WHO Guidance: TAS
GPELF Strategic Framework

Integrated Vector Management

Mapping

Pre-TAS
<1% Mf/ <2% Ag

MDA

TAS1
TAS2
TAS3

Post-treatment surveillance

Validation

Post-validation surveillance
TAS Eligibility and Planning

- **TAS Eligibility Form** to be submitted to WHO
- Allows multiple evaluation units
- Reviewed independently by RPRG
- Submit early (preferably 6 months prior to planned TAS or immediately after eligibility criteria met)
- Estimates required diagnostic tests
- RPRG is to technically review TAS eligibility before TAS and TAS results after TAS throughout the year on a virtual basis

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**TAS Eligibility and Planning Form**

The purpose of this template TAS Eligibility and Planning Form is to guide national lymphatic filariasis elimination programme and data managers a standardized tool for systematically summarizing the eligibility of implementation units for a transmission assessment survey (TAS) and the plan of the survey implementation.

National programmes are requested to complete the form in full implementation units (IUs) included in all the evaluation units (EUs) where TAS is planned in the next 6 months or one year. Please submit the completed form to the World Health Organization (WHO) at least six months before implementing the survey. The form will be reviewed technically and recommendations returned within a month. The completed form must accompany any request for detailed diagnostics. Once the survey has been completed, programmes are requested to report the results of the survey using the PC Epidemiological Data Reporting Form (EPRF).

**Structure of the form (worksheets):**

- INTHC: Use this worksheet for overall explanation of the form and to enter the year TAS are to be conducted, total number of IUs included in all IUs planned for TAS.
- POPULATION: Use this worksheet to enter the total population in each IU planned for TAS.
- MDA: Use this worksheet to enter coverage results of mass drug administration (MDA).
- SUPPLEMENTAL INTERVENTIONS: Use this worksheet to enter any other interventions that may impact LF such as preventive chemotherapy for onchocerciasis, and transmitted kala-azar (SK) and vector control implemented for each IU.
- MME: Use this worksheet to enter results from MME surveys, namely mapping and/or baseline surveys and pre-TAS surveys.
- PLAN: Use this worksheet to enter information on the design of the planned survey, such as the sampling frame, survey sites, diagnostic tools, sample size, critical cut-off, estimated timetable and resources required.
- OVERVIEW: This worksheet summarizes the key information to assess the eligibility of an implementation unit for TAS to be technically reviewed by reviewers. Reviewers are requested to consult other worksheets if more details are needed. No data entry required.

**Instruction for data entry:**

Many of the cells on the worksheets include formulas, which are calculated automatically. Please enter your data into the cells according to the colour code:

- White: cell is protected and includes name of the indicator. No data entry required.
- Yellow: cell is protected and includes name of the indicator. No data entry required.
- Orange: cell is not protected and includes a drop-down menu. Please select the value from the list.
- Green: cell is not protected and includes formula. Please change the value only if your data are different from those that are calculated automatically.
- Elke: cell is protected and includes formula. No data entry required.

Note: Please enter the information for each of the implementation units that are contained in the evaluation units expected to implement TAS in the coming year (in case several implementation units are expected to make one evaluation unit).

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[http://www.who.int/entity/lymphatic_filariasis/resources/WHO_TAS_EPF.xlsm](http://www.who.int/entity/lymphatic_filariasis/resources/WHO_TAS_EPF.xlsm)
Transmission Assessment Survey (TAS)

- Decision making tool, **tells when to stop MDA**
- Standardized survey with statistically robust, yet practical design
- Uses children as an indicator of incident infection
WHO TAS guidance

- 2011 M&E TAS manual

- TAS Facilitator’s Guide and TAS ppt modules

- Responding to failed Transmission Assessment Surveys
  [https://www.who.int/lymphatic_filariasis/resources/9789241511292/en/](https://www.who.int/lymphatic_filariasis/resources/9789241511292/en/)
## GPELF recommended diagnostic tests

<table>
<thead>
<tr>
<th>Field assay</th>
<th>Detection target</th>
<th>Recommended for use during</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood smear</td>
<td>Microfilariae (Mf)</td>
<td>Mapping, sentinel site and spot-check site monitoring</td>
</tr>
<tr>
<td>Alere Filarisis Test Strip (FTS)</td>
<td>Filarial <strong>antigen</strong> (Ag)</td>
<td>Mapping, sentinel site and spot-check site monitoring, <strong>TAS</strong></td>
</tr>
<tr>
<td>Brugia Rapid™ test</td>
<td>Antifilarial <strong>antibody</strong> (Ab)</td>
<td><strong>TAS</strong></td>
</tr>
</tbody>
</table>
Transmission Assessment Survey (TAS)

**Who** is tested?  
Children aged 6–7 years

**What** test is used?  
Alere *Filariasis Test Strip* – antigen *W. bancrofti*
Brugia Rapid™ - antibody *Brugia* spp.

**Where** to survey?  
Evaluation Unit (EU)  <2 million population*

**When** to conduct?  
After *eligibility criteria* met

**How** to sample?  
Cluster or systematic sampling in schools/community

*smaller-sized EUs will better reflect true mean incident infection*
When should TAS be conducted?

• TAS1 should be conducted after pre-TAS has passed
  – Within a year from the last MDA round
  – After RPRG approval

• TAS2 should be conducted 2-3 years after stopping MDA

• TAS3 should be conducted 4-6 years after stopping MDA
Survey area for a TAS

- **Implementation unit (IU):** The administrative unit in a country used for MDA

- **Evaluation unit (EU):** An area selected for a TAS
Forming an EU

- IUs within an EU can be combined, divided or remain the same
- IUs in an EU are usually contiguous, but do not have to be
- EU should not exceed 2 million population
  - smaller-sized EUs will better reflect true mean incident infection than larger EUs, **develop as many smaller EUs as resources allow**

**Smaller is better**
Forming an EU

- All areas in the EU should have **similar epidemiological features and LF transmission dynamics**
  - baseline prevalence
  - drug coverage
  - prevalence of Mf or Ag in sentinel and spot-check sites
  - parasite species

\[ \text{application} + \text{prune} = \checkmark \]
\[ \text{application} + \text{orange} = \times \]
Survey design tool

Automated survey design support – Survey Sample Builder (SSB)

Survey Sample Builder

- To effectively use SSB, the following information is needed:
  - Total population size of target age group → target sample size
  - School enrollment rate for EU → school- or community-based survey
  - Total number of schools or enumeration areas in EU → cluster or systematic sampling
School vs. community surveys

- School-based only if net primary school enrolment ratio >75% in entire EU

- Community-based surveys can take longer to conduct, e.g. 3-6 weeks instead of 1-2 weeks

- The timing of community-based surveys should be carefully planned so that children are likely to be at home (e.g. school breaks, evenings)

- The community should be sensitized well in advance of the start of the survey

- In community-based surveys, in each selected enumeration area or village, teams should work with village officials and community health workers to identify the estimated number of households and plan a walking route to take them to each household
Community-based household survey

Step 1: Enumerate houses.
Houses can be enumerated and selected before sample collection.

Step 2: Visit houses on list A or list B.
Selection continues until the next number on the list is higher than the total number of households in the enumeration area.

Step 3: Test all 6–7-year-old children in the selected houses.
If there are no 6–7-year-old children in the selected house, the team proceeds to the next house numbered on the list.

<table>
<thead>
<tr>
<th>List A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>
Non-respondents

• The maximum acceptable non-response rate is 15%.

• At least one attempt should be made to revisit schools to find non-respondents.

• In cluster sampling, if follow-up results in less than the required sample size, additional clusters can be added.
  – Additional clusters should be used only after it becomes clear that the required sample size will not be reached.
  – Reminder: **Sample size includes only children for whom valid test results are available**; it does not include absentees, refusals or children with invalid test results.
How to ensure quality TAS?

- **Train survey teams** before every planned TAS implementation
  - Limit technicians to only those who demonstrate efficiency in blood collection and test function
  - Develop a team of TAS trainers to build capacity in TAS implementation; supervise correct methodology and test operation in the field

- Adapt **TAS preparation and supervision checklists** to local context and use for every survey

- If a school or village is inaccessible due to insecurity or logistics, replace it with **one of the extra schools chosen from the Survey Sample Builder** (not a nearby school or village!)
Following up positive results

• **How to follow up positive results?**
  – Treat
  – Assess for length of residency
    • *Exclude persons* who have lived in the community/EU for **less than 1 year** in analysis
  – Previously recommended testing for Mf, but no longer recommend

**In EUs that pass TAS**
  – Ongoing operational research to determine best methodology
  – Refer to the investigation algorithm proposed in the TAS manual
What to do after TAS failure?

**Investigate:** use TAS failure checklist and other tools to understand why TAS failed

**Improve MDA:** Based on results of the investigation, improve MDA to ensure quality coverage, compliance, and decrease systematic non-compliance

**Implement MDA:** 2 rounds with effective coverage regardless of regimen are needed

**Evaluate coverage:** To better understand if effective coverage is being achieved, use the SCT or a CES to monitor and evaluate coverage after the first repeat MDA round

**Implement pre-re-TAS:** chose two new spot-check sites and survey
Thank you