About the Program for the Advancement of Malaria Outcomes

While mortality from malaria has drastically decreased in Zambia over the past decade, malaria remains a public health concern with over 5 million cases reported annually. Malaria prevalence varies between and within districts and is endemic across all ten provinces. The Government of the Republic of Zambia (GRZ) has set ambitious timelines for the elimination of local malaria infection.¹

The Program for the Advancement of Malaria Outcomes (PAMO) is a flagship malaria program for the President’s Malaria Initiative (PMI), a U.S. government initiative, in Zambia. PAMO supports the GRZ in accelerating progress toward eliminating local malaria infection and disease. Implemented by PATH in partnership with Jhpiego and the Broadreach Institute for Training and Education (BRITE), PAMO supports the GRZ at the national level through the National Malaria Elimination Centre (NMEC) in four high burden provinces: Luapula, Muchinga, Eastern, and Northern.

PAMO’s strategy focuses on:

- Increasing effective coverage of proven malaria interventions in alignment with the National Malaria Elimination Strategic Plan (NMESP) 2017–2021.²
- Strengthening management capacity of provincial and district Ministry of Health personnel to provide oversight and supervision of malaria interventions.
- Strengthening the health management information system at the provincial and district levels to improve data reporting, analysis, and use for decision-making.

Supporting implementation of the National Malaria Elimination Strategic Plan

The NMESP 2017–2021 identified the need to improve program coordination and activity implementation to meet the target of implementing 95% of planned activities each year. PAMO began supporting the NMEC’s implementation of the NMESP in April 2016. PAMO convened a consultative meeting attended by the NMEC; representatives from the four targeted provincial health offices; and select districts, donors, and implementing partners to discuss PAMO’s role in supporting overall country program management efforts. Three areas of requested support emerged: partner coordination, program management, and resource mobilization embodied through the national harmonized malaria workplan, coordination meetings, and the malaria scorecard.

National harmonized malaria workplan

To ensure a harmonized and coordinated approach to malaria program management across all implementing partners, the NMEP asked PAMO to develop and implement a management tool that would ensure “real-time” implementation monitoring. PAMO facilitated a national, structured consultation with all malaria cooperating partners and donors to integrate content from partner projects into a planning template. This culminated in the development and implementation of an electronic management tool known as “the national harmonized workplan,” which breaks down tasks by the national, province, district, health facility, and community levels aligned to targets in the NMESP.

The national harmonized workplan helps ensure that activities implemented by malaria stakeholders are indeed contributing toward national objectives, that plans can be viewed in one place, and that stakeholders are held accountable to achieve results. The NMEC convenes an annual national malaria planning meeting where stakeholders discuss objectives and agree on activities to be implemented according to the NMESP.

The 2020 national harmonized malaria workplan has five objectives:

1. **Vector control**: To ensure universal access to vector control malaria elimination strategies to reduce the risk of malaria infections and epidemics.
2. **Case management**: To ensure all suspected malaria cases are managed according to national guidelines for diagnosis and treatment at all levels of the health system.
3. **Surveillance monitoring, evaluation, and operational research**: To monitor and evaluate the performance of malaria programs and strengthen the capacity to conduct evidence-based programming informed by research.

¹ [https://www.nmec.org.zm/malaria-overview](https://www.nmec.org.zm/malaria-overview)
4. **Social and behavior change communication**: To improve knowledge around and subsequent uptake and correct use of key malaria interventions from the 2015 baseline to 90% by 2020.

5. **Program management**: To increase intervention implementation from 87% to 98% by the end of 2020.

In the workplan, each objective is broken down by activity, date started, deadline, and status. The workplan captures partners involved in implementing the activity and the person responsible (Figure 1). Partner organizations together with the NMEC update the status of the objective as activities progress, using color to note status. This collaborative and transparent mechanism for tracking the workplan reinforces mutual accountability among malaria partners.

**Figure 1. Section of harmonized workplan for Katete District including activities, status, and responsible parties (accessed June 2020).**

<table>
<thead>
<tr>
<th>Objective Description</th>
<th>Date created</th>
<th>Start</th>
<th>Deadline</th>
<th>Status</th>
<th>Status explanation</th>
<th>User</th>
<th>Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>• SMEDOR: To strengthen the capacity and to monitor and evaluate the performance of malaria programs and conduct evidenced based programming through research</td>
<td>Apr 14, 2020</td>
<td>Jan 1, 2020</td>
<td>Dec 31, 2020</td>
<td>Action achieved</td>
<td>28 phones were bought and have been distributed and 140 CHWs have been trained achieving saturation, both with support from PMI/PATH and funded by PMI.</td>
<td>PATH/ PMI-PAMO</td>
<td></td>
</tr>
<tr>
<td>• Health facilities and communities report malaria data using mobile phones in the malaria surveillance system</td>
<td>Apr 14, 2020</td>
<td>Jan 1, 2020</td>
<td>Mar 31, 2020</td>
<td>Action achieved</td>
<td>Activity completed. 28 phones distributed with support from PMI-PAMO.</td>
<td>PATH/PMI-PAMO</td>
<td></td>
</tr>
<tr>
<td>• Distribution of phones for Malaria Rapid Reporting</td>
<td>Apr 14, 2020</td>
<td>Jan 1, 2020</td>
<td>Mar 31, 2020</td>
<td>Action achieved</td>
<td>140 CHWs trained with support from PMI-PAMO.</td>
<td>PATH/PMI-PAMO</td>
<td></td>
</tr>
<tr>
<td>• Training of facility staff and CHWs in malaria rapid reporting (MRR)</td>
<td>Apr 14, 2020</td>
<td>Jan 1, 2020</td>
<td>Mar 31, 2020</td>
<td>Action achieved</td>
<td>Quarter 1 Data quality Audit conducted in February 2020 with support from PMI/PAMO. Final audit scheduled for July 2020.</td>
<td>PATH/PMI-PAMO</td>
<td></td>
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**Consultative and partnership coordination meetings**

To sustain the utilization of the harmonized workplan, enhance coordination, and stimulate resource mobilization strategies for the malaria program, PAMO was asked to support the NMEP to conduct regular partnership consultative and coordination meetings. These have now been institutionalized into monthly directorate meetings at the national level, and annual harmonization meetings at the national and provincial levels to produce national, provincial, and district harmonized workplans. PAMO is supporting the program to pilot district-level workplan harmonization meetings to lead to the development of health facility level workplans. PAMO is procuring mobile phones and conducting training on using scorecards at the district and facility level to monitor performance of the program in pre-elimination districts. The ability to drill down to the facility level will allow for more targeted support that is required to improve program performance.

**The malaria scorecard**

Tracking progress toward attaining key malaria indicators is necessary for effective program management. To support real-time implementation monitoring of key indicators, PAMO brokered the integration of the work planning template onto a web-based platform managed by the African Leaders Malaria Alliance (ALMA) that was used as a scorecard to track quarterly performance against health indicators. What resulted was the malaria scorecard, an online data visualization platform that tracks progress on vector control, case management, and surveillance indicators. After a collaborative and rigorous selection process, the NMEP and partners agreed to track the following high-level indicators:

- **Vector control:**
  - Percentage of under-five children receiving long-lasting insecticide-treated nets (LLINs) through the expanded program for immunization.
  - Percentage of pregnant women receiving LLINs through antenatal care (ANC).

- **Case management:**
  - Percentage of pregnant women that receive three doses or more of intermittent preventive treatment in pregnancy (IPTp) through ANC.
  - Proportion of uncomplicated malaria cases that receive first-line antimalarial treatment.
  - Proportion of suspected malaria cases that receive parasitological test by public facility.
  - Case fatality rate.

- **Surveillance:**
  - Malaria incidence rate.
  - Proportion of confirmed malaria cases.
  - Percentage of facilities with complete reporting.
  - Timeliness of reporting.
The scorecard (Figure 2) is linked to the District Health Information System (DHIS2), where national malaria data collected monthly is stored. Each quarter, the NMEC’s monitoring and evaluation team runs the DHIS2, which aggregates the data and updates the scorecard to show performance. It shows national indicators in a tabular format, color-coded using green, yellow, and red to note whether the indicator is on track, sub-optimal, or off track. Arrows (^) and a percentage next to the color-coded indicator show whether the indicator is trending up or down compared to previous quarters.

**Figure 2. Table of color-coded national indicators in the tabular view of the online malaria scorecard (accessed June 2020).**

The scorecard also generates graphs to show indicator trends over time (Figure 3). Users can select a geographic level—district, provincial, national, or a combination—to see performance trends and compare performance. Comparisons between provinces and districts help immediately identify where attention is needed.

**Figure 3. View of a comparison of two provinces on a treatment indicator within the malaria scorecard.**

The colors in Figure 3 denote the desirable thresholds. In Q1 2017, scoring less than 70% meant poor performance (red), above 70% meant moderate performance (yellow), and above 90% meant good performance (green) for the indicator “proportion of uncomplicated malaria cases that receive the first line antimalarial treatment.” During the 2017 end-of-year program review, while using the scorecard the NMEP noticed the thresholds for such an important indicator were too low. They therefore adjusted the thresholds to hold health care providers to a higher standard of performance. Poor performance is now any score less than 90% while above 90% and 95% are considered acceptable and good performance, respectively.
The scorecard will soon also include facility-level information. PAMO began a pilot in early 2020 in Eastern Province to decentralize the use of the scorecard to a few health facilities. PAMO will support the facilities with training and mentorship in addition to supplying tablets for tracking the implementation of the plans and monitoring the indicators using the scorecard. The scorecard is an important decision-making tool for all levels of decision-making.

**Impact of PAMO’s program management efforts**

Every month the NMEC holds directorate meetings with implementing partners in which the malaria scorecard and harmonized work plan are used to assess progress against targets and workplan schedules. At these meetings, the NMEC and malaria stakeholders make evidence-based decisions to troubleshoot issues, identify resources, and reorient programs based on scorecard information. On a weekly basis, provincial and district health offices use the information in the action tracker to troubleshoot and resolve implementation challenges. Several have requested that the workplan be expanded to carry all other health activities. In 2019, the NMEP formed the End Malaria Council (EMC). Chaired by the Minister of Health, the EMC consists of government, business, and community leaders from across the country with a mandate to assist the country in increasing resource mobilization to achieve and sustain malaria elimination. With a focus on accountability, resource mobilization and advocacy, the EMC uses the malaria scorecard to identify areas that need malaria elimination support.

“The electronic workplan and scorecard has been invaluable in improving malaria programming, coordination, and tracking of key activities. In the previous strategic plan, the implementation rate for the five-year plan was 36%. At the midterm of the current strategic plan, implementation was at 51% and indications suggest that we will be at 100% by the end of this strategic plan. This can, in part, be attributed to the adoption of the scorecard as a ‘real-time’ tracking tool at all levels in Zambia. Additionally, we also have the ability at any given time to access key performance indicators for our interventions and drill down to identify areas that may require additional support or indeed provide best practices that can be scaled up. The tool has been a game changer in our programming and will continue to be of great value until Zambia is declared ‘malaria-free.’”

—Dr. Busiku Hamainza, Epidemiologist, National Malaria Elimination Centre.

The impact PAMO initiatives have had on improving program management have been appreciated by the GRZ and its cooperating partners. In November 2016, PAMO conducted an end-term evaluation of the previous National Malaria Strategic Plan (2011-2016) and found that only 36% of planned activities were fully implemented. In April 2018, the partnership conducted a midterm review of the current NMESP and found that the program implemented 51% of its expected outputs and outcomes. In January of 2019, the program was able to integrate its annual workplan into the malaria scorecard platform. This enabled the program to assess its annual implementation rate as the platform automatically calculates when activities are implemented. The program scored 86% implementation of its annual workplan. The steady improvement boosted confidence in the effectiveness of the platform.

Zambia is a leader in evidence-based decision-making. The national harmonized workplan and accompanying scorecard are institutionalizing a culture of data use in Zambia. The End Malaria Council refers to the scorecard when making funding prioritization decisions. These tools strengthen the NMEP’s ability to coordinate partner support on a regular basis. Finally, the tools capture a holistic view of all activities while allowing flexibility for Zambia’s stratified approach to implementation. For these reasons, other countries are looking to learn more, such as through ALMA, and emulate these tools in their contexts. Going forward, the focus is on maintaining these systems and increasing available resources to ensure full implementation of the strategic plan.

**Lessons learned in strategic plan alignment and implementation**

In engaging in malaria program management improvement efforts, PAMO has learned three key lessons:

1. Engaging all partners and stakeholders from the onset garnered the necessary support for continued accountability and alignment.
2. The availability of real-time data facilitates a culture of data-informed decision-making at all levels.
3. The regular reviews of progress against key indicators allows the program to address any implementation bottlenecks occurring on the national, provincial, district, or health facility level. This ultimately improves the efficiency of activity deployment.

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