Streamlined ITN Durability Monitoring

Stephen Poyer | April 2021
RBM VCWG Meeting
Enhancing impact of core interventions

U.S. President’s Malaria Initiative
PMI VectorLink is supporting durability monitoring in 15 countries

**Streamlined monitoring 2021/2022**

*Madagascar*
(PermaNet 3.0, SafeNet, Yahe LN)

*Malawi*
(PBO, IG2, Royal Guard)

*Nigeria*
(IG2)
Streamlined durability monitoring objectives

Background

- DM studies conducted in over 20 countries, covering a dozen ITN brands.
- Need for targeted approaches to directly measure field performance of new AIs, particularly in countries that have conducted full DM.

Objectives

1. Assess and compare the insecticidal efficacy of one or more ITN brands in one or more locations, as measured by bioassays and chemical testing, and identify major determinants of field performance.

2. Monitor the physical integrity of one or more ITN brands in one or more locations, as measured by a hole assessment and a short questionnaire.

3. Estimate indirectly the level of attrition of the nets at each round.
Streamlined monitoring design

**Pre-distribution**

**Distribution**

**Sample**
- 10 (20) ITNs per site/brand

**Assess**
- Bioassays
  - (Chemical residue, if required)

**Generate sampling frame**
- Approx. 410 ITNs per site

**Assess**
- Bioassays
  - (Chemical residue, if required)
  - Physical integrity (directly)
  - Attrition (indirectly)

**Sample**
- 45 ITNs per site

<table>
<thead>
<tr>
<th>Standard</th>
<th>Indicator / Measure</th>
<th>Streamlined</th>
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<tbody>
<tr>
<td>√</td>
<td>Proportion of nets in serviceable condition / Median “useful” life</td>
<td>×</td>
</tr>
<tr>
<td>Exact measure</td>
<td>Attrition</td>
<td>Indirect measure</td>
</tr>
<tr>
<td>More generalisable</td>
<td>Physical integrity</td>
<td>Less generalisable</td>
</tr>
<tr>
<td>Lower precision</td>
<td>Insecticidal efficacy (bioassays)</td>
<td>Higher precision</td>
</tr>
<tr>
<td>Lower precision</td>
<td>Chemical content</td>
<td>Higher precision</td>
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</table>
Streamlined monitoring implementation

Streamlined Durability Monitoring Package

The President’s Malaria Initiative (PMI) Insecticide Treated Net (ITN) Streamlined Durability Monitoring Package is available for countries primarily interested in evaluating bioefficacy and physical integrity of ITNs, and where previous rounds of standard durability monitoring have been conducted. Study materials and tools are related to study design, implementation, and data collection.

- Protocol
  - 1. Protocol

- Budget
  - 2. Budget Template
  - 3. Budget Notes

- Information and Consent Forms
  - 4. Creating the Sampling Frame (Net Listing)
  - 5. Baseline Visit
  - 6. Follow-Up Visits

- Questionnaires
  - 7. Net Listing and Sampling Form
  - 8. Questionnaire

Standard Durability Monitoring Package

The President’s Malaria Initiative (PMI) Long-Lasting Insecticidal Net (LLIN) Durability Monitoring Package comprises two parts. Part 1 includes materials and tools related to study design, study implementation and data collection, up through the data entry stage. Part 2 includes materials and tools for data cleaning, preparation, analysis, and interpretation, including reporting.
Fieldwork materials

- **Net listing and sampling** form to create sampling frame
- **One questionnaire** used for all study rounds, fielded electronically
- **44 questions** for respondents + linked hole assessment
  - Net availability and attrition
  - Existing bioassay net questions
  - Household head education and household characteristics
  - Hole assessment
Streamlined monitoring implementation

**Training**
- Baseline STTA (optional) and targeted remote training with small core country study team
- Topic sessions will last 1-3 hours, include practical exercises and will be scheduled flexibly to fit participant schedules
- SOPs prepared / being finalized

**Analysis**
- Developing standard bioassay Excel data entry forms with automated analysis (to supplement approaches in statistical analysis software)
- Developing Excel templates for automated hole analysis that read data outputs from electronic questionnaire.

**Reporting**
- Simple, short, visual study briefs generated for NMCP and PMI audiences in first instance
- Briefs include results, interpretations, and recommendations based on a decision-tree using cut-off values modified from existing DM guidance
Thank you