Madagascar Coverage Survey 2017 Recommendations Report

1   Programmatic Recommendations

This reports reviews the coverage validation survey which was conducted in 2017 across 4 districts in Madagascar following two rounds of mass preventive chemotherapy (PC) for schistosomiasis (SCH) and soil-transmitted helminths (STH). As discussed with the national programme, the following programmatic recommendations are:

Table 1: Observations and corrective measures to help improve the high coverage in Madagascar. Please note that MBD was only distributed in Analalava district – therefore the results shown below only refer to PZQ coverage.

Finding or observation	What to look for	Corrective action
Reported coverage was lower than surveyed coverage in two districts, with one significantly much lower.	Figures on total population and eligible population (i.e. the denominator) are incorrect or outdated.	Update and correct population data if more accurate population data exists.
	All sub-district reports are not returned on time for inclusion in final report.	Strengthen registration process and extended practice on reporting treatment numbers during training. Reiterate the importance of sending reports back to the central level on time.
	Treatment registers are incomplete and/or aggregated data are incorrect.	A Data Quality Assessment (DQA) will be carried out after the next MDA (February 2018) to diagnose where the data reporting system is breaking down.
Both reported coverage and surveyed coverage were high in two districts.	A good reporting system is in place in these districts.	Sustain programme momentum for the next year to maintain coverage levels.
	Communities and drug distributors are motivated.	Perform a DQA in one of these districts to understand what is working well in the data reporting system and use lessons learned across poorer performing districts.
	All elements of the MDA programme are well in place and functional in these two districts.	

Finding or observation	What to look for	Corrective action
Coverage was substantially higher in children who attend school than children who don't attend school. It is important to note that the percentage of children not attending school ranged between 3.4% and 36.7%. Thus the impact of these children not being treated and on transmission in the community varies in magnitude.	Poor communication of MDA in the communities which ensure non-attending SAC should get treatment. MDA platforms which are inclusive for those attending schools only.	Investigate ways to improve coverage in non-enrolled SAC. Investigate feasibility of increasing the number of days of distribution in the communities.
Communication channels were under-utilised (see dashboard).	Main method of sensitisation is through teachers, other methods are under-utilised.	Reinforce the importance of sensitisation messages during training. A needs assessment of all social mobilisation and evaluation of current tools (radio, posters, town criers, health professionals, etc.) in Madagascar is planned to take place after the next MDA (February 2018). Consider revisiting timing and frequency of broadcasted messages. For the next MDA round, the number of levels in the cascade training will be decreased to reduce loss of information.

Finding or observation	What to look for	Corrective action
Refusal to take medications was low except for one district.	Highest reasons given for refusal were around not wanting to take the drugs for *'no reason'*, followed by *'distribution not taking place due to absence of PZQ'* and individuals thinking they were *'not eligible to receive treatment'*.	Reiterate the importance of sensitisation messages during training and increase the number of days of social mobilisation. Reinforce drug dispatchment plan and ensuring that the information is coming from the district level. Conduct refresher training prior to distribution. As part of the needs assessement (mentioned above), focus group discussions will be carried out to identify why distributions didn't occur in certain villages. Information from these discussions will be used to determine the appropriate course of action.
Not all tablets were taken together across all districts	This may be due to multiple tablets of PZQ not being taken at once	Investigate reasons why tablets weren't taken together and directly observed by the drug distributor Conduct refresher training prior to drug distribution.
Coverage rate was similar in both boys and girls indicating equity by gender	Maintain good coverage rates	Sustain programme momentum for the next year to maintain coverage levels.
68% of treatments were directly observed by the distributor	Drug distributors are implementing the training received	Maintain good practice for all future treatment rounds Conduct refresher training prior to drug distribution

2   Methods

All methods described in associated protocol:Associated protocol (English):
https://share.imperial.ac.uk/fom/IDE/SCI/The%20Hub/MDG_Coverage_Survey_Protocol_2017_EN.docx

Associated protocol (French): https://share.imperial.ac.uk/fom/IDE/SCI/The%20Hub/MDG_Coverage_Survey_Protocol_2017_FR.docx

Associated dashboard:
https://imperiallondon.sharepoint.com/sites/fom/SCI/The%20Hub/Forms/AllItems.aspx?viewpath=%2Fsites%2Ffom%2FSCI%2FThe%20Hub%2FForms%2FAllItems%2Easpx&id=%2Fsites%2Ffom%2FSCI%2FThe%20Hub%2FGLO%2DMDG%5FCoverageSurvey2017%5FEN%5Fdashboard%5Ffinal%2Epdf&parent=%2Fsites%2Ffom%2FSCI%2FThe%20Hub

2.1   Field methods
- Due to late arrival of funds, supervision from SCI PM was done remotely. Daily checks of the uploaded forms (onto cloud-based server) were carried out by SCI PM with follow-up phone calls to each team leader. Daily logs were held by team leaders in the field and shared with SCI at the end of the survey.
- Both methods (village list and modified random walk procedure) for household selection were used in the different districts.

2.2   Deviations from protocol
All but two villages had a response rate of more than 86%, including two-thirds of selected villages which had sampled 30 households as per protocol. The district with the lowest number of HH sampled per village was Ampanihy with 20 HH in Basasavy village, followed by 21 HH in Ovaribe Ovarikely village in Analalava district. This does not affect the expected precision of the estimated coverage.

Seven additional sites had to be selected in the districts of Mahabo due to insecurity issues in the district and formally being told by the Head of the District that teams could not go to these villages. A new list of villages to be surveyed was drafted by SCI MER Team and 7 villages were selected from that list.

2.3   Ethical approval
Ethical approval was granted by the National ethics board of Madagascar (located here: https://share.imperial.ac.uk/fom/IDE/SCI/The%20Hub/MDG-coverageSurvey_%20ethical%20approval_May_2017-FR.jpg) as well as by 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
In some districts, less than 30 households were interviewed per village.	Protocol being followed in the field.	Provide refresher training to all survey interviewers prior to the next survey.

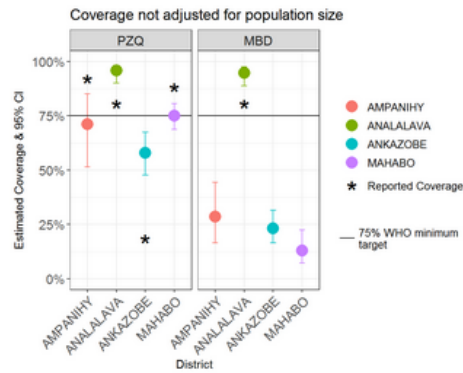| Finding or observation	What to look for	Corrective action
Unequal number of children interviewed across attending and non-attending groups, which can skew the interpretation of the results.	This may be due to high school attendance rates.	Provide refresher training to all survey interviewers prior to the next survey.
In some districts, some selected villages could not be visited due to security issues.	Reselection of villages at time of survey.	District information should be known prior to the selection of sites, as this could bias the results.
In some villages in the Ankazobe district the coverage survey team was met with distrust or aggression.	Find out if a a pre-survey sensitisation meeting was carried out.	Discuss with incountry team. Inform villages to be surveyed beforehand about the visit and discuss visit with village head.

4   Results

4.1   Dashboard

4.2   Results table: children

Table 3. Coverage survey results overall and by district

| Indicators	Overall	Ampanihy	Analalava	Ankazobe	Mahabo
N villages	56	14	14	14	14
N children interviewed	2966	762	735	741	728
PZQ coverage: not adjusted for population size (95% CI)		71.1 (51.4 , 85.1)	95.8 (90.1 , 98.3)	57.9 (47.7 , 67.5)	75.1 (68.8 , 80.6)
MBD coverage: not adjusted for population size (95% CI)		28.5 (16.6 , 44.5)	94.7 (88.9 , 97.5)	23.2 (16.5 , 31.6)	13.1 (7.2 , 22.5)

Indicators	Overall	Ampanihy	Analalava	Ankazobe	Mahabo
PZQ coverage: adjusted for population size (95% CI)		80.3 (64.3 , 90.2)	92.6 (80.5 , 97.4)	59.3 (47 , 70.6)	73.7 (65.7 , 80.4)
MBD coverage: adjusted for population size (95% CI)		36.5 (16.1 , 63.2)	91 (80.1 , 96.2)	18.5 (13.4 , 25.1)	16.6 (8.8 , 28.9)
Percentage of children attend school	81.7%	63.3%	96.5%	91.4%	76.2%
PZQ coverage in attending SAC	80.8%	81.3%	97.3%	61.9%	82.2%
PZQ coverage in non-attending SAC	48.6%	53.4%	52.0%	15.6%	52.6%
PZQ p-value of difference between attendance		0.001	0.001	0.001	0.001
MBD coverage in attending SAC	45.4%	34.9%	96.2%	24.1%	15.7%
MBD coverage in non-attending SAC	14.6%	17.6%	52.0%	14.1%	4.6%
Percentage girls	50.3%	49.1%	48.6%	52.2%	51.2%
PZQ coverage in girls	74.9%	71.7%	95.5%	58.7%	75.3%
PZQ coverage in boys	74.8%	70.4%	95.8%	57.1%	74.9%
PZQ p-value of difference between sexes		0.2944	0.2276	0.9052	0.5848
MBD coverage in girls	40.4%	28.1%	94.4%	26.9%	15.0%
MBD coverage in boys	39.2%	28.9%	95.0%	19.2%	11.0%

4.3 Pdf of dashboard

Madagascar Coverage Survey 2017 — Page 1: Coverage | Page 2 : Additional info

The treatment target was met in Analalava for PZQ and MBD and in Mahabo for PZQ only.

Coverage not adjusted for population size

If adjusted to population size also Ampanihy reached the treatment target for PZQ while Mahabo dropped to 73.7%.

Coverage adjusted for population size
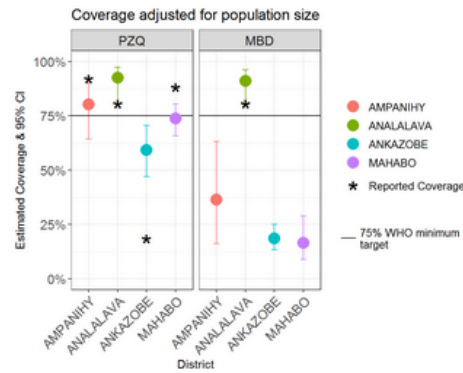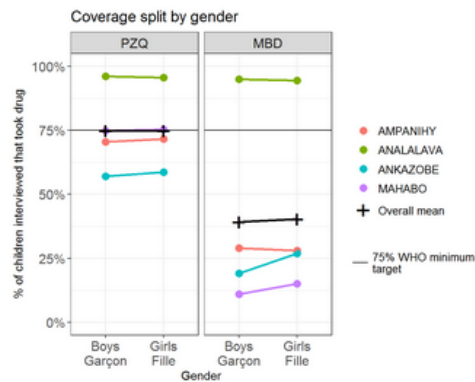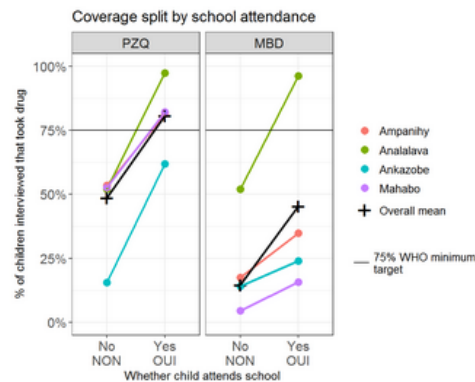
Commentary

There was no MBD treatment in Ampanihy, Ankazobe, and Mahabo, therefore no reported coverage is available for these districts.

- Ampanihy: Raw coverage estimates indicated that the 75% target may not have been met. However, adjusted estimates indicated that the 75% target may have been exceeded slightly. In the village Ankilitelo all children reported not having received PZQ.
- Mahabo: The raw coverage estimate was at 75.1% but dropped to 73.7% when the estimate was adjusted to population size.

Coverage was similar in boys and girls

Coverage split by gender

Coverage was generally lower in non-attending school children

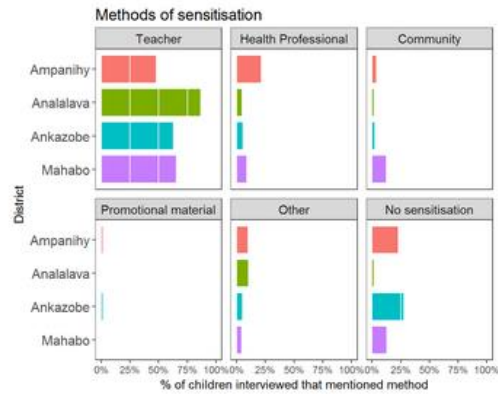Coverage split by school attendance

Commentary on school attendance and gender

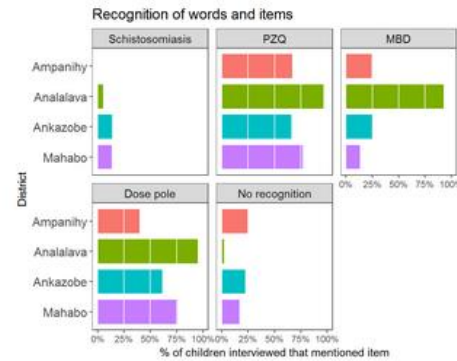Coverage was very similar in both genders in all districts.

The percentage of children not attending school was:

- Ampanihy 36.7%
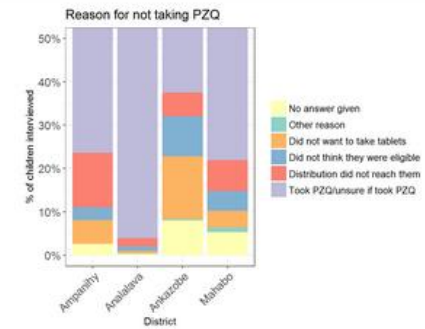- Analalava 3.4%
- Ankazobe 8.6%
- Mahabo 23.8%

The majority of children heard about treatment through teachers.

At least 66% of children in all districts recognised the the PZQ tablet. In Analalava 92.9% of the children recognised the MBD tablet.


The main reasons for not taking PZQ were due to the distribution of PZQ not reaching them, not wanting to take them, or not thinking they were eligible.

In Ampanihy and Analalava the majority of children took all the tablets together, this was not the case Ankazobe and Mahabo.
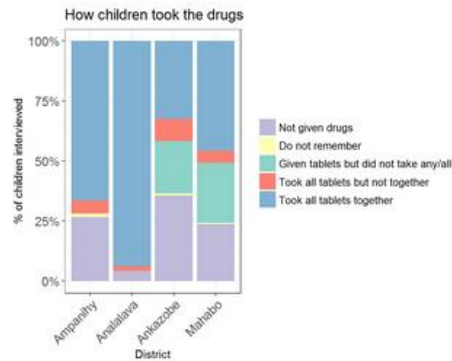
For the majority of those taking the drugs they were directly observed doing so by the distributor.
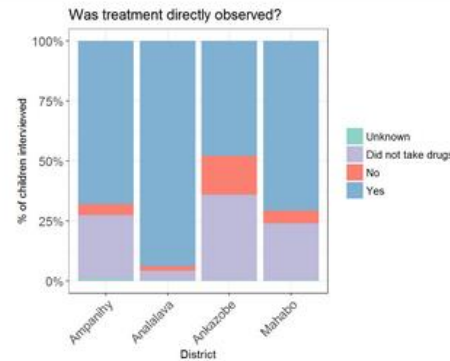
Commentary on additional information

Very few children reported seeing promotional material.

The evidence shows that in several districts there were both supply and demand issues affecting treatment coverage. For the former, not being offered drugs was between 1.9% and 12.5%. Demand issues were evidenced by non-compliance i.e. receiving, but not taking the tablets; not taking the sufficient dose; and not being directly observed when swallowing the tablets. The percentage of children who said they took all tablets together was:

- Ampanihy 67.8%
- Analalava 93.6%
- Ankazobe 47.8%
- Mahabo 70.5%