

Quantifying needs for LLINs in GFATM Round 10 Interim Recommendation from Harmonization Working Group, Roll Back Malaria

Determining Current Household Ownership levels to identify LLIN procurement needs

In this paper we recommend defining household ownership as households owning at least one LLIN. Household ownership levels should be estimated based on available reports. Ideally, countries can use available national procurement and district level data from distribution records from previous campaigns or from routine systems—particularly antenatal and child health clinics. Data on household ownership can also come from recent household surveys such as the DHS, MIS or MICS, which usually include the indicator on proportion of households with at least one LLIN.

Quantifying Needs for Procurement

When quantifying the numbers of LLINs needed for procurement, country planners should specify the methods to be used in the field to allocate nets to households to be sure enough LLINs are ordered. To avoid shortages at the time of distribution, population figures used for estimating procurement needs should be based on the year of anticipated distribution, not the year of proposal preparation.

Scenario 1: If ownership is <30% or information is not available

At LLIN household ownership levels below 30%, or where LLIN household ownership cannot be estimated through an existing net tracking system but is assumed to be low, we recommend existing LLINs not be taken into account. Instead, quantifying needs for mass distribution should be based on the WHO/GMP recommendation of 1 LLIN to 1.8 persons calculation (same as 550 nets/1000 population), reflecting the need to assure universal coverage for all households including those with odd numbers of occupants.

Scenario 2: If ownership is > 30%

Where surveys or other data indicate that LLIN household ownership levels are estimated to be above 30%, conducting a more detailed quantification for net procurement could increase efficient use of resources. A strong quantification methodology would consider the following factors when determining LLIN procurement estimates:

- Pre-existing undistributed stocks of LLINs available for use;
- Estimated numbers of previously distributed LLINs nets over the past 3 years, by year, preferably by district;
- Efficacy and likely condition of LLINs accounting for loss at the rates described in the table below based on the age of the net (number of years since distribution).

A good quantification analysis provides reasonable estimates on the procurement numbers and indicates whether existing LLINs should be taken into account. There may be situations that justify not counting existing nets and using a population based quantification of 1 LLIN per 1.8 persons, particularly when the existing nets are deemed to be in poor condition or have a short “shelf” life because they consist of mostly pretreated LLINs distributed three or more years ago.

Loss Rates of Nets

Several studies on the durability and effective life of different nets in different settings are currently underway. Countries that have specific data on the viability or durability of nets in their country can use this to estimate number of viable nets and remaining life. Rates of loss can also be calculated at 8% for year 1 (0-12 months) since distribution, 20% for 2 years (13-24 months) since distribution, and 50% for 3 years (25-36 months) since distribution. These rates of loss are based on data available to date, and

may change over time as more data become available. The examples below show how these numbers would be used to calculate LLIN losses since the time of distribution.

Example Calculation for 2011

Year Nets Distributed	2008	2009	2010
Quantity Distributed	50,000	100,000	10,000
Quantity Lost	$50,000 \times .5 = 25,000$	$100,000 \times .2 = 20,000$	$10,000 \times .08 = 800$
Proportion remaining available	$1 - .5 = .5$	$1 - .2 = .8$	$1 - .08 = .92$
Nets existing from each year	25,000	80,000	9,200
Total existing nets 2011	114,200		

Allocation of LLINs for Household-level Distribution

Scenario 1: if ownership is <30%

In settings with ownership below 30%, quantification of nets needed should be population-based as described above and allocation through mass distributions is recommended targeting all households regardless of existing LLINs.

Scenario 2: if ownership is > 30%

In settings with household ownership above 30%, we recommend household allocation to achieve universal coverage make efforts to take existing nets into account, making the assumption there are sufficient numbers of nets in good condition to make the exercise cost-effective. Existing coverage is often irregular, with some households having more than one net and many others with none, in which case it may be necessary to perform a household and net census as part of the household registration process in order to avoid local surpluses and stock-outs during the distribution. It is important to note that household registration and net censuses are not useful for quantification of procurement needs, as the procurement needs to happen much further in advance of distribution.

One widely-used method for household level allocation is to use a household registration or LLIN census process to identify needs in each house based upon current HH ownership of viable nets and number of household members or sleeping spaces. These registration visits to households are usually conducted by trained community volunteers. In some countries coupons or bracelets for the number of nets needed for each household are given at this point to a representative of the household to bring to the distribution point on the day of the campaign. Distributions will thus target households where nets are needed. Household registration and net censuses are an important step in the campaign process, and should be done following procurement of LLINs, but before actual distribution. Planning for logistics (transportation, storage and prepositioning of LLINs) is often based on the household registration and net census, so it is likely to benefit countries to leave enough time to feed household registration data into logistics planning and allow time for moving the LLINs down the supply chain to the community distribution points.

More detailed guidance for conducting these procedures in a cost effective manner is in preparation, but generally it is recommended that each household be contacted, the number of household members (or sleeping spaces if that is national policy) be determined and the number of existing nets in good condition (precise guidelines for assessing the condition of nets is also still in preparation) recorded.

Scenario 3: if ownership is >65%

At high household ownership levels (65%-85%), particularly where data suggest that most households own multiple LLINs and near universal coverage levels have been reached, national LLIN distribution campaigns may not be necessary, although mini campaigns may be used to scale up household ownership in areas with low household ownership within regions / districts. Rather emphasis can be put on establishing and strengthening distribution via routine systems to ensure sufficient LLINs are reaching households to maintain universal coverage in areas where it has been achieved, and to take the final steps to achieving universal coverage where it has not.

Routine Delivery

Regardless of existing household ownership, there should be an effort to establish or strengthen routine delivery systems through health facilities and other community-accessible outlets. Quantification for routine delivery needs to maintain universal coverage should include (1) ANC and EPI delivery to pregnant women and children under five and (2) replacement of nets lost due to age/disrepair etc. A variety of routine distribution channels, including community-based, are feasible to increase the options for households to replace LLINs.