
Introduction

International Trachoma Initiative (ITI) in 2014 approved one round of MDA for 8 districts in Malawi who had a Trachoma TF prevalence of between 5.0 & 9.9%; and lessons from this approach will be useful for decision making for other countries which have districts that fall in this category. The MDA took place between October and November 2015 in all the districts.

Blantyre Institute for Community Ophthalmology (BICO) conducted coverage surveys in these 8 districts from 10th November to 18th December 2015, done at least two weeks after MOH declared the 2015 MDA exercise over and reported its coverages. The surveys took place in Zomba, Machinga, Mwanza, Neno, Ntcheu, Lilongwe East, Dowa and Ntchisi) that implemented MDA in 2015. Surveys were not conducted in Kasungu, Nkhotakota, Salima and Lilongwe West.

Objectives of the Coverage Survey

The main objective of the survey to determine the drug coverage in all the districts that were covered and compare this with the Ministry of Health (MOH) official figures. Specifically the survey was conducted to:

1. To establish the geographical coverage during the MDA
2. To establish the therapeutic MDA coverage
3. To determine reasons for the achieved coverage.

In terms of procedure the survey was meant to:

- Find out if individuals really took the drugs
- Find out the reasons why others did not take the drugs
- Document the side effects that some had after taking the drug
Methodology

The individual activities involved in the methodology were as follows:

- Generate a list of all villages (clusters) within a district
- Randomly select 30 clusters (villages) per districts
- Send a team with questionnaires to intervene households (HH)
- Team selects 7-10 households per village and interview everyone in the HH
- Team uses Mhealth (android smartphone) to send data to a server
- Data analyses
- Reporting

Sampling

The survey that was conducted using the standard 30 by 7 methodology for coverage surveys, and the compact segment sampling. 30 clusters (villages) were sampled randomly in each of the 8 districts. The clusters were then segmented depending on the number of households in a cluster. The segments were made in such a way that there were at least 50 households in each segment which would allow at least 7 households being surveyed in a segment. In each cluster a single segment was surveyed with a house ratio of 1:7 [3].

Data Collection

Data was collected using android phones with an android application called links. An electronic questionnaire was downloaded on to the phones from the links server and that questionnaire was used for data collection by the recorders in the field. Data was uploaded on to the server on daily basis as soon as the recorders are back from field [4].

Training and Field Work

The survey started with training of the recorders which took place on 21st -24th November, 2015 in Blantyre at the conference room and in Mwanza for field practice. Trainers were Dr Khumbo Kalua, Director BICO, assisted by Alvin Chisambi and Salomie Balakasi (BICO ICT trainers). There were seven enumerators and two supervisors (see attached list) throughout the survey period. Classroom training took one whole day and this was followed up field work practice in one district (Mwanza) the next day. After successful field work, actual data took place between 24th November to 18th December 2015. The basic information contained in the electronic questionnaire had the following information.

- Did you know about the MDA exercise?
- Did you take the drug?
- Which drug? How much?
- Were they any side effects?
- If not, Why did you not take the drug

District coverage was calculated as total number of those who took the drugs from the 30 clusters divided by the total number interviewed. The randomness of selection of clusters gave the confidence to generalise results to the entire district [3].

Clusters and Cluster IDS

There were 30 clusters in each of the 8 districts. That made a total of 240 clusters and therefore the cluster IDS were numbered for first one as 102, 102 etc.

Results

The names of the trainers, supervisors and recorders who took part in the COVERAGE survey are shown in Table 1. An MOH representative and a Sightsavers representative was available as supervisors throughout the survey period.

The detailed list of all the selected clusters per district and the participants that were interviewed per each clusters are shown in the csv file (attached separately).

The number of residents interviewed per district and the drug coverage is shown in Table 2.

As can be seen from (Table 2), 6 out of the 9 districts (with Nsanje added) reached a coverage survey of 80%, indicating that MDA was adequately done in those districts [3]. Only Machinga, Dowa and Ntchisi did not achieve this. Machinga had the lowest coverage of 69.5% and this was attributed to drug shortage within the district. The main reason why people did not take the

<table>
<thead>
<tr>
<th>District</th>
<th>Interviewed</th>
<th>Took drugs</th>
<th>Drug coverage(Therapeutic)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nsanje</td>
<td>1114</td>
<td>889</td>
<td>79.8%* (rounded to 80%)</td>
</tr>
<tr>
<td>Machinga</td>
<td>1180</td>
<td>820</td>
<td>72.1%</td>
</tr>
<tr>
<td>Dowa</td>
<td>1129</td>
<td>814</td>
<td>81.5%</td>
</tr>
<tr>
<td>Ntchisi</td>
<td>1024</td>
<td>856</td>
<td>69.5%</td>
</tr>
<tr>
<td>Zomba</td>
<td>1024</td>
<td>835</td>
<td>83.6%</td>
</tr>
<tr>
<td>Mwanza</td>
<td>1087</td>
<td>904</td>
<td>83.2%</td>
</tr>
<tr>
<td>Neno</td>
<td>1134</td>
<td>928</td>
<td>81.8%</td>
</tr>
<tr>
<td>Ntchisi</td>
<td>1100</td>
<td>820</td>
<td>74.5%</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>1103</td>
<td>925</td>
<td>83.9%</td>
</tr>
</tbody>
</table>

Table 1: Coverage survey teams

<table>
<thead>
<tr>
<th>No.Interviewed</th>
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<th>Drug coverage(Therapeutic)%</th>
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<tr>
<td>Nsanje</td>
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<td>925</td>
</tr>
</tbody>
</table>

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Table 2: Drug coverage
In the case of Machinga (which has the lowest coverage), after the coverage survey, left over drugs were mobilised from all over the country and sent back to Machinga for redistribution.

Interesting Observations

The issue of drug shortage, compounded by maldistribution, affected the drug coverage in some of the villages. The district pharmacists received some medicines at the district hospitals, and only distributed a few to the health centres. They informed health centre staff that if they ran out of medicines they should order more. Priority was only given to areas which were farthest from the districts as these got more medicines than needed. There was panic that not enough drug was sent, and this created a false high demand which resulted in very long queues during the first day. The drugs given to health workers ran out within the first two days and this left some villages completely with not even a single person receiving the drug.

We established that in Machinga, Zomba, Dowa, Ntchisi, and Mwanza districts some selected villages did not receive any medicines for distribution. We also established that in all districts, a proportion of villages received only half of what was required in the first instance, and then later received the remaining drugs during the mop up period. MDA exercise took longer than the prescribe one-week period to finish in some villages, as drugs had to be sourced from elsewhere after the mop up. In some circumstances the period extended to more than one month. After the coverage surveys, all surrounding areas that reported having a low coverage were investigated, and if the drug was available this was redistributed.

We established that by the end of the coverage survey, there was very little in-country left overs of MDA drugs.

Conclusion

The coverage survey showed that Malawi did not achieve a minimum of 80% coverage in 3 districts, and resulted in further mop up activities in two of these (Dowa and Machinga) to achieve this. However, this was not completely possible due to shortage of the drugs, which completely run out.

Coverage survey was useful in highlighting 2015 MDA challenges in Malawi, and in explaining differences in coverages reported by MOH. The main reason why the country had a challenge was as a result of receiving only 95% of the approved drug, based on NSO figures, yet the actual head count was higher than NSO projected figures.
Receipt of less than expected drug and the delay in receiving the drugs caused in-country panic leading to wrong maldistribution of drugs. Despite this confusion, overall no district achieved less than 80% according to NSO figures, and Malawi need to be recommended for this.

The fact that head count was higher than NSO raises questions as to how accurate it is to order drugs based on NSO and not based on the actual count.

**Recommendations**

Malawi needs to receive 100% of the approved drug to avoid in-country confusion about how the drug should be distributed.

**Impact surveys** should be conducted as soon as possible to establish if districts may need another round of MDA in 2016.

**References**


