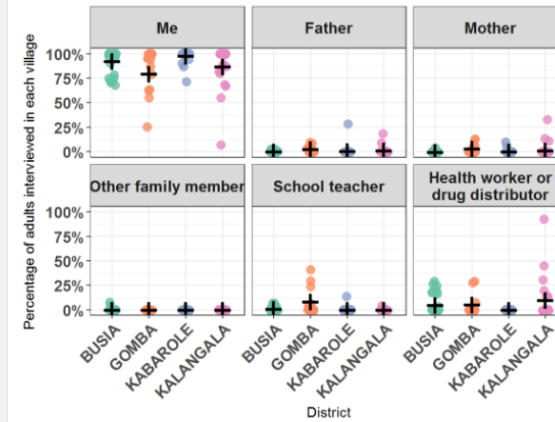
Adult sensitization: How did you hear about MDA?
(District mean in black)



Not covered adult: Reasons for not swallowing PZQ
(District mean in black)



Adult decision making: Who decided whether you took the treatment?
(District mean in black)



Comments

Adults heard about the MDA in most cases from a health professional. In Busia village meetings played an important role while in Gomba information was transmitted through radio more often than in other districts. The reasons for not taking PZQ are more varied than for children. However, being absent and the fear of side effects are still the two largest contributors. Adults decide more often for themselves whether to take the drug or not.

4.2 Results table: children

Table 3. Coverage survey results overall and by district

Indicators	Overall	Busia	Gomba	Kabarole	Kalangala
N villages	119	30	30	30	29
N children interviewed	1995	697	560	584	154
Percentage of children attend school	2.1%	1.8%	3.2%	1.5%	1.4%
PZQ coverage: not adjusted for population size (95% CI)	66.8% (60.5%, 72.5%)	76.8% (71.9%, 81.0%)	46.6% (29.7%, 64.3%)	66.8% (58.5%, 74.2%)	94.8% (88.9%, 97.7%)
PZQ coverage: adjusted for population size (95% CI)	66.3% (59.9%, 72.0%)	76.2% (71.2%, 80.6%)	45.1% (30.2%, 60.9%)	64.4% (55.9%, 72.1%)	94.7% (88.9%, 97.6%)
PZQ coverage in attending SAC	68.3%	79.6%	47.3%	66.6%	100.0%
PZQ coverage in non-attending SAC	52.5%	75.0%	29.4%	77.8%	0.0%
PZQ p-value of difference between attendance	0.20	0.31	0.03	0.18	†
Percentage girls	50.1%	49.4%	49.8%	49.8%	55.8%
PZQ coverage in girls	67.9%	79.4%	46.2%	67.7%	93.0%
PZQ coverage in boys	65.6%	74.2%	47.0%	65.9%	97.1%
PZQ p-value of difference between sexes	0.40	0.34	0.70	0.92	0.82
ALB coverage: not adjusted for population size (95% CI)	16.3% (10.7%, 24.1%)	7.5% (3.8%, 14.1%)	46.6% (29.7%, 64.3%)	0.2% (0.0%, 1.3%)	7.1% (1.9%, 23.2%)
ALB coverage: adjusted for population size (95% CI)	14.8% (9.8%, 21.7%)	6.7% (4.0%, 11.2%)	45.1% (30.2%, 60.9%)	0.1% (0.0%, 1.1%)	7.7% (2.1%, 24.7%)
ALB coverage in attending SAC	16.0%	7.8%	47.3%	0.2%	5.0%
ALB coverage in non-attending SAC	15.0%	8.3%	29.4%	0.0%	0.0%
ALB coverage in girls	15.9%	7.0%	46.2%	0.0%	7.0%
ALB coverage in boys	16.7%	7.9%	47.0%	0.3%	7.4%
ALB p-value of difference between sexes	0.97	0.87	0.71	0.97	0.96

4.3 Results table: adults

Table 3. Coverage survey results overall and by district

Indicators	Overall	Busia	Gomba	Kabarole	Kalangala
N villages	120	30	30	30	30
N adults interviewed	3521	1044	834	968	675
PZQ coverage: not adjusted for population size (95% CI)	61.5% (55.5%, 67.2%)	85.1% (80.4%, 88.8%)	38.0% (22.9%, 55.9%)	64.9% (57.3%, 71.7%)	49.2% (41.0%, 57.4%)
PZQ coverage: adjusted for population size (95% CI)	55.0% (49.4%, 60.6%)	84.9% (80.4%, 88.4%)	38.6% (24.6%, 54.9%)	63.1% (55.5%, 70.0%)	45.4% (36.3%, 54.8%)
Percentage women	51.9%	52.4%	51.9%	53.5%	48.7%
PZQ coverage in women	60.8%	84.5%	38.8%	62.4%	48.0%
PZQ coverage in men	62.2%	85.7%	37.2%	67.8%	50.3%
PZQ p-value of difference between sexes	0.1	0.99	0.82	0.11	0.29
ALB coverage: not adjusted for population size (95% CI)	12.6% (8.5%, 18.4%)	10.3% (5.9%, 17.5%)	38.0% (22.9%, 55.9%)	0.4% (0.1%, 1.7%)	2.4% (0.6%, 8.4%)
ALB coverage: adjusted for population size (95% CI)	10.9% (7.1%, 16.4%)	9.9% (6.3%, 15.4%)	38.6% (24.6%, 54.9%)	0.3% (0.1%, 1.2%)	2.8% (0.8%, 8.7%)
ALB coverage in women	12.7%	9.9%	38.8%	0.4%	2.4%
ALB coverage in men	12.6%	10.9%	37.2%	0.4%	2.3%
ALB p-value of difference between sexes	0.75	0.82	0.82	0.99	0.93

Calculation of 95% confidence intervals of coverage, and p-value of differences between subgroups incorporated clustering at the village and household level. Statistical methodology is available from SCI on request.

4.4 PDF of dashboard



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