Cote d'Ivoire Coverage Survey 2018
Recommendations Report

Schistosomiasis Control Initiative
Imperial College London

1 Programmatic Recommendations

This report reviews the coverage evaluation survey which was conducted in 4 districts (Issia, Prikro, Tiebissou and Zouan Hounien), Cote d'Ivoire, in January 2018 following 3 rounds of mass preventive chemotherapy (PC) for schistosomiasis (SCH). The last round of MDA took place in November 2017. The following programmatic recommendations are:

Table 1: Observations and programmatic actions to help maintain the high coverage in Cote d'Ivoire

Finding or observation	What to look for	Programmatic action
Both reported coverage and surveyed coverage were high in four districts. All districts exceeded the WHO target of 75% coverage of PZQ. When adjusted for population size, one village in the district of Issia didn't reach the WHO target.	A good reporting system is in place. Communities and drug distributors are motivated. All elements of the MDA programme are well in place and functional.	MoH to investigate the reasons why some villages in Issia didn't reach the target. Reinforce the training of the distributors in the district before the next round of PCT scheduled in April/May 2019. MoH to sustain programme momentum for the next year to maintain coverage levels.
Prikro district has reported a coverage rate higher than 100%.	Census and denominators used by authorities might not be accurate in this district.	MoH to update and correct population data if more accurate population data exists before April/May 2018.
All districts' reported coverage figures were within the confidence interval of validated coverage, except for Prikro.	A good reporting system is in place.	MoH to sustain programme momentum for the next year to maintain coverage levels.
Coverage was substantially higher in children who attend school than children who don't attend school. Although, Prikro and Tiebissou managed to exceed the WHO target coverage for both attending and non-attending children.	Poor communication of MDA in the communities.	Organize knowledge exchange between the districts that reached the WHO target coverage and the ones that didn't before April/May 2019. Staff from Prikro and Tiebissou could lead the exchanges with the districts scheduled to be treated. Reinforce during training of distributors that all children and not just those that attend school are eligible for treatment before next round of PCT scheduled in April/May 2019.

Finding or observation	What to look for	Programmatic action
Communication channels were under-utilised.	Main method of sensitisation is through teachers, other methods are under-utilised	MoH to reinforce the importance of sensitisation messages during training of distributors, trainers and supervisors at all levels of distribution before next round of PCT in April/May 2019. Consider conducting a needs assessment of all social mobilisation and evaluation of current tools (radio, posters, town criers, health professionals, etc.) in Cote d'Ivoire prior to April/May 2019.
Refusal to take medications was low	Most cited reasons given for refusal were around not-attending or absence from school.	MoH to reiterate the importance of sensitisation messages during training of distributors, trainers and supervisors and increase the number of days of social mobilisation to ensure pupils are present in schools before April/May 2019.
Coverage was similar in both boys and girls indicating equitable reach of the program to boys and girls.	Maintain coverage good coverage rates	Sustain programme momentum for the next year to maintain coverage levels.

2 Methods

All methods described in associated protocol:

In English : https://imperiallondon.sharepoint.com/:w:/r/sites/fom/schisto/mer/2_Country_M%26E/CIV/Coverage/FY_1718/1_Protocol_%26_pre-survey/CIV-Coverage_Survey_Protocol_2018_EN.docx?d=w4f31d17e8d9e489db543c56b0b1df432&csf=1&e=jgEIEZ

In French : https://imperiallondon.sharepoint.com/:w:/r/sites/fom/schisto/mer/2_Country_M%26E/CIV/Coverage/FY_1718/1_Protocol_%26_pre-survey/CIV-Coverage_Survey_Protocol_2018_FR.docx?d=we62149a0b7d24b9f945ea2d8ab2019be&csf=1&e=HjHPzA

2.1 Field methods

- The selection of households was performed by the random walk method.

- Data quality checks were performed daily by an SCI biostatistician and issues were communicated directly to the field supervisor, Dr Colombe.

2.2 Deviations from protocol

- Some villages in Zouan Hounien district were not safe for the enumerators. It was decided to reorganize the schedule and increase the number of enumerators in those villages to reduce the time spent and avoid security issues. The team was able to survey the full number of households required in the protocol (15).
- In the district of Issia, two villages' forms were recorded for Kore-Zuzua, the one with the population of 980 represented the village of Saioua-balam-magoudiboua.
- In Zouan Hounien district, the village of Kariako didn't allow the random walk method. Consequently, a modified random walk was performed as described in protocol.
- In Kouassi Ekrarkro village, Prikro district, only 5 households were interviewed. This was because the village only contained 20 households. The survey team decided to compensate by including 5 extra households in Prikro village. The small number of households sampled in Kouassi Ekrarkro is allowable, as proportion of houses sampled is taken into account in the analysis. The proportion of households sampled here (25%) is within the survey range of households sampled, 0.2% (for the largest villages in the survey) to 60%. The additional households sampled in Prikro village are likewise considered when calculating the household level finite population correction value.

2.3 Ethical approval

No ethical approval by the country was required to carry out this survey but an approval letter from the MoH was obtained: https://imperiallondon.sharepoint.com/:u:/r/sites/fom/schisto/mer/2_Country_M%26E/CIV/Coverage/FY_1718/1_Protocol_%26_pre-survey/CIV-CS%20May%202016%20Local%20ethical%20approval-FR-Final-08.04.2016.msg?csf=1&e=Wj5lCD

Ethical approval under the Imperial College Research Ethics Committee: ICREC_8_2_2 is given for the coverage survey.

3 Survey Recommendations

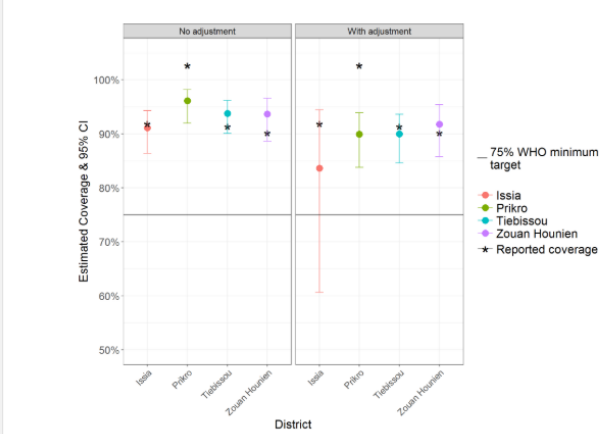
Table 2: Observations and corrective measures for the survey process itself

Finding or observation	What to look for	Corrective action
Data collection and accuracy improved compared to previous coverage surveys led in Cote d'Ivoire due to improved training and use of smartphones for data collection.	Protocol being followed in the field.	Maintain the data collection using mobile phones to ensure regular monitoring.
Due to an error in the survey forms, villages in Zouan Hounien were unavailable for selection.	The survey team selected Aman-Salekro village (Tiebissou district) in the survey forms and used the 'Notes' field to record village and health zone.	Checklist and review process have been instigated for survey form creation to avoid similar issues in the future.
Five extra households were selected in Prikro village as the survey team wanted to compensate for a small village (Kouassi Ekrarkro) where only 5 households were available for selection.	Protocol being followed in the field.	This did not have any negative impacts for the survey however in the future, during training it should be emphasised that the team communicates any uncertainty about how to proceed with supervisors (in country and at SCI) before making similar decisions.
Household numbers being used multiple times during the survey.	Households within a village were not numbered uniquely, 1 to 15, often each enumerator would use, for example, 1 to 5.	Pre-allocate household numbers for each team member to use during training. Add a background field to the survey form that automatically generates a unique number, e.g. Enumerator name + household number to allow easy identification of unique households during analysis.

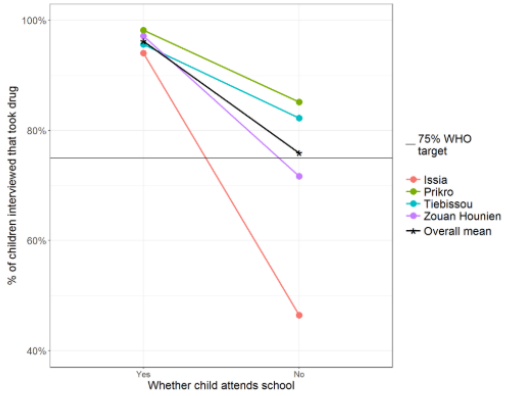
4 Results

4.1 Dashboard

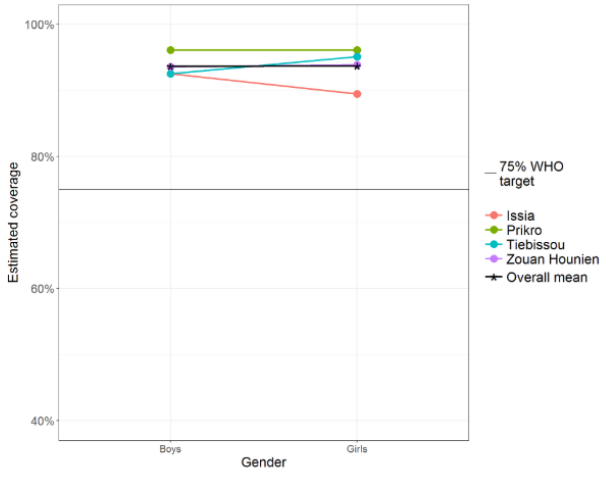
Validated coverage by district, with and without adjustment for population size



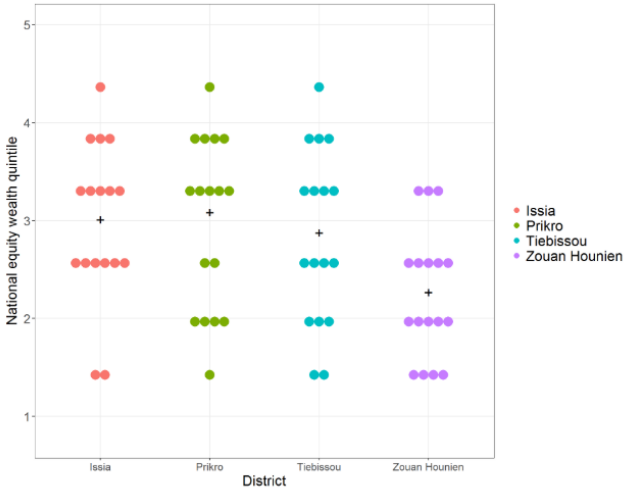
Coverage split by school attendance (overall mean in black)



Coverage split by gender (overall mean in black)



Average national wealth quintile of households interviewed by village (district mean in black)



Comments

Coverage

District	Reported Coverage	Survey Coverage (adjusted for population)
Issia	92%	84%
Prikro	103%	90%
Tiebissou	91%	90%
Zouan Hounien	90%	92%

Percentage of non-attending school-age children and girls surveyed

District	Non-attendance	Girls surveyed
Issia	6%	47%
Prikro	16%	50%
Tiebissou	14%	50%
Zouan Hounien	14%	48%

During the mass drug administration (MDA) all of the districts in this survey exceeded the WHO target of 75% coverage of praziquantel (PZQ). At the village level, all villages also exceeded this target except for one village in Issia district. This is the cause of the larger 95% confidence interval for the Issia coverage adjusted for population size.

Issia achieved an overall coverage for PZQ of 83.7%. Issia showed the largest difference in coverage between boys and girls, 92.5% vs 89.5%. Issia also had the largest difference in coverage between children who attend school and those that do not, 94.1% vs 46.4%.

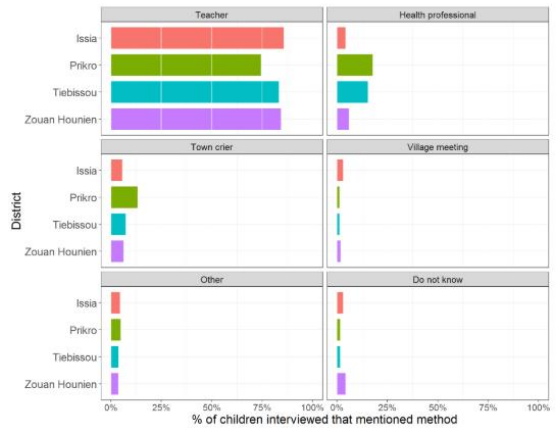
Prikro achieved an overall coverage for PZQ of 89.9%. The coverage for boys and girls was almost identical (difference of 0.02%). The coverage for children who attend school was higher than for those who do not attend however both values exceeded the WHO target coverage, 98.2% vs 85.1%.

Tiebissou achieved an overall coverage for PZQ of 90.0%. Coverage for boys was slightly less than for girls, 92.5% vs 95.1%. The coverage for children who attend school versus children who do not attend school was 95.6% vs 82.3%.

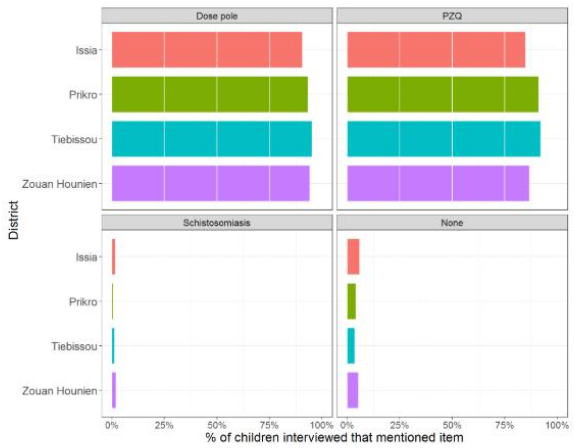
Zouan Hounien achieved an overall coverage for PZQ of 91.8%. There was very little difference in coverage between boys and girls, 93.6% and 93.8% respectively. The difference in coverage between children who attend school and those that do not was the second largest in this survey, 97.1% vs 71.7%.

For all districts surveyed the differences in coverage between boys and girls were not statistically significant. The differences in coverage between children who reported attending school and those who do not was statisically significant for all districts, however two of the districts, Prikro and Tiebissou managed to exceed the WHO target coverage of 75% for attending and non-attending SAC.

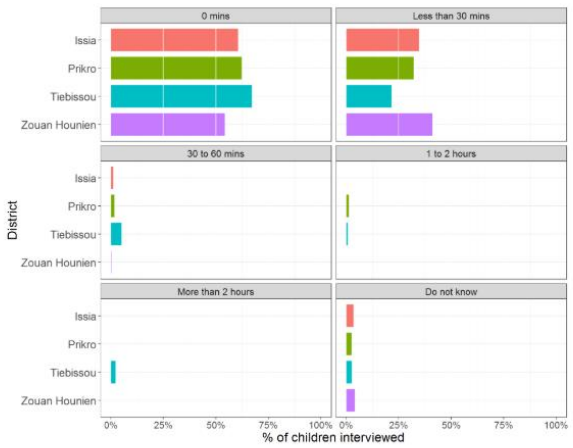
Methods of sensitization



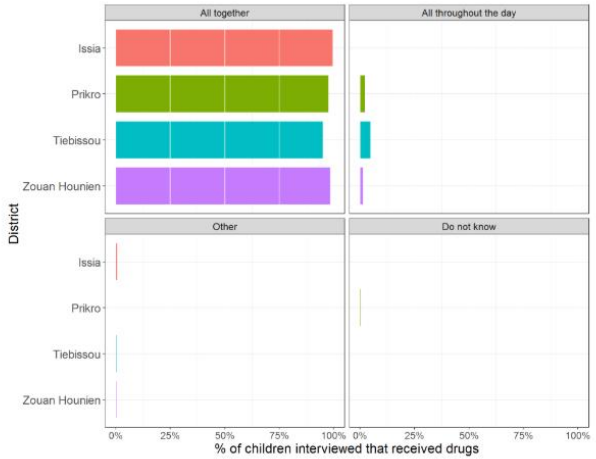
Recognition of words and items



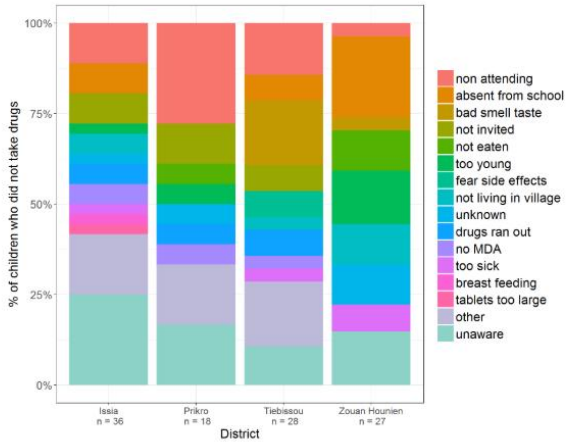
Distance from distribution point



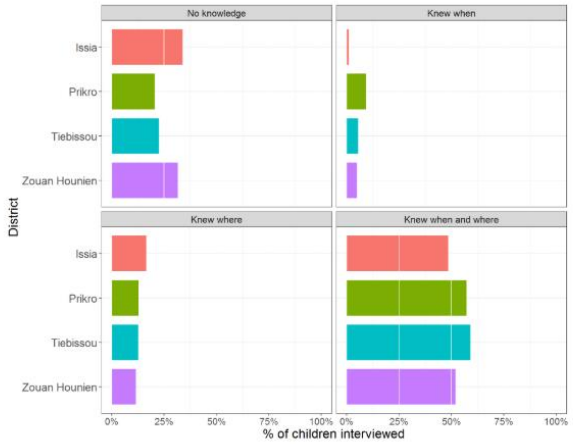
How children took the drugs



Reasons for not taking drugs



Prior knowledge of MDA details



4.2 Results table: children

Table 3. Coverage survey results overall and by district

Indicators	Overall	Issia	Prikro	Tiebissou	Zouan Hounien
N villages	68	17	17	17	17
N children interviewed	1806	449	461	452	444
PZQ coverage: not adjusted for population size (95% CI)		91.1 (86.4,94.3)	96.1 (92,98.2)	93.8 (90.1,96.2)	93.7 (88.7,96.6)
PZQ coverage: adjusted for population size (95% CI)		83.7 (60.6,94.4)	89.9 (83.8,93.9)	90 (84.6,93.6)	91.8 (85.8,95.4)
Percentage of children attend school	87.5	93.8	83.9	86.1	86.5
PZQ coverage in attending SAC	96.2	94.1	98.2	95.6	97.1
PZQ coverage in non-attending SAC	75.9	46.4	85.1	82.3	71.7
PZQ p-value of difference between attendance		3.53E-09	3.85E-05	1.15E-04	4.91E-09
Percentage girls	48.4	46.5	49.9	49.6	47.5
PZQ coverage in girls	93.7	89.5	96.1	95.1	93.8
PZQ coverage in boys	93.6	92.5	96.1	92.1	93.6
PZQ p-value of difference between sexes		0.21	0.92	0.29	0.85

4.3 Pdf of dashboard

CIV_CS2017_Dashboard_2018-07-02.pd