The ADAPT Methodology:

How to Learn from Neglected Tropical Disease Survey Failures

CONTEXT

To eliminate lymphatic filariasis (LF), trachoma, or onchocerciasis, the World Health Organization (WHO) recommends conducting multiple rounds of mass drug administration (MDA), followed by disease-specific surveys. If a national program fails to meet the criteria for stopping MDA, WHO recommends investigating why the prevalence remains above the elimination threshold and devising strategies to improve subsequent round(s) of MDA.

After analyzing data from several countries where surveys failed to meet elimination thresholds, the World Health Organization (WHO) and its partners developed tools to help national NTD programs address these survey failures. USAID's Act to End Neglected Tropical Diseases | East (Act | East) program drew on its experience supporting 13 countries to create the ADAPT methodology. ADAPT uses WHO and other tools to help programs investigate the reasons behind survey failure and develop effective responses:

- **A** **Analyze survey and MDA data**
- **D** **Determine possible reasons for failure**
- **A** **Add and triangulate new, often qualitative, information**
- **P** **Prioritize and plan implementation adjustments**
- **T** **Take stock of what did and did not work**

Focus NTDs for this brief:

Lymphatic Filariasis

Trachoma

Onchocerciasis

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CHALLENGE

Disease-specific prevalence surveys fail to reach the target for stopping MDA for many reasons, including environmental, epidemiologic, and social variables. Some common issues involve:

Quality of survey implementation:

- Evaluation unit did not meet eligibility criteria
- Protocol was not adhered to and/or sample size was not met
- Diagnostic tests were not implemented correctly

Epidemiologic characteristics that could influence disease transmission:

- High baseline prevalence
- Limited access to water or sanitation facilities for hygiene and/or sanitation purposes
- Vector characteristics (e.g., species, density)

Quality of MDA implementation despite effective reported coverage:

- Insufficient MDA coverage in certain subdistricts
- People who were never treated in any MDA rounds due to access issues such as migration, remoteness, or insecurity
- Low acceptance of MDA due to social norms, perceived side effects, or distrust
- Inaccuracies of routinely reported treatment data or of population estimates

When a survey fails, health ministries usually have less than six months to determine why and strengthen MDA before the next round of drug distribution. This means a quick and effective response is essential.

A nurse distributes LF medication to community health workers at a health facility in Kilwa District, Tanzania. Photo Credit: RTI International/Roshni Lodhia

ADAPT APPROACH

The ADAPT methodology illustrates Act l East's process for countries to determine appropriate actions after disease-specific prevalence surveys fail. This brief and related tools can be accessed via the NTD Toolbox (ntdtoolbox.org).

A: ANALYZE SURVEY AND MDA DATA

- Assess survey implementation to ensure the sampling was appropriate, confirm the correct diagnostic tests were used appropriately, and review evaluation unit design. In addition, review survey results and maps to evaluate clustering of positive results.
- Use existing data to assess epidemiologic characteristics that influence disease transmission. Data sources could include baseline mapping surveys; vector data; water, sanitation, and hygiene indicators. Other data from prior surveys should also be compiled and reviewed.
- Use existing data to assess the effectiveness of MDA. Data sources could include quantitative information on historical district and subdistrict MDA coverage, coverage evaluation surveys, and supervision reports.

D: DETERMINE POSSIBLE REASONS FOR FAILURE

Brainstorm with stakeholders the possible reasons for survey failure. Stakeholders should be locally identified, but could include ministry of health staff at various levels, community drug distributors (CDDs), community leaders, and people who have never been treated in MDA. Discussions should outline the suspected reasons for ongoing transmission, note which data support these hypotheses, and identify where there are gaps in data and evidence. Pause and Reflect methods (see resources below) can be a good way to facilitate a discussion to triangulate several data points or varying points of view.

Resources:

- *LF Investigating EMS Results Above Threshold Checklist*
- *LF Investigating TAS/IIS Results Above Threshold Checklist*
- *Trachoma DSA Checklist Job Aid*
- *Trachoma DSA & MDA Desk Review Tool*
- *Facilitating Pause and Reflect*
- *Designing and Facilitating Learning-focused Meetings*

A: ADD AND TRIANGULATE NEW, OFTEN QUALITATIVE, INFORMATION

Collect new data to fill the gaps noted in earlier step "D" and determine how to improve the effectiveness of the next MDA. Qualitative data collection, such as focus group discussions (FGDs) and key informant interviews (KIIs), is often needed to evaluate the knowledge, attitudes, and practices of communities, drug distributors, and supervisors, as well as to assess the feasibility and accessibility of possible MDA adaptations.

Other approaches such as transect walks, ripple effects mapping, or stakeholder mapping can be used to better understand local norms, recognize patterns, and identify valued partners. These participatory data collection methods allow for community-led identification of barriers to effective MDA and contextually appropriate MDA adaptations to improve outcomes. Newly collected data will need to be triangulated with prior quantitative and qualitative data to adapt the hypotheses regarding possible reasons for failure.

Tools:

- *Rapid Qualitative Guide to Improving MDA*

P: PRIORITIZE AND PLAN IMPLEMENTATION ADJUSTMENTS

Use historical and new data to adapt MDA. Investigations will often uncover many recommendations for improving MDA; teams will need to prioritize those that are the most feasible and will have the greatest impact. Common strategies to adapt MDA include:

- Implementing microplanning in priority areas to respond to context-specific local conditions and community needs;
- Revising social mobilization messages, channels, and approaches to address the major reasons why people do not participate in MDA;
- Ensuring real-time monitoring of MDA coverage, through daily data reporting or use of supervisor's coverage tool;
- Ensuring directly observed therapy is used to improve accuracy of coverage;
- Improving training of drug distributors and supervisors; and
- Prioritizing subdistricts or never treated groups for targeted intervention.

Tools:

- *Persistent and Recrudescent Trachoma Job Aid*
- *MDA Preferred Practices Job Aid*
- *IEC Social Mobilization Toolkit*
- *WHO Microplanning Guide*
- *Supervisor's Coverage Tool*
- *Supportive Supervision Checklist*

Community drug distributors stand for a portrait during MDA for river blindness in Nigeria. Photo credit: RTI International/Etinosa Yvonne.

T: TAKE STOCK OF WHAT DID AND DID NOT WORK

Conduct a coverage evaluation survey (CES) to determine if reported coverage is accurate, including questions regarding specific MDA improvements, reasons for not being treated, and reasons for being treated for the first time. It is important to evaluate the MDA to determine if adaptations were implemented as planned and if they yielded the intended effects; After Action Reviews are useful to assess both successes and challenges. Incorporate learning from the MDA and coverage evaluation survey to adapt subsequent MDA(s). Share lessons learned with other districts and countries.

Tools:

- *Coverage Evaluation Survey Resource Package*

CASE STUDY – YALA, NIGERIA (LF)

Yala local government area (LGA) in Cross River State, Nigeria, experienced a failed LF sentinel and spot-check site assessments (or pre-transmission assessment survey [pre-TAS]) in 2018 and 2021. Baseline infection was extremelty high in Yala, with 46% antigenemia found in one site. Yala began MDA in 2010, with nine rounds implemented before the first pre-TAS, seven of which had reported coverage >65%. Two rounds of re-MDA in 2019-2020 reported >65% coverage as well. After the repeated pre-TAS failure, the Cross River State Ministry of Health (MOH), with support from Act | East, investigated the reasons for repeated survey failures in Yala.

KIIs were conducted to solicit information from community members, CDDs, and health facility workers. In addition, data from the MDA sub-district coverage, MDA supervision forms, and post-MDA reviews were used for the investigation. A key finding was that the MDA coverage was not as high as reported. This was due to several factors including a lack of CDDs in some communities, a delay in restocking of the drugs, and CDDs not implementing directly observed treatment. A second key finding was that some community members rejected the LF medicines due to fear of adverse reactions. Many interviewees suggested strengthening supervision to help improve MDA coverage.

Based on these key findings, Yala conducted two more rounds of MDA with the following adaptations:

Investigation Finding	MDA Adaptations
Poorly selected or absent CDDs in communities	• Recruited new CDDs who were motivated and committed to the work. • Ensured even distribution of CDDs based on population size in communities. • Improved the CDD:household ratio.
CDD attrition; CDDs were not working because they were not being paid by the designated proxy	• Changed the mode of payment to pay the CDDs directly.
Poor supervision of trainings	• Coordinated the presence of a supervisor at all regional trainings to ensure cascaded content was delivered uniformly and well.
Inconsistent supervision of MDA and efficient response to issues	• Utilizing electronic data capture (EDC), supervisors tracked issues on a live dashboard and immediately followed up.
People are rejecting the medicines because of fear of side effects	• Integrated social mobilization officers into the NTDs team to develop messages around MDA. CDDs were trained to document cases of rejection and refer to health workers.

Yala reported MDA coverage of 65% in 2021 and 75% in 2022, with anecdotal feedback that this was a more accurate reporting of coverage. The MOH incorporate lessons learned from the 2021 MDA into the 2022 MDA, including that the increase in CDDs in 2021 did not necessarily result in those workers supporting communities most in need. Thus, in 2022, the MOH created a CDD recruitment strategy to select individuals who would address staffing gaps and paired new, literate CDDs with older, respected CDDs for improved reporting.

A repeated pre-TAS conducted in 2023 passed, with 0.62% and 0% antigen positive in the sentinel and spot-check sites respectively. In 2023, Yala passed a TAS allowing the LGA to stop LF MDA.

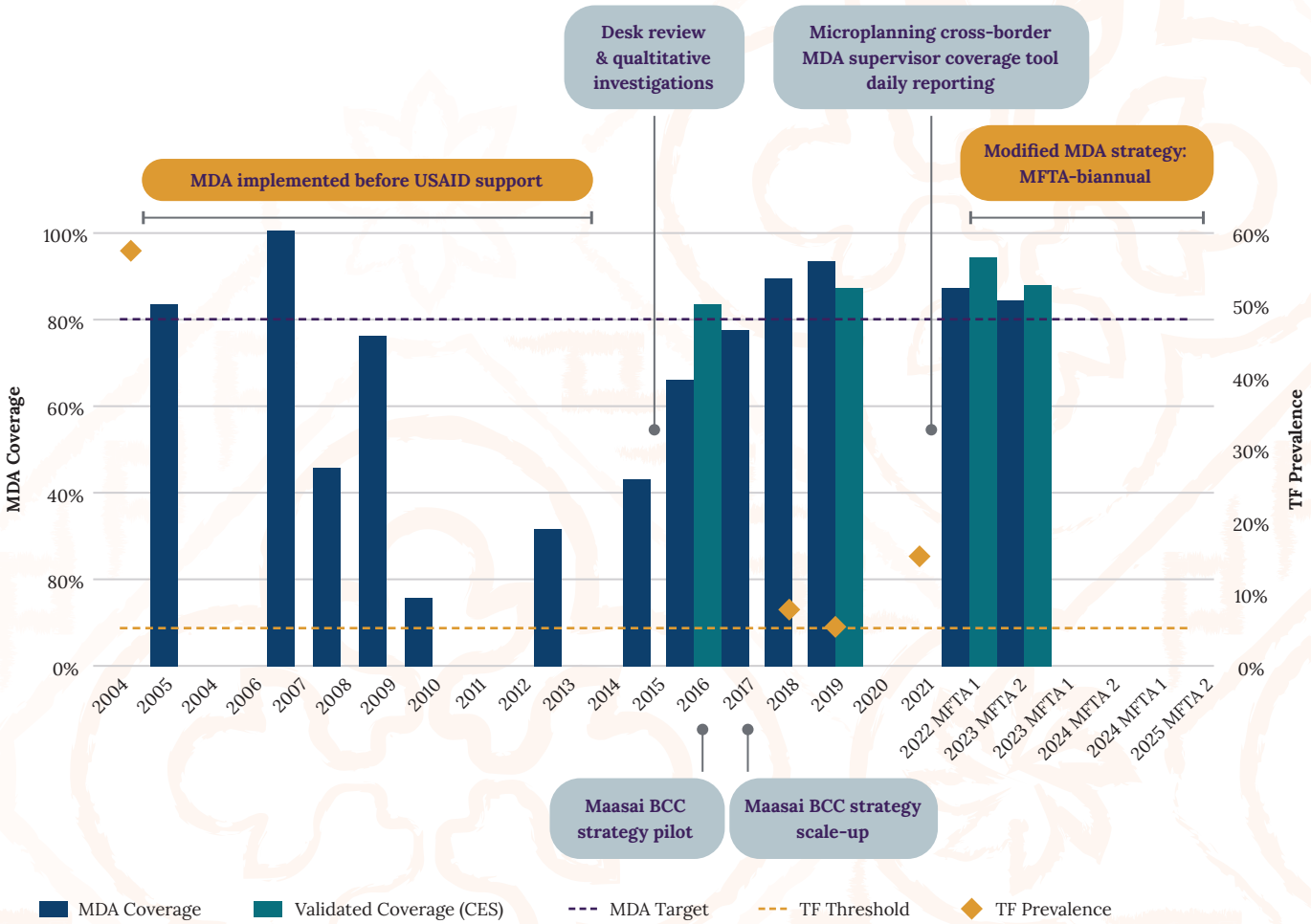
CASE STUDY – LONGIDO DISTRICT COUNCIL, TANZANIA (TRACHOMA)

In 2015, USAID began supporting Tanzania's Ministry of Health (MOH) to deliver trachoma MDA in Longido District Council, an area primarily inhabited by mobile and migrant populations (MMP). Reported MDA coverage was 63%, far below the recommended target of 80%. Consequently, the MOH conducted a desk review and qualitative investigations to discern the underlying factors. In addition to low MDA coverage, Longido had a high baseline prevalence of active trachoma and is geographically remote.

As a result, the MOH designed a tailored behavior change and communication strategy to address the specific socio-cultural barriers contributing to low MDA coverage in Longido, with a specific focus on the MMP population, who were among the key groups being missed or refused treatment. The MOH piloted this strategy in 2016 in 10 villages and scaled-up to the entire district in 2017. Due to the success of these efforts, the MOH expanded the approach to neighboring Arusha and Manyara regions in 2019.

Despite improved coverage, Longido failed trachoma impact surveys in 2018, 2019 and 2021. Since implementation of the behavior change and communication strategy, reported MDA coverage has improved year-on-year. Coverage evaluation surveys in 2016 and 2019 indicated that validated MDA coverage surpassed the 80% target.

FIGURE: EVOLUTION OF MDA IMPROVEMENT IN LONGIDO DISTRICT COUNCIL, 2004 TO 2023



In 2021, following a third trachoma impact survey with prevalence above elimination threshold, Longido DC was characterized as a district with persistent active trachoma. Following WHO guidance, the MOH changed its MDA strategy from annual to biannual MDA.

To support the transition to biannual MDA, the MOH implemented several MDA strengthening approaches, including microplanning, synchronized cross-border MDA with Kenya, electronic daily reporting of MDA data by CDDs, and use of a supervisor coverage tool for near real-time decision-making.

Data from the first two rounds of biannual MDA (2022 & 2023) showed reported coverage above the 80% target while the (CES data validated that high coverage, evidencing that the MDA improvement plan was impactful. Four additional MDA rounds will be implemented in 2024 and 2025, after which the MOH will undertake enhanced trachoma impact surveys (TIS+) to evaluate if MDA should be stopped.

WHAT YOU CAN DO

As soon as there is a failure, apply the ADAPT methodology to investigate the most likely cause(s). Reach out to WHO, operational research and implementing partners for support as needed. Tailor the MDA to incorporate lessons learned from the investigation. During and after MDA, continuously monitor and assess the implementation of the adaptations to ensure they align with the revised strategy and with the expected outcomes in terms of coverage among target populations and quality of reporting, for example.

Once you have completed your investigation, and MDA implementation, share what you learned with other districts facing similar issues and other national programs to facilitate learning and adapting globally. To explore more Act | East resources on the ADAPT approach, visit the NTD Toolbox at www.ntdtoolbox.org.

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Community health workers review treatment information during a treatment campaign for lymphatic filariasis in Tanzania. Photo credit: RTI International/Roshni Lodhia

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