A conversation with Melanie Renshaw, October 20, 2015

Participants

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Note: These notes were compiled by GiveWell and give an overview of the major points made by Dr. Renshaw.

Summary

GiveWell spoke with Dr. Renshaw of ALMA and RBM to learn about current gaps in the supply of long-lasting insecticide-treated nets (LLINs) in African countries. Conversation topics included future net gaps projected by RBM, factors contributing to net gaps, net distribution methods, and the model under which nets are financed.

Net gap analysis

Factors used to determine net gap

RBM works with each country to determine its likely net gap in upcoming years. Usually RBM works with the country's national malaria control program, as well as the World Health Organization, the President's Malaria Initiative (PMI), the Clinton Health Access Initiative, UNICEF, and others.

Gap numbers for each country are derived based on the target net coverage for at-risk populations. The gap numbers assume that a universal coverage campaign will be conducted every three years and that additional nets will be distributed under a routine system. Routine systems include net distributions to women receiving antenatal care (ANC) and to infants receiving vaccinations through the Expanded Program on Immunization (EPI). Under integrated bed net/EPI campaigns, infants usually receive nets at the age of 6–9 months, upon getting their diphtheria-tetanus-pertussis vaccination or measles vaccination. Some countries' numbers also account for net distribution campaigns targeted at schoolchildren.

The at-risk population number may or may not cover the entire country. Some countries may only target certain areas for bed net coverage, particularly if their malaria control efforts include spraying some areas with insecticide. Most countries do not use both indoor residual spraying and nets in the same area, unless they are practicing insecticide resistance management.

Determining number of nets needed

For campaign distributions, countries typically divide the target population by 1.8 to calculate the number of nets needed, which ensures that people in households with odd numbers of occupants are covered. Under ANC distribution, each pregnant

woman receives one net; under EPI distribution, each infant receives one net; school-based campaigns provide one net per schoolchild. Based on these numbers, countries identify how many nets are financed and what gaps remain.

Determining how many nets are financed

The countries with which RBM works determine their own level of confidence in projections from funders on how many nets will be covered. For nets funded by PMI, countries usually extrapolate from the number PMI has funded for the current year. This is particularly true for nets that will be distributed through routine systems, as PMI tends to fund the same number of nets for routine distributions each year.

The majority of countries are very confident in the number of nets that they will receive from the Global Fund. RBM finds that the Global Fund's stated allocations are fairly accurate for the upcoming two to three years and start to get less certain in the third year out. It is unusual for nets that have been identified as financed to not be delivered. Countries also predict the number of nets that will be financed through domestic funds.

The UK's Department for International Development (DFID) and the World Bank have historically funded significant numbers of nets, but according to the country gap analysis, both contribute fewer nets now. Some nets are funded by UNICEF and other NGOs, but the vast majority come from PMI and the Global Fund.

Accuracy

Dr. Renshaw is 95% confident in the accuracy of RBM's net gap analysis. About 139 million nets were distributed in the first three quarters of this year, which is very close to RBM's prediction.

Use of the net gap analysis

Donors often use RBM's analysis to determine where nets are most needed when additional resources become available. The Global Fund also uses it to encourage its counterparts in individual countries to invest resources in malaria control.

Factors contributing to net gaps

The number of unfinanced nets has not changed significantly in the past few years, although projected gaps for 2017 are large in several high-burden countries, with a total net gap of over 140 million. The Democratic Republic of Congo (DRC), Uganda, Kenya, and Nigeria are all facing large gaps in 2017. RBM hopes that through a combination of savings from a reduction in net prices and reallocations from other Global Fund resources, the 2017 net gap may be halved to 70 million.

Nigeria's net gap

The gap remaining in Nigeria is a primary contributor to the gap overall. Nigeria is a very large country, and discussions over funding LLINs are ongoing. There is not enough funding from the Global Fund to fill the entire gap in Nigeria, so RBM is considering several other sources of funding, including the World Bank.

The Global Fund's new funding model

The Global Fund's new funding model allocation process has contributed to anticipated net gaps. The current allocation covers 2014 through 2017. The allocation is based on several factors, including disease burden. However, to sustain the scope and scale of coverage, and avoid cutting resources to a country due to lower disease burden or lower population, another major factor used to determine the allocation is how much funding a country received in the previous four years.

The four year funding cycle does not align well with the three-year cycle used to distribute nets, which make up the majority of malaria control costs. Because net campaigns are conducted every three years, some countries had two campaigns in the last four-year period and some had one. Those that had two in the last period only need one campaign in the current four-year period, and vice versa.

Because funding for each four year period is partially based on the funding a country received in the previous period, countries with two campaigns in the previous period received more funding for 2014–2017, and those that had one campaign in the last period did not get enough to cover the necessary two campaigns in 2014–2017. Most of the highest-burden countries (including Ghana, DRC, Kenya, Nigeria, and Mozambique) require two campaigns in 2014–2017, but do not have the money to fund their 2017 campaigns.

The Global Fund has recognized this issue. Most countries' current grants will end in 2017, but grants for the "redline" countries (high-burden countries with large gaps for 2017) will end in 2016 and the Global Fund is working to address this 2017 shortfall. The next replenishment for most countries will take place in 2018, to cover 2018–2020. RBM expects to know how much the next replenishment will cover by mid-2016, which should allow countries to know how much they will receive by early 2017.

Near-term net gaps

Total net gaps in Africa for 2015 and 2016 are 38 million and nearly 59 million, respectively.

Countries with large near-term net gaps

Uganda

Dr. Renshaw is particularly concerned about Uganda because it cannot fund its 2016–2017 campaign. This is mainly because Uganda had a campaign in 2014, and due to the Global Fund's new funding system, the resources it got were not adequate to cover both the 2014 campaign and the upcoming one. RBM hopes to find a way to cut Uganda's gap by more than half. This will likely involve looking for individual donations of half a million or a million nets each, from organizations like World Vision or the Rotary Fund. Because Uganda's next campaign will begin in 2016 instead of 2017, it is expected to face shortages sooner than other countries.

Other countries

Dr. Renshaw is also concerned about large gaps in Nigeria and Sudan. DRC's gap is smaller, but sustaining coverage there is also a priority. Several other countries, such as Republic of Congo and Gabon, do not currently receive any funding for nets from the Global Fund, so their needs are great.

It is also important to ensure that when partners approach countries with potential resources for LLINs that these are not factored into the country's plans until they are guaranteed.

Rolling over net gaps

Any nets that are not funded for campaigns in a given year should be rolled over into the next year's needs. Net gaps in routine distributions are not rolled over because routine distributions (except for school-based distributions) only apply to infants and pregnant women. Infants will no longer be infants one year from now, and therefore will be ineligible for EPI nets; pregnant women will no longer be pregnant, and therefore will be ineligible for ANC nets. Theoretically, universal coverage campaigns should cover the entire population, while routine methods would be used to top up distributions and ensure that the most vulnerable groups are covered.

Likelihood of filling near-term gaps

It is unlikely that much of the remaining 2015 gap will be filled at this point. Remaining gaps from universal coverage campaigns (or a lack thereof) will be included in 2016's projected net gap, which will allow some time to find additional nets before the next malaria season.

In 2016, excluding Nigeria's gap, which is large enough to require its own solution, the gap will be 24 million nets. Uganda and Sudan represent the most significant areas of concern for 2016. Dr. Renshaw is less confident about filling 2017 gaps, as this is the year that many other countries in its analysis will start to face shortages.

Potential for reallocation of Global Fund resources

Nets provided to a country from an NGO, on top of its Global Fund allocation, are usually intended to fill gaps beyond what the Global Fund covers. The Global Fund does not take away resources it has committed to a country for malaria control. However, if a country were to underutilize its resources, these may in time be reprogrammed elsewhere. Under the Global Fund's previous system, five-year grants were given in two- and three-year phases, and if a country underperformed in phase 1, some of its funding was cut for phase 2. Malaria partners are working with the countries to ensure that they do not lose their malaria control resources because of underperformance.

Because countries get a single allocation of funds to spend on HIV, tuberculosis, and malaria, countries could decide to move some of their resources from malaria prevention to one of the other two areas, and some countries have done so. However, the Global Fund makes recommendations for how much of the allocation

should go to each area, and most countries abide by those suggestions. Many countries that attempted to adjust the percentages were met with strong opposition and eventually decided to use the Global Fund–recommended percentages.

Methods of distribution

Routine system coverage

Potential for net coverage via routine systems

Use of routine distribution methods can lower a country's net gap number. RBM recommends that if a country carries out universal campaigns every three years, but also achieves more than 40% coverage through routine distribution (i.e., ANC, EPI, and school-based distribution), that country should reduce the number of nets in its universal campaigns by the number of people already covered. RBM has found that if routine distribution coverage is less than 40%, it is not cost-effective to conduct a partial campaign (as opposed to a universal campaign) to try to account for the population covered by routine distribution.

Most countries are not able to achieve coverage for at-risk populations through routine systems alone. EPI distributions cover only approximately 4% of the population (8% if the infant shares a net with the mother). ANC distributions tend to cover a maximum of 5% of the population. These figures also assume that all pregnant women and infants have access to ANC and EPI, which is not usually the case. Net loss also reduces the number of usable nets, as all nets do not last a full three years. Of the nets distributed through routine systems three years ago, data indicate that only 50% of them are still usable.

Some countries have attempted to broaden the reach of routine distributions by giving nets to any child under age five who visits a health clinic. However, not every child of that age can be expected to visit a clinic, so this practice is still insufficient to achieve universal coverage.

School-based distributions

School-based distributions more closely resemble a campaign on a smaller scale than a routine system, because they are targeted at a certain population and take place over the course of only one or two days. In this sense, the only truly routine systems in large scale use for distribution are currently ANC and EPI (community level distribution may in some cases also be classified as routine).

Countries achieving high coverage rates through routine and school-based systems

Only a few countries in Africa to date have achieved more than 40% coverage through routine distribution: Zambia, mainly through good routine school-based distributions; Burundi; and Tanzania, which is planning to eliminate universal campaigns and achieve universal coverage entirely through routine systems and possibly mini campaigns.

Besides these three, the countries RBM works with have lower levels of routine coverage.

Universal coverage campaigns

Universal coverage campaigns every three years can be transaction heavy but more effectively ensure that the targeted population is entirely covered. Using routine systems and school-based campaigns carries a larger risk of missing some of the population, but does not involve such high transaction costs.

Some countries, particularly ones that were also carrying out polio vaccination campaigns, have felt that the logistical burden of initiating universal coverage campaigns is too great and have found a routine flow of nets or mini school-based campaigns to be more manageable.

Net quality and prices

The recent decrease in net prices may lead to a risk of lower quality, as net producers may cut corners to keep their prices competitive. There are concerns that all the nets are not as durable as expected and do not necessarily last a full three years. For this reason, it may be preferable to begin pricing nets based on cost per year of net life.

The current price per net, including non-net (distribution) costs, is estimated at $5.20, about 50 cents lower than in the past due to the reduction in net prices. Non-net costs make up about $2.50 of that amount.

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