



Independent observer
of the Global Fund

GLOBAL FUND FINANCES MAJORITY OF INSECTICIDE-TREATED NETS FOR MALARIA GLOBALLY

The Global Fund to Fight AIDS, Tuberculosis and Malaria funds the delivery of more than half of all long-lasting insecticide-treated nets (LLINs) distributed globally. In sub-Saharan Africa, LLINs are the most-used tool to prevent malaria transmission from infected mosquitoes to humans and reduce the burden of malaria. The Global Fund's support for the delivery of LLINs to countries is in line with the [World Health Organization's \(WHO\) recommendation for universal coverage](#) – access to one bed net for every two individuals – of LLINs to all people at risk of contracting malaria. In 2018, the [Global Fund funded the distribution of 131 million mosquito nets](#) in Global Fund-supported countries.

The Global Fund is a major international financier of malaria control programs; it provides 65% of funds to fight malaria globally. As of December 2019, the [Global Fund has invested more than \\$12.5 billion in malaria](#). These investments account for close to one third of all Global Fund investments since its creation. Some of the malaria control programs that the Global Fund support include vector control (protecting humans from mosquito bites), malaria testing, and treatment.

Malaria is a preventable and curable disease caused by Plasmodium parasites, which are transmitted to humans through the bites of a malaria vector, the female Anopheles mosquito, [according to the World Health Organization](#). Most strategies for preventing malaria focus on preventing mosquitoes from biting humans. [WHO recommends two main malaria vector control](#) strategies to prevent malaria transmission; use of LLINs and indoor residue spraying (IRS). LLINs are factory-treated nets with insecticide incorporated in their fibre and maintain effective levels of insecticides for at least three years, regardless of repeated washing. LLINs are more effective than conventional insecticide-treated nets (ITNs) due to the quality of their controlled insecticide application. Indoor residual spraying involves spraying the interior walls of homes with residual insecticide to kill insects including mosquitoes landing on or crawling over the

treated surface. However, use of some insecticides, particularly the use of DDT (an organochlorine insecticide), to kill insects has been controversial for many years due to its link to negative effects on human health and environment degradation. After extensive research and testing showing the use of DDT in well-managed IRS programs to pose no harm to humans, the [WHO has approved it for use to control malaria](#).

In this article, we highlight the global delivery of long-lasting insecticide-treated nets and the contribution of the Global Fund in the delivery of LLINs.

Data for this article comes from several sources. Long-lasting insecticide-treated nets delivery data, for 2004-2019, comes from the [Alliance for Malaria Prevention \(AMP\)](#), a multisectoral partnership that was established in 2004 within Roll Back Malaria to support malaria-endemic countries to plan and execute insecticide-treated bed nets' (ITNs) mass distribution campaigns. Through its Net Mapping Project, AMP collects information on the number of ITNs delivered to countries from all WHO Pesticide Evaluation Scheme (WHOPES)-approved ITN manufacturers, every quarter. AMP has had data for insecticide-treated bed nets delivered to countries in sub-Saharan Africa since 2004, and to countries outside sub-Saharan Africa since 2009. Data on malaria burdens comes from the [WHO's World Malaria report of 2019](#). Data on the Global Fund's fight against malaria originated from [the Global Fund Results report of 2019](#) and the Office of the Inspector General's (OIG) audit reports.

Global malaria burden

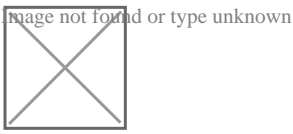
Malaria has remained a disease of international concern for decades. Between 2010 and 2014, the annual number of malaria cases was in decline, going from 251 million cases of malaria in 2010 to 217 million cases in 2014, globally, according to the [WHO's World Malaria report of 2019](#). However, since 2014, malaria cases have been rising, reaching 228 million cases in 2018, making it a disease of major public health concern. Africa is the region with the highest burden of malaria globally; India is the only country outside of Africa which is among the 19 countries that account for 85% of all malaria cases worldwide. According to the [WHO's World Malaria report of 2019](#), half of all malaria cases globally occurred in just six African countries in 2018: 25% in Nigeria, 12% in the Democratic Republic of the Congo (DRC), 5% in Uganda, while Cote d'Ivoire, Mozambique, and Niger accounted for 4% each.

In terms of deaths attributable to malaria, there was a decline from 585,000 in 2010, to 405,000 in 2018, globally, [according to the WHO's World Malaria report of 2019](#). As with malaria cases, Nigeria leads in deaths attributed to malaria, with 24% of all malaria deaths worldwide. DRC follows it at 11%, Tanzania at 5%, and Angola, Mozambique and Niger, each accounting for 4% of global deaths attributed to malaria.

Global delivery of LLINs

About 1.98 billion long-lasting insecticide-treated nets were delivered globally between 2004 and the second quarter of 2019, according to [data from AMP](#). The large majority (86%) of the LLINs were delivered to countries in sub-Saharan Africa, and the remaining 14% to the rest of the world. The number of LLINs delivered globally reached a peak in 2017 when the Global Fund and other international donors funded the delivery of 254 million LLINs, of which 251 million were delivered to malaria-endemic countries. The number of LLINs delivered to countries was lowest in 2012 when 88.4 million LLINs were delivered globally, of which 87.7 million were delivered to malaria-endemic countries.

Figure 1: Number of LLINs delivered globally from 2004 to 2019

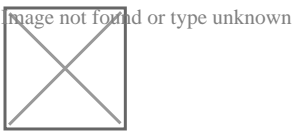


Source: Aidsfan, using data from the Alliance for Malaria Prevention

Nigeria and DRC had highest number of LLINs delivered in 2015-2019

Among the malaria-endemic countries, Nigeria had the highest number of LLINs delivered, at 116 million, followed by the Democratic Republic of the Congo at 95 million. Both Nigeria and DRC account for 22.6% of all LLINs delivered to malaria-endemic countries between 2015 and the second quarter of 2019. These numbers correlate with the large population at risk of malaria in the two countries: 149 million out of a total population of 195 million in Nigeria, and 81 million out of a population of 84 million in DRC, in 2018. In contrast, El Salvador had the smallest number of LLINs delivered: 8,600.

Figure 2: Total LLINs delivered between 2015 and the second quarter of 2019

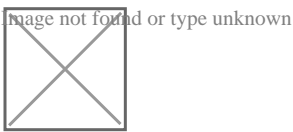


Source: Aidsfan, using data from the Alliance for Malaria Prevention

Global Fund is the leading international financier for LLINs delivered to countries in 2015-2019

Globally, 946 million long-lasting insecticide-treated nets (LLINs) were delivered between 2015 and the second quarter of 2019. In the same period, the Global Fund financed more than half (58%) of the LLINs delivered globally, followed by the President's Malaria Initiative (PMI) at 20%, the United Nations Children's Fund (UNICEF) at 8%, the Against Malaria Foundation (AMF) at 3%, while other donors financed 10% of the LLINs delivered globally. Between 2015 and the second quarter of 2019, the Global Fund's contribution to LLINs delivered to countries in sub-Saharan Africa was 58% (359 million), followed by PMI at 23%.

Figure 3: Total LLINs deliveries by donor organizations between 2015 and the second quarter of 2019



Source: Aidsfan, using data from the Alliance for Malaria Prevention

Quality concerns on LLINs manufactured between January 2017 and April 2018

In 2019, a Pakistan-based company, H. Sheikh Noor-ud-Din & Sons (HSNDS), raised quality issues concerning the LLINs produced under the brand DawaPlus 2.0, manufactured by Tana Netting Company Limited, according to the Global Fund's [Quality Assurance for Health Products Information Notice](#). The quality concern raised was that the LLINs manufactured between January 2017 and April 2018 were not fully in conformity with approved specifications of the required amount of insecticide. Based on that information, the Global Fund suspended the delivery of DawaPlus 2.0 LLINs ordered through the Global Fund's pooled procurement mechanism (PPM). This affected LLIN deliveries to countries such as Cameroon, DRC, Laos, Pakistan, and South Sudan.

Distribution challenges

In the same period, the in-country distribution of LLINs delivered with the support of the Global Fund faced challenges in some countries. For instance, there were delays in the mass distribution of LLINs in Kenya, Nigeria and Zambia. In Kenya, the LLINs arrived 87 days late in 2017 and thus could not be distributed before the malaria peak transmission season, as indicated in [the OIG audit report of 2018 on Global Fund grants to Kenya](#). Also, coordination and distribution plans of the LLINs were inadequate as 109,694 people eligible to receive the LLINs were missed during mass distribution, despite the availability of 299,000 excess LLINs in other parts of the country. In Nigeria, the delay in LLIN mass distribution in 2017 was due to limited experience of one of the Principal Recipients (PRs) in LLIN distribution, as captured in the [OIG audit report of 2018 on Global Fund grants to Nigeria](#).

In Zambia, there were delays in LLIN distribution by two months in 2016, arising from the Global Fund's delaying the release of funds, as grant implementers had submitted incomplete documentation, according to the [OIG audit report of 2017 on Global Fund grants to Zambia](#). In Chad, the Global Fund funded LLIN mass distribution to 13 out of 19 prioritized regions during the 2016-2018 implementation period, as indicated in the [OIG audit report of 2018 on Global Fund grants to Chad](#). The grant arrangements were that the government of Chad was to fund LLIN distribution to the six remaining regions, to an estimated 3.8 million people. However, due to the country's economic crisis, the government was unable to honor its commitment and those regions were not supplied with LLINs.

In 2017, the Global Fund-supported mass distribution of LLINs in South Sudan was poorly planned, as it happened outside the malaria peak season thus hampering the effectiveness of the intervention, as captured in the [OIG audit report of 2019 on Global Fund grants to South Sudan](#). Similarly, in South Sudan, LLIN mass distribution was undertaken outside the peak malaria transmission season in 2017 (see the [OIG audit report of 2019 on Global Fund grants to Sudan](#)). In Uganda, there were inefficiencies in LLIN mass distribution in 2017/2018, according to the [OIG audit report of 2019 on Global Fund grants to Uganda](#). The country's distribution exceeded the required number of LLINs by two million, due to the overestimation of the population at risk of malaria.

The Global Fund, however, does not control in-country LLIN distribution. Because the Global Fund is not an implementing agency, it is the mandate of Global Fund-supported countries to plan and execute mass distribution of LLINs to malaria prone areas using country systems.

Conclusion

The Global Fund and other donors including the US Presidential Malaria Initiative (PMI) have played their role in ensuring LLINs are delivered to malaria-endemic countries. However, it is the responsibility of countries to ensure the use and targeted distribution of LLINs to people at risk of malaria if the global targets of reducing malaria case incidence by at least 90% by 2030 is to be achieved.

Further reading:

- WHO 2019 report, '[World Malaria report of 2019](#)'
- Global Fund 2019 report, '[The Global Fund Results Report 2019](#)'
- OIG 2018 audit report, '[Global Fund Grants in the Republic of Kenya](#)'
- OIG 2018 audit report, '[Follow-up Audit of Global Fund Grants to the Federal Republic of Nigeria](#)'
- OIG 2017 audit report, '[Audit of Global Fund Grants to the Republic of Zambia](#)'
- OIG 2018 audit report, '[Global Fund Grants to the Republic of Chad](#)'
- OIG 2019 audit report, '[Global Fund Grants in the Republic of South Sudan](#)'
- OIG 2019 audit report, '[Global Fund grants in the Republic of Sudan](#)'

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