

# Zanzibar Coverage Survey 2018 Recommendations Report

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## 1 Programmatic Recommendations

This report reviews the coverage evaluation survey which was conducted on both Unguja and Pemba islands, Zanzibar (ZNZ), in July 2018 following the national mass preventive chemotherapy (PC) for schistosomiasis (SCH) and soil-transmitted helminths (STH). The PC campaign took place in March 2018, including school age children (SAC) and adults. The following programmatic recommendations are:

**Table 1:** Observations and programmatic actions to help maintain and improve treatment coverage in ZNZ.

Finding or observation	What to look for	Programmatic action
Reported and survey coverage for praziquantel (PZQ) and albendazole (ALB) were >75% on both islands for SAC and adults.	<p>Although coverage for PZQ in Unguja (79.1%) was below the national target of 80%, it is above the WHO target of 75%.</p> <p>Treatment coverage with ALB (&gt;80%) on both islands and PZQ (&gt;90%) on Pemba was close to the national target threshold.</p> <p>Results suggest that overall elements of the SCH and STH programme are well in place and functional.</p>	Ministry of Health (MoH) to continue the same treatment strategy and the same methods of drug distribution.
<p>Survey coverage for PZQ and ALB on Unguja was significantly lower than the reported coverage.</p> <p>Reported coverage for ALB on Pemba was significantly lower than survey coverage.</p>	Discrepancies between reported and survey coverage are indicative that treatment registers may be incomplete, population denominator and/or aggregated data are incorrect.	MoH to consider conducting Data Quality Assessment (DQA), with the support of SCI, in the next financial year.
On both islands, children who do not attend school are significantly less likely to receive treatment ( $p < 0.0021$ ) than school attending children.	<p>Possible poor communication of MDA in the communities. Possible too short a time-frame for community distribution (two days).</p> <p>Despite attendance at school being very high on both islands (94%), individuals not attending schools may be at a higher-risk of infection than those attending and thus contributing to transmission.</p>	<p>MoH to consider ways to improve coverage in non-attending SAC by understanding what the supply and demand issues are i.e. by conducting focus group discussions.</p> <p>MoH to investigate the financial feasibility of increasing the number of days of distribution in the communities.</p>

Finding or observation	What to look for	Programmatic action
<p>On Pemba and Unguja, respectively:</p> <ul style="list-style-type: none"> <li>70.3% and 55.9% of SAC recognised PZQ</li> <li>51.5% and 61.9% of SAC reported that they have no prior knowledge of the MDA.</li> <li>50% and 41.1% of adults reported they did not know when and where MDA would take place.</li> </ul>	<p>Although education surrounding the treatment of schistosomiasis has demonstrated to be effective, sensitisation about the MDA itself was poor.</p>	<p>MoH to reinforce the importance of sensitisation messages during training of drug distributors.</p> <p>MoH, with support from SCI, to review sensitisation material (i.e. posters, radio announcements) and ensure they include time and location of MDA in all areas as well as ensuring it is standardised.</p>
<p>Survey coverage of PZQ for women who were pregnant or breastfeeding during the MDA was significantly lower than women who were not pregnant or breastfeeding on both islands (<math>p &lt; 0.001</math>).</p>	<p>It is national policy in ZNZ that women who are pregnant or breastfeeding should not be treated with PZQ, despite WHO guidance stating it is safe to treat in this cohort.</p>	<p>MoH and SCI to discuss the implications of these observations and make a case for inclusion of this population for PZQ treatment (i.e. by not treating there is possibility of creating a reservoir of infection in communities through this cohort).</p>
<p>Less than 40% of adults and SAC reported that the drug distributor was present when they ingested the medications.</p>	<p>There is a vastly increasing population in ZNZ, but the number of community drug distributors (CCDs) remaining the same. Due to the increase in workload, but no change in workforce, it may not be possible for CDDs to remain to observe treatment.</p>	<p>SCI and MoH to discuss budgeting for future MDA, specifically increasing the number of days of treatment due to increasing target population.</p> <p>SCI and MoH to discuss number of attendees for MDA training.</p>
<p>Survey coverage of PZQ was slightly higher for girls than boys, but this was not a significant difference.</p>	<p>Minimal disparity in treatment between girls and boys.</p>	<p>Ministry of Health (MoH) to continue the same treatment strategy and the same methods of drug distribution among SAC.</p>
<p>On Pemba island, men were more likely to receive treatment than women (<math>p = 0.002</math>).</p>	<p>Unclear why there is a disparity between male and females on one island only.</p>	<p>MoH to consider focus group discussions on Pemba island to investigate why there is a significant disparity in coverage between genders.</p>
<p>For SAC, the main method of sensitisation is through teachers. For adults it was the town crier, village meetings and radio. Healthcare professionals were poorly utilised in both groups.</p>	<p>Sensitisation training for individuals from various professions seems to be standardised, apart from healthcare professionals.</p>	<p>SCI and MoH to investigate how to engage healthcare professionals in the sensitisation process. This could be through focused group discussions with these professionals.</p>

## 2 Methods

All methods described in associated protocol:

[https://imperiallondon.sharepoint.com/:w:/r/sites/fom/schisto/ layouts/15/Doc.aspx?sourcedoc=%7B3AB315EA-ECF1-4314-8785-832BF7476778%7D&file=ZNZ\\_SCI\\_Coverage\\_Survey\\_Protocol.docx&action=default&mobileredirect=true](https://imperiallondon.sharepoint.com/:w:/r/sites/fom/schisto/ layouts/15/Doc.aspx?sourcedoc=%7B3AB315EA-ECF1-4314-8785-832BF7476778%7D&file=ZNZ_SCI_Coverage_Survey_Protocol.docx&action=default&mobileredirect=true)

### 2.1 Field methods

Data collection took place between the 29<sup>th</sup> June to 8<sup>th</sup> July 2019.

- Selection of households was by the modified random walk procedure
- Training was carried out by a member of the monitoring, evaluation and research (MER) team
- Supervision was carried out by a member of the MER team for the first four days of the survey. As enumerators were doing electronic data entry, data monitoring was carried out by the MER team to check for complete forms and any inconsistencies.

### 2.2 Deviations from protocol

There were no issues with visiting selected sites or reaching the number of houses in each village

- During the analysis it was noted that there was a smaller number of children interviewed in the survey than adults
- On Pemba and Unguja islands more women were surveyed than men, 62.2% and 67.1% respectively

### 2.3 Ethical approval

Ethical approval was [granted by the Zanzibar Medical Research and Ethics Committee](#) 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
Significantly higher number of children were recorded as absent on individual surveys compared to adults.	As children would not immediately come back from school and usually return after dark, it would not be possible to interview them.	SCI to include in training sessions ways to ensure that children are not missed in during the survey (i.e. driving to the school, asking the parents to call the enumerator when children have returned from school)

# 4 Results

## 4.1 Dashboard

Zanzibar - Coverage validation survey 2018
Page 1: SAC - Coverage
Page 2: SAC - Additional Information
Page 3: Adults - Coverage
Page 4: Adults - Additional Information

pdf

Survey coverage for SAC by island, with and without adjustment for population size

Coverage for SAC split by gender (overall mean in black)

Coverage for SAC split by attendance (overall mean in black)

Reasons for not swallowing PZQ

Comments

Coverage in school age children

Island	Reported Coverage	Survey PZQ Coverage (adjusted for population)	Survey ALB Coverage (adjusted for population)
Pemba	88.9%	90.3%	95.6%
Unguja	99.9%	79.1%	91.3%

Percentage of non-attending school age children and girls surveyed

Island	Non-attendance	PZQ cov: non-attendance	Girls surveyed
Pemba	6.3%	76%	52.9%
Unguja	6.4%	38%	48.3%

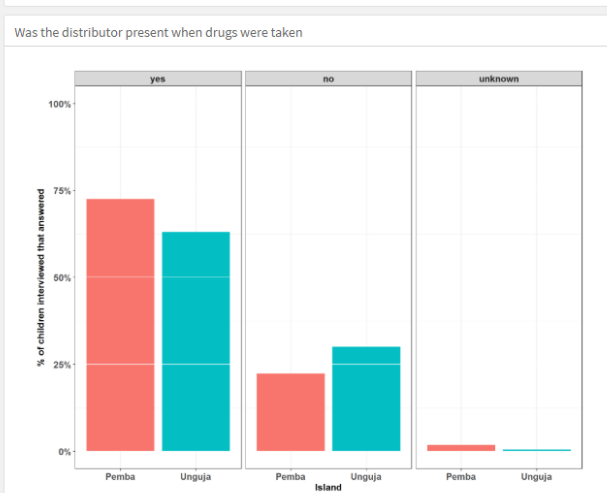
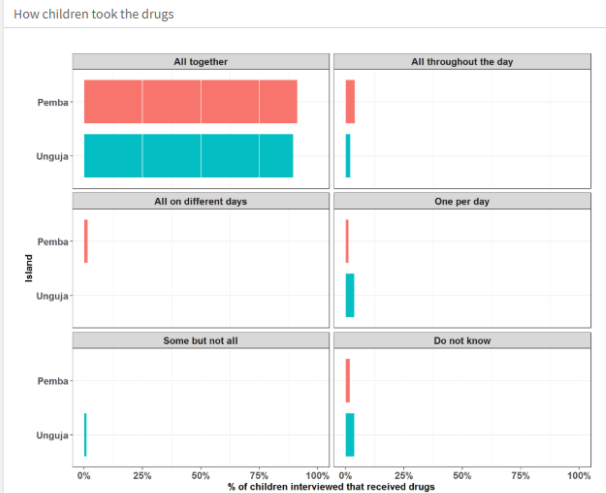
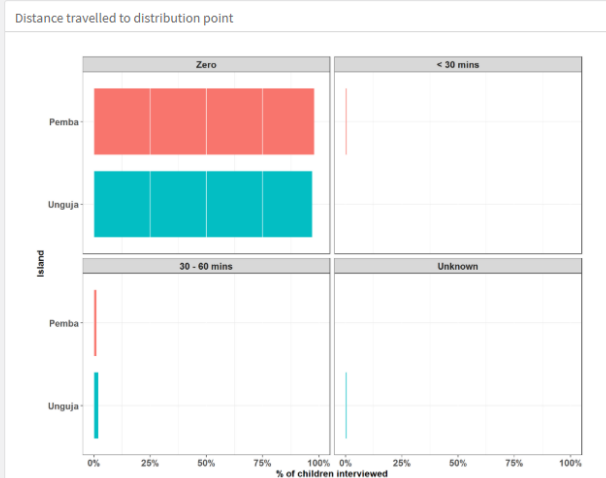
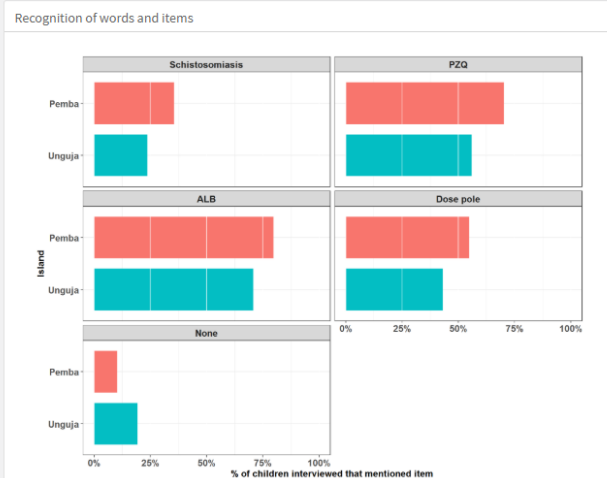
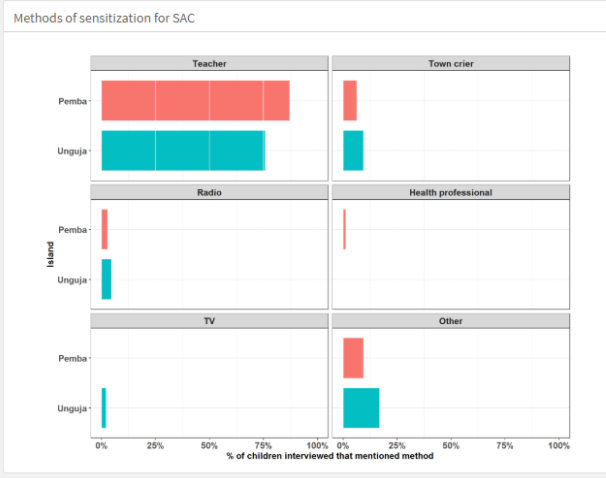
During the 12th MDA on Zanzibar in the first half of 2018 both islands achieved WHO treatment targets for praziquantel (PZQ), reaching over 75% of school aged children (SAC). Survey coverage for PZQ on Pemba was 90.3% and on Unguja was 79.1%. For albendazole (ALB) survey coverage for SAC on Pemba was 95.6% and on Unguja was 91.3%.

On both islands, survey coverage for girls was slightly higher than for boys, 93.7% vs 93.0% on Pemba and 82.7% vs 74% on Unguja. The difference was not statistically significant on either island ( $p > 0.6$ ).

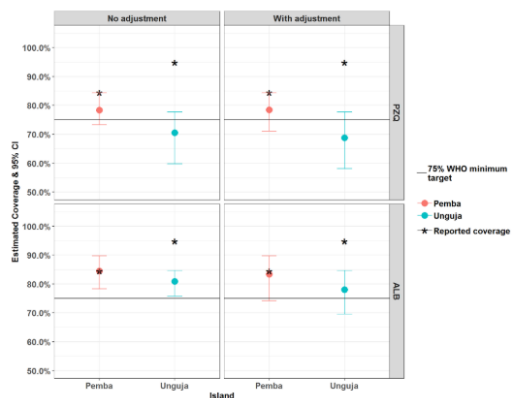
School attendance rates on both islands are very high, 93.7% on Pemba and 93.6% on Unguja. On both islands, children who do not attend school are still less likely to receive treatment ( $p = 0.002$  on Pemba and  $p < 0.001$  on Unguja). Despite this coverage for non-attending SAC on Pemba exceeded the WHO target with 77.2% on non-attending SAC reporting that they swallowed PZQ. On Unguja only 42.9% of non-attending SAC reported receiving treatment.

Despite the high survey coverage rates only 70.3% of SAC on Pemba and 55.9% of SAC on Unguja recognized PZQ which is surprising given the size and unpleasant smell and taste of the tablets. Additionally only 54.8% of surveyed SAC on Pemba and 43.1% of surveyed SAC on Unguja recognized the dose pole. This could be evidence of improper dose determination during MDA.

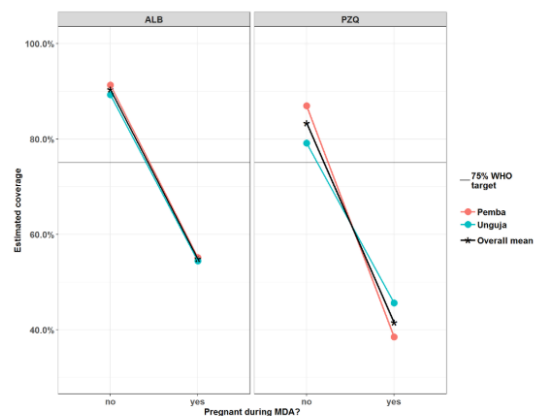
Regarding knowledge of the time and place of the MDA a majority of SAC on both islands (51.5% on Pemba and 61.9% on Unguja) reported that they had no prior knowledge of the MDA (i.e. did not know when or where it was taking place). This could indicate that sensitization methods are not achieving their goals.



Survey coverage for Adults by island, with and without adjustment for population size



Coverage in adult women split by if they were pregnant during MDA (overall mean in black)



Comments

Coverage in adults

Island	Reported Coverage	Survey PZQ Coverage (adjusted for population)	Survey ALB Coverage (adjusted for population)
Pemba	84.4%	84.4%	89.8%
Unguja	94.8%	77.7%	84.7%

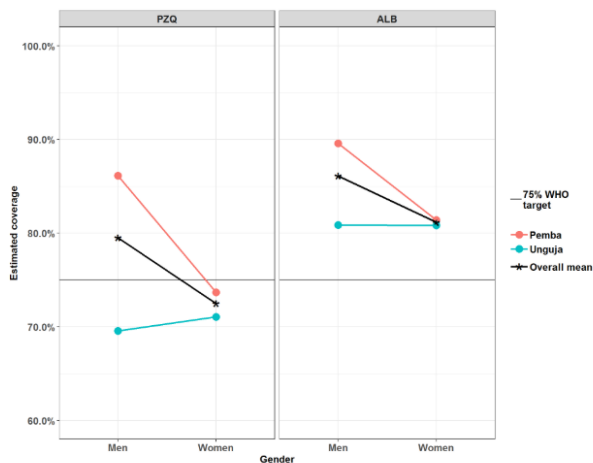
Proportion of women surveyed and impact of pregnancy on coverage

Island	% women in survey	% women surveyed pregnant during MDA	PZQ Cov - Pregnant	PZQ Cov - Not pregnant	PZQ Cov - women overall
Pemba	62.2%	27.4%	38.5%	87.0%	73.7%
Unguja	67.1%	24.3%	45.6%	79.1%	71.1%

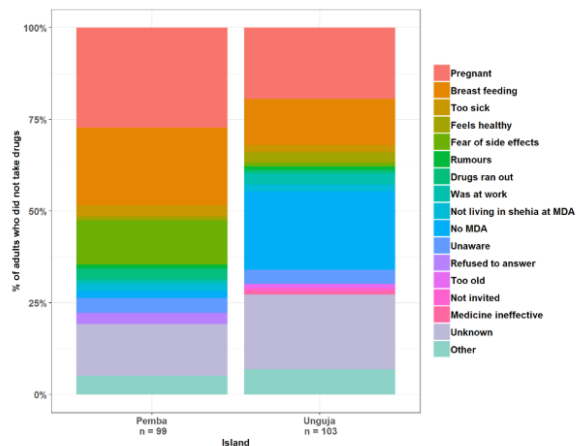
Overall both islands exceeded WHO treatment targets for adults with 84.4% of adults surveyed on Pemba and 77.7% of adults surveyed on Unguja receiving PZQ. For ALB the survey coverage was slightly higher, 89.8% for adults on Pemba and 84.7% for adults on Unguja.

On both islands, more women were surveyed than men, 62.2% of respondents were female on Pemba and 67.1% on Unguja. On Pemba men were more likely to receive treatment than women, 86.1% vs 73.7% (p = 0.002). On Unguja women were slightly more likely than men to receive treatment, 71.0% vs 69.6%, however this difference was not significant (p = 0.934).

Coverage for adults split by gender (overall mean in black)



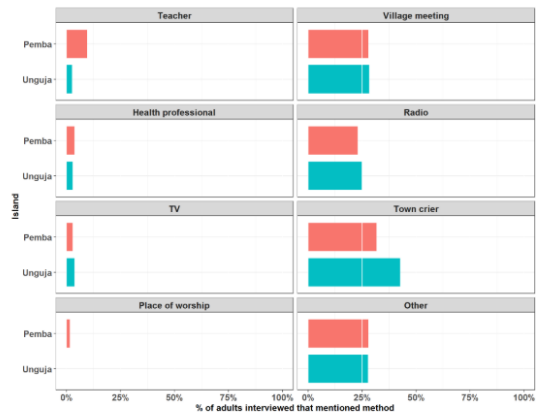
Reasons for not swallowing PZQ



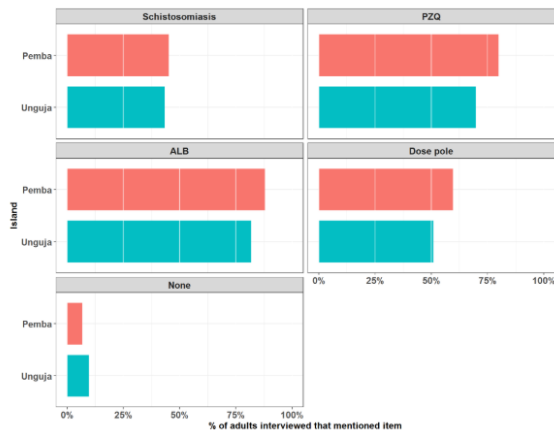
Approximately a quarter of adult women surveyed reported that they were pregnant or breastfeeding during the MDA (27.4% on Pemba and 24.3% on Unguja). The survey coverage for women who were pregnant or breastfeeding during the MDA was significantly lower than women who were not pregnant or breastfeeding on both islands. 38.5% vs 87.0% on Pemba and 45.6% vs 79.1% on Unguja (p < 0.001). This could indicate that greater effort needs to be made in familiarising the MDA teams about the WHO's guidance on treatment for pregnant and breastfeeding women. This systematically undertreated demographic could provide a reservoir for continued transmission of schistosomiasis.

More adults than children were aware of when and where the MDA would be taking place, 28.4% on Pemba and 30.0% on Unguja however, 50.0% of adults on Pemba and 41.1% of adults on Unguja reported that they did not know when or where the MDA would take place.

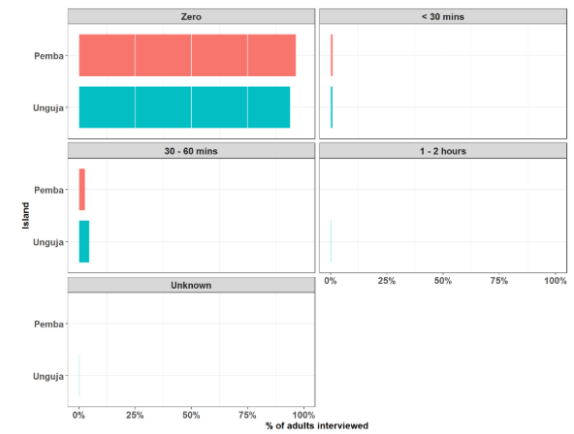
Methods of sensitization for Adults



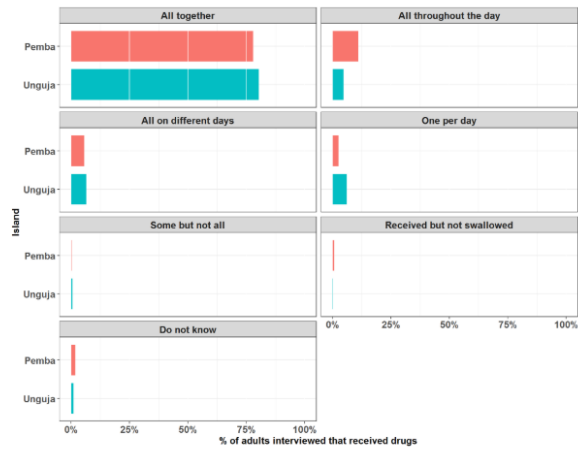
Recognition of words and items



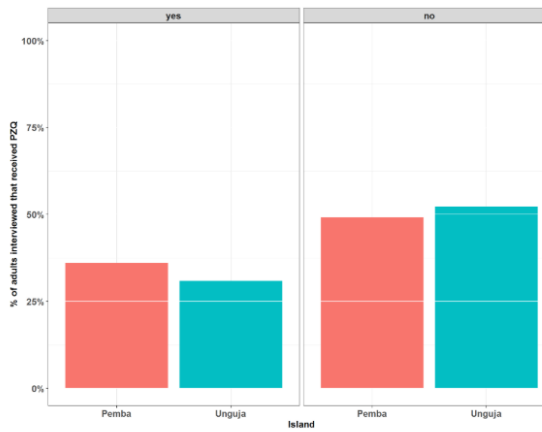
Distance travelled to distribution point



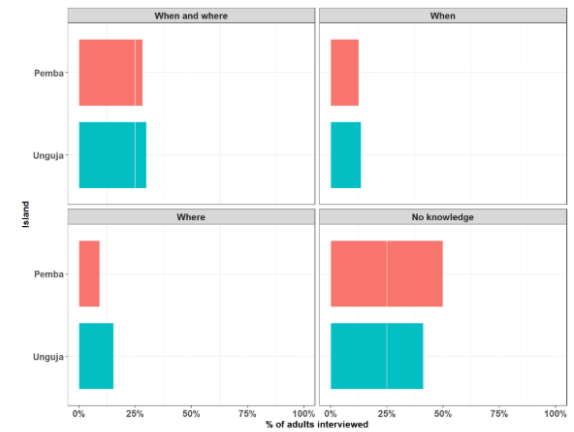
How children took the drugs



Was the distributor present when drugs were taken



Prior knowledge of MDA





## 4.2 Results table: children

**Table 3.** Coverage survey results overall and by island

Indicators	Overall	Pemba	Unguja
N shehias	34	17	17
N children interviewed	534	331	203
PZQ coverage: not adjusted for population size (95% CI)	0.873	93.3% (87.9%, 95.9%)	78.2% (62%, 89.3%)
ALB coverage: not adjusted for population size (95% CI)	0.949	97.0% (93.6%, 98.2%)	92.6% (85%, 96.4%)
PZQ coverage: adjusted for population size (95% CI)		90.3% (78.7%, 95.9%)	79.1% (63.1%, 89.3%)
ALB coverage: adjusted for population size (95% CI)		95.6% (89.6%, 98.2%)	91.3% (80.7%, 96.4%)
Percentage of children attend school	88.0%	87.9%	88.2%
PZQ coverage in attending SAC	90.0%	95.2%	81.6%
PZQ coverage in non-attending SAC	61.8%	76.2%	38.5%
PZQ p-value of difference between attendance		0.002	< 0.001
ALB coverage in attending SAC	97.0%	97.9%	95.5%
ALB coverage in non-attending SAC	76.5%	90.5%	53.8%
ALB p-value of difference between attendance		0.057	< 0.001
Percentage girls	51.1%	52.9%	48.3%
PZQ coverage in girls	89.7%	93.7%	82.7%
PZQ coverage in boys	84.7%	92.3%	73.3%
PZQ p-value of difference between sexes		0.622	0.936
ALB coverage in girls	95.2%	96.0%	93.9%
ALB coverage in boys	94.6%	97.4%	90.5%
ALB p-value of difference between sexes		0.315	0.21

### 4.3 Results table: adults

**Table 4.** Coverage survey results overall and by island

Indicators	Overall	Pemba	Unguja
N shehias	34	17	17
N adults interviewed	808	458	350
PZQ coverage: not adjusted for population size (95% CI)	75.0%	78.4% (73.3%, 84.4%)	70.6% (59.8%, 77.7%)
ALB coverage: not adjusted for population size (95% CI)	82.9%	84.5% (78.4%, 89.8%)	80.9% (75.7%, 84.7%)
PZQ coverage: adjusted for population size (95% CI)		78.5% (71.1%, 84.4%)	68.8% (58.1%, 77.7%)
ALB coverage: adjusted for population size (95% CI)		83.4% (74.2%, 89.8%)	78.1% (69.6%, 84.7%)
Percentage women	64.4%	62.2%	67.1%
PZQ coverage in women	72.5%	73.7%	71.1%
PZQ coverage in men	79.5%	86.1%	69.6%
PZQ p-value of difference between sexes		0.002	0.934
ALB coverage in women	81.2%	81.4%	80.9%
ALB coverage in men	86.1%	89.6%	80.9%
ALB p-value of difference between sexes		0.022	0.998

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

### 4.4 Pdf of dashboard



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