Post-Distribution Check-Up Assessment

Assessing the presence of AMF nets

Summary
We show below our estimate of the likely state of the presence of AMF nets after a number of months, post-distribution. Each graph represents the minimum profile of net presence required to achieve a 'Very Good', 'Good', 'Acceptable' or 'Recommend action is taken' result. For example, if the percentage of nets hung at the 30 month point was 67% or higher then we would consider this a 'Very Good' result. If the percentage was between 67% and 58% (the latter from the second graph) then we would consider it a 'Good' result, and so on.

We estimate the likely outcome for the number of nets falling into each category as explained in the list to the right. We used these assumptions to produce a set of data for the 'Good' profile below and then adjusted the parameters in order to obtain a 'Very Good' and an 'Acceptable' set of data, as shown. A result which is less than Acceptable is deemed to be in the 'Recommend action is taken' range.

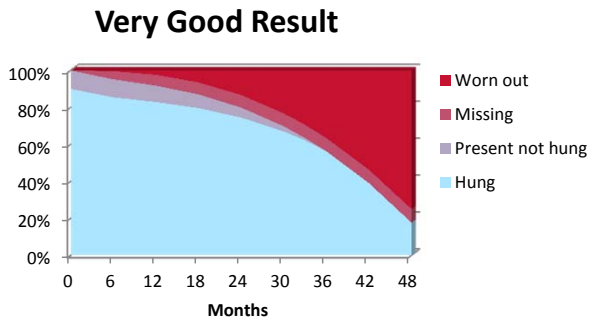
Research data
We have looked at a number of research studies of net use and condition to help us develop these profiles and believe we have seen the major ones. However, we have not seen all studies and data available so are continuing that work and we intend to publish a full reference list when we have done so. If necessary, we will revise our profiles, commenting publicly if we do so.

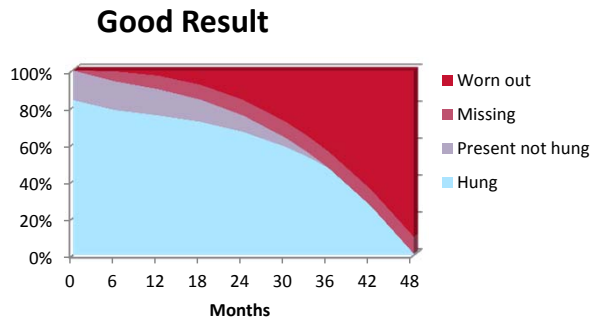
Worn out nets
The expected lifetime of a long-lasting insecticidal net is between three and four years. Assuming nets will wear out at an increasing rate we estimated a curve which gives that outcome as a 'Good' result.

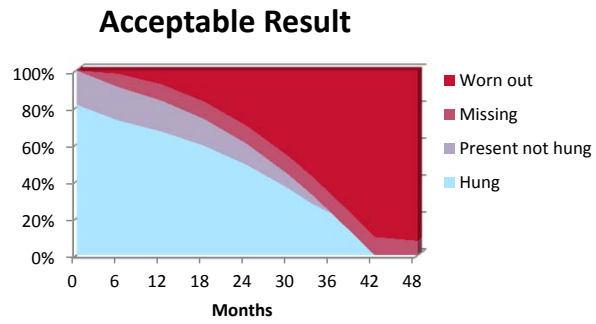
Missing nets
Some nets are recorded as missing, for a variety of reasons (children taking them to school, given to relatives, stolen etc), and we have estimated, from previous data, that this occurs soon after distribution and is then static thereafter.

Present not hung
A certain percentage of nets are found which are not yet hung, often because a family is still using older nets or because the number of people in the household has fallen. Again, from previous data, the number of nets in this state is at a maximum immeadiately after distribution and then falls as the hung nets wear out and/or the household is encouarged to use the newer nets.

Hung
The percentage of hung nets is simply the remaining precentage, once the factors above have been taken in to account.







Post-Distribution Check-Up Assessment

Assessing the condition of AMF nets

Summary
We show below possible profiles of the condition of AMF nets after a number of months, post-distribution. Each graph represents the minimum profile of net presence required to achieve a a 'Very Good', 'Good', 'Acceptable' or 'Recommend action is taken' result.

We estimate the likely outcome for the number of nets falling into each category as explained in the list to the right. We use these assumptions to produce a set of data for the 'Good' profile below and then adjusted the parameters in order to obtain a 'Very Good' and an 'Acceptable' set of data.

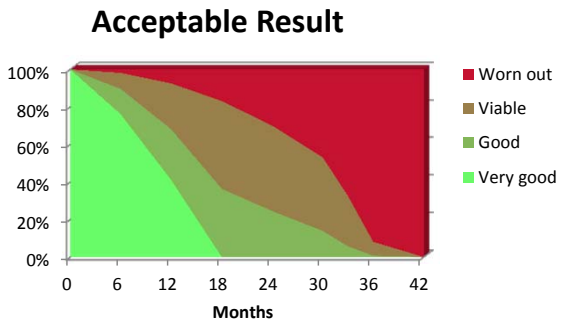
Giving a separate rating for each of the categories, shown on the right, can be misleading as a low number of nets in a very good condition might be offset by all the remaining nets being in a good condition, at a time when we might expect them to be viable or worn out. For this reason we rate the profile of the condition of the nets as a whole, for a given month. Details of this process can be found on the next page.

Worn out nets
The expected lifetime of a long-lasting insecticidal net is between three and four years. Assuming nets will wear out at an increasing rate we estimated a curve which gives that outcome as a 'Good' result.

Very good condition
A curve is plotted which suggests the number of nets in very good condition falls more rapidly as time passes and we estimated it is unlikely nets will be found in very good condition after 3 years.
Very good condition: two or fewer holes of less than two cms each.

Good condition
As nets pass from very good condition the number of nets in good condition will increase. As time passes some of these will begin to fall into a viable condition and therefore the number of good nets will increase at first, reach a maximum and then decrease.
Good condition: ten or fewer holes of less than two cms each.

Viable condition
The percentage of viable nets is simply the remaining precentage, once the factors above have been taken in to account.
Viable condition: more than ten holes of less than two centimeters each, or 1 big hole larger than 10 cm, but



Post-Distribution Check-Up Assessment

Rating the condition of AMF nets

Summary
In order to give one overall rating to the condition of the nets in a Health Centre catchment area (HCCA) we consider the proportion of nets in each state ('Very Good', 'Good', 'Viable' and 'Worn Out') and assign a weighting to each. A net in 'Very Good' condition is better than a net in a 'Good' condition so it is given more weight. However, all nets that are 'Viable' or better deliver a similar level of protection to the two people that sleep under each so the weighting is not excessive.

The weightings we give to each net are as follows:

Very Good condition: 2
Good condition: 1.5
Viable condition: 1
Worn out: 0

The calculation to take into account these weightings is:

(1 - % 'Worn Out') x [(2 x % 'Very Good') + (1.5 x % 'Good') + (1 x 'Viable')]

This attempts to reflect the fact that the most important primary factor determining the rating is the proportion of nets that are not worn out, but that the state of the nets that remain in use should be considered also, but as a less important factor.

This comes up with a number, a rating. In order to give a better numerical sense of how the condition is rated we have adjusted the number to map it to the same area on a standard scale of 0 to 100% and with the 'pass mark' for a 'Very Good' result being 70%, 'Good' 60% and 'Acceptable' 50%. We are liaising with experts in statistical analysis and data representation to see if there is a better, clearer way of presenting the data and we will publish any improvements.