

GUIDANCE FOR SELECTING A DURABILITY MONITORING APPROACH

STANDARD VS. STREAMLINED

Before implementing durability monitoring (DM), it is important to understand which approach will best fit the specific country context. A Standard DM approach should be implemented where there is no or limited country data on ITN durability available. A Streamlined DM approach should be considered for implementation in countries that have already collected previous rounds of DM data and are primarily interested in evaluating bioefficacy and ITN physical integrity, particularly for new types of nets. Information from previous DM activities or other country-specific context can be used to identify sites. For both types of approaches the cost and sample frame will depend on the number of sites and types of ITNs monitored. A typical study includes two sites.

Duration: 4 rounds over 36 months
Fieldwork duration: *Baseline:* 25 days per site
Follow-Up: 21 days per site
Field team: Typically 8-16 staff, plus drivers
Sample Size: Follow-up approx. 400 ITNs at each study round, from 15 clusters of 10 households (per site)
STTA: Typically provided for training
Cost: Determined by types of nets and number of sites

Objectives

1. Assess the survivorship (attrition and physical integrity) of one or more ITN brands in one or more locations.
2. Compare survivorship of different ITN brands or the same brand used in different sites within the country and identify major determinants of field performance.
3. Assess the insecticidal efficacy of one or more ITN brands in one or more locations, as measured by bioassays and chemical testing. Compare insecticidal efficacy of different ITN brands or the same brand used at different sites within the country and identify major determinants of field performance.

Study Design

A cohort of campaign ITNs is established at baseline at each site. Each round, fieldworkers visit all eligible houses and follow-up all known cohort campaign ITNs. A survey captures data on all members and all nets in the household; cohort nets undergo a hole assessment in the field. Thirty campaign nets per site are withdrawn from households not in the study cohort, and replaced for bioassays and chemical testing.

Questionnaire

The Standard questionnaire has 5 sections: people living in the household, household characteristics and net ownership, net care and repair, campaign cohort nets, and other nets owned by the household. The results from these questions provide data on demographic and housing characteristics, determinants of durability (risk factors for physical integrity and attitudes and behaviors related to net care and repair), net and net use, attrition, net durability, and survival. Additional lab tests provide information on insecticidal effectiveness and chemical content of ITNs.

Duration: 4 rounds over 36 months
Fieldwork duration: *Baseline:* 18 days per site
Follow-Up: 8 days per site
Field team: Typically 2-4 staff, plus drivers
Sample Size: Follow-up approx. 180 ITNs over the life of the activity, from a sampling frame of approx. 410 ITNs established at baseline (per site)
STTA: Optional
Cost: Determined by types of nets and number of sites

Objectives

1. Assess the insecticidal efficacy of one or more ITN brands in one or more locations, as measured by bioassays and chemical testing. Compare insecticidal efficacy of different ITN brands or the same brand used at different sites within the country 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.

Study Design

A sampling frame of campaign ITNs is established at baseline at each site. Pre-distribution, 20 ITNs per site are sampled to undergo bioassay and chemical testing. At baseline, fieldworkers randomly sample 30 ITNs per site. At follow-up rounds, fieldworkers randomly sample 45 ITNs per site. These nets are withdrawn and replaced; a short survey captures data on the sampled nets only and some household characteristics. Withdrawn nets undergo a hole assessment, bioassays, and chemical testing in the laboratory.

Questionnaire

The Streamlined questionnaire has 2 sections: household characteristics and net ownership and campaign cohort nets. The results from these questions provide data on demographic and housing characteristics, determinants of durability (risk factors for physical integrity), and net use. Attrition can be measured indirectly. Additional lab tests provide information on insecticidal effectiveness, chemical content of ITNs, and physical integrity.

Standard	Indicator / Measure	Streamlined
✓	Proportion of nets in serviceable condition / Median "useful" life	✗
Exact measure	Attrition	Indirect measure
More generalisable	Physical integrity	Less generalisable
Lower precision	Insecticidal efficacy (bioassays)	Higher precision
Lower precision	Chemical content	Higher precisions