BACKGROUND

In Ethiopia, malaria is found in about 68% of the total area of the country, and 60% (63,495,055) of the total population is at risk of infection¹. In 2017/18, 1,206,892 confirmed and clinical malaria cases and 158 deaths have been reported. Of the total confirmed cases, 883,886 (69.2%) were *P. falciparum* and 181,964 (30.8%) were *P. vivax*². Three Malaria Indicator Surveys (2007, 2011 and 2015) have shown a low prevalence of malaria in the country ranging from 0.5% to 1.3%³. Malaria transmission is highly seasonal and varies geographically across the country, with local annual epidemics and historically with periodic epidemics every five to eight years. Widespread malaria epidemics have been largely absent since 2004, after the scale up of malaria control interventions.

In 2007, Ethiopia became one of PMI focus countries in Africa. Initially, PMI resources for Ethiopia primarily targeted Oromia Regional State, the country’s largest administrative region and home to the greatest number of people at risk for malaria. However, since 2011, in addition to operations in Oromia, PMI has provided increasing national level support specifically towards:

- Policy development and technical support
- Malaria commodity procurement and supply chain management
- Laboratory diagnostic strengthening and integrated community case management
- Surveillance optimization for malaria elimination
- Social behavior change communication

SIGNIFICANT NATIONAL ACHIEVEMENTS

- Malaria confirmatory test by Rapid Diagnostic Test or microscopy increased from 53% in 2012 to 88.3% in 2018<sup>4</sup>

- According to World Malaria Report 2018, Ethiopia has shown 57 percent decline in incidence and a 54 percent reduction in malaria mortality between 2015 and 2018. Similarly, a recent study using vital registry and population surveys have shown a reduction of malaria morbidity and mortality by more than 88% and 96.5% in the last 25 years<sup>5</sup>.

- Currently, malaria parasite prevalence is 1.3 % in areas below 2,000 meters by microscopy for all ages and severe anemia (<5g/dL) is 0.9% of children under five years of age.

- Ethiopia has recently declared malaria elimination efforts in 239 selected districts located in six different regions. PMI collaborated with the Ethiopia National Malaria Control Program to develop an elimination operational assessment tool.

KEY INTERVENTIONS AND NATIONAL PROGRESS TO DATE

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<tbody>
<tr>
<td>Funding Level in Million</td>
<td>$ 8.2</td>
<td>$19.8</td>
<td>$19.7</td>
<td>$ 31</td>
<td>$ 41</td>
<td>$ 43</td>
<td>$43.8</td>
<td>$ 45</td>
<td>$ 44</td>
<td>$ 40</td>
<td>$ 38</td>
<td>$ 36</td>
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- Since 2007, the PMI has invested more than 445.5 million U.S. dollars in malaria control efforts in Ethiopia. PMI supports activities through 13 implementing partners. All activities are extensively coordinated with the Federal Ministry of Health (FMoH) and the regional health bureaus (RHBs).

- 55% of PMI support is for procurement of antimalarial commodities mainly Long Lasting Insecticide Treated Nets (LLIN), antimalarial medicines, diagnostic tools, and insecticide.

Insecticide-treated mosquito nets (ITNs) — Ethiopia has embarked on a massive ITNs scale-up and in total, more than 72 million long-lasting insecticidal nets have been distributed since 2005 by malaria partners including the Global Fund. Between FY 2007 and FY 2019, PMI procured a total of 40.8 million LLINs, out of which 35.2 million distributed to malaria risk communities and the remaining 5.57 million is currently being distributed through LLINs distribution campaign.

The MIS - 2015 survey indicated that 63.6% of households owned at least one LLIN.

- A comprehensive package of social behavior change communication (SBCC) activities is being implemented along with LLIN distribution to ensure that use of LLINs is maximized.

Indoor residual spraying (IRS) — IRS has been applied to prevent malaria epidemics in epidemic-prone areas of the country since the 1950s through the Global Malaria Eradication Program.

- The country revised its insecticide use policy in 2009, following PMI-supported insecticide resistance monitoring.

- PMI support for IRS operations has expanded from 20 districts in 2008 to 44 districts in 2018. In 2012, PMI and the Oromia regional health bureau implemented a graduation process in 24 districts, handing over IRS operations to local government.

<sup>4</sup> Federal Ministry of Health. Health and Health Indicators from 2012 to 2017

<sup>5</sup> Deribaw et al, 2017
In 2018, PMI supported the spraying of 545,496 structures and protected 1,264,189 people from malaria in 44 districts of Oromia, Gambella and Benishangul-Gumuz Regions, achieving a 97.4% coverage rate.

**Diagnosis and Treatment**— Early diagnosis and prompt treatment of malaria reduces disease, prevents deaths and contributes to reducing malaria transmission.

- Ethiopia aims to improve diagnostic services for all fever cases, using rapid diagnostic tests (RDTs) at community health posts and microscopy at secondary and tertiary facilities. RDTs were first made available to health posts in 2005 with multi-species RDTs being introduced in 2009.
- The FMOH’s 2017 HSTP I annual review meeting report, stated that “out of the total 1,206,892 malaria cases reported, 1,065,850 (88.3%) were confirmed by either microscopy or RDT.
- In 2019, PMI has trained 4,216 laboratory technicians and 3,801 health workers in the use of ACTs. In addition, since 2009, PMI procured and distributed 9.2 million RDT tests.
- Artemether-lumefantrine (AL) is the first line treatment for microscopically or RDT confirmed P. falciparum cases while chloroquine (CQ) remains first line treatment for P. vivax cases. Since 2008, PMI procured and distributed 15 million treatment doses of AL and 7.8 million doses of CQ.
- Antimalarial drug efficacy tests, a drug adherence assessment, and anti-malarial drug quality assessments have been conducted since 2008 with PMI support.
- Laboratory facilities have been enhanced through the provision of supportive supervision that include provision of microscopes, laboratory reagents and other supplies. About 1,022 health facilities, majority in malarious area of Oromia, have been supported from 2009-2018. Currently, PMI is supporting 348 health facilities.
- Pharmaceutical systems have been strengthened through on-site support supervision and training from USG integrated programs.

**Other Technical Interventions**— In response to the malaria epidemiology in Ethiopia, PMI supports several approaches to strengthen malaria surveillance and response at national, regional, district, and community levels by establishing detection and reporting systems, supportive supervision, standardized protocols and health worker training.

- PMI has supported operational research studies that are looking into schools as possible platforms for malaria surveillance, RDT use, Glucose-6-phosphate dehydrogenase (G6PD) prevalence, and identification of resistance to insecticides and antimalarial medications. Of which the research on vivax relapse and G6PD prevalence has informed the national treatment guideline.
- PMI supported the Malaria Indicator Surveys in 2007, 2011 and 2015.
- Assisted national malaria control program (NMCP) in the development of National Strategic Plan 2017 – 2020 and updated guidelines for case management, vector control, and surveillance and elimination guidelines and manuals.
- Supported FMOH in its successful Global Fund applications.

**Community Interventions**

- The creation and expansion of Health Extension Workers (HEWs) has helped with the identification and management of uncomplicated malaria. HEWs who provide healthcare at the community health posts across the country, have been trained on febrile case assessment, RDT use, and integrated community case management for malaria diagnosis and treatment. About 60% of malaria cases are treated at community health posts.
- Community volunteers assist health extension workers in detecting febrile cases in households, distributing LLINs, spraying households, and disseminating key malaria messages.
List of Major PMI Partners in Ethiopia

<table>
<thead>
<tr>
<th>Partner Organization</th>
<th>Activity</th>
<th>Geographic Area</th>
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<tbody>
<tr>
<td>GHSC/PSM</td>
<td>Procurement and distribution of LLINs, RDTs, ACTs, chloroquine, pre-referral and severe antimalarial drugs, laboratory equipment &amp; supplies and support for national commodities quantification.</td>
<td>National</td>
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<tr>
<td>Abt Associates (VectorLink)</td>
<td>Procurement of IRS materials, IRS operations, entomological monitoring, capacity-building, and pesticide management</td>
<td>Oromia, Gambella &amp; BG</td>
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<tr>
<td>TRANSFORM PHCU, HDR</td>
<td>Provide systems support for strengthening malaria management in pregnant women and treatment at community level including support supervision.</td>
<td>National</td>
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<tr>
<td>Columbia University MDTA</td>
<td>Supported quality of malaria diagnosis and treatment services.</td>
<td>National</td>
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<tr>
<td>AIDS FREE</td>
<td>Strengthening and integrating malaria commodities into IPLS and development of Ethiopian Pharmaceutical Supply Agency (EPSA) Supply Chain Management Information System (SCMIS) dashboard</td>
<td>National</td>
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<td>Addis Continental Institute of Public Health</td>
<td>Strengthening monitoring and evaluation systems</td>
<td>National</td>
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<td>USP PQM</td>
<td>Promote quality of medicine</td>
<td>National</td>
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<tr>
<td>Abt Associates (PHSP)</td>
<td>Support malaria case management in private sector</td>
<td>National</td>
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<tr>
<td>JHU-CCP</td>
<td>Social behavior change communication</td>
<td>National</td>
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<tr>
<td>HDAMA</td>
<td>Social behavior change communication at school and community level</td>
<td>Amhara region</td>
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