Mobile Solutions for Malaria Elimination Surveillance Systems

Focus Area: Health

Service Provided:
- Strategic Needs Assessment
- Detailed Process Mapping
- Mobile Tools' Landscape Assessment
- Mobile tool feature definition and prioritization
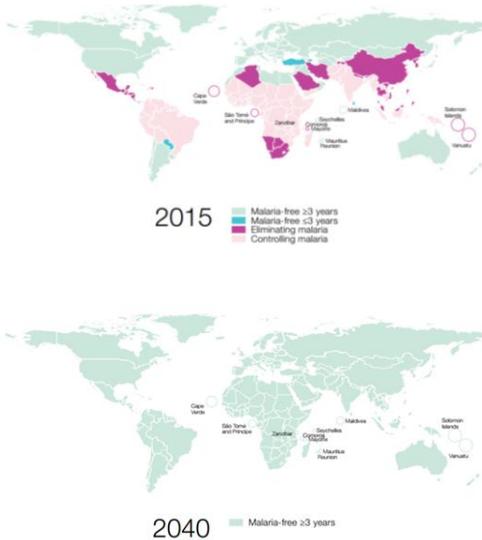- Stakeholder facilitation

Partners:
- Bill & Melinda Gates Foundation
- Technology providers
- Malaria program experts

Challenge

The potential role of mobile tools to strengthen and extend the reach of disease surveillance systems is widely recognized. Malaria eradication relies on timely and accurate data to effectively identify areas of ongoing transmission, target interventions, and measure progress toward elimination. However, a key gap curbing progress is the lack of appropriate tools for collecting, managing, and analyzing malaria data. Most data collection systems are slow and generate incomplete, inaccurate, and highly aggregated data. Elimination-ready systems must be capable of getting the right information to the right person at the right time.

While a variety of tools have been piloted and introduced, each with its own strengths and limitations, few have scaled and none meet all the malaria community's surveillance needs. The current approach to tool development has led to a fragmented environment in part because there is not an articulated vision of where mobile tools fit into the landscape and what features are critical. The lack of coordination and consensus highlights the need for the malaria community to address these issues together and ensure better designs for sustainable solutions.

2015

Malaria-free ≥3 years
Malaria-free ≤3 years
Eliminating malaria
Controlling malaria

2040

Malaria-free ≥3 years

➔ *Source: UCSF Global Health Sciences, Shrinking the Malaria Map*

The ingenuity and creativity of the malaria and technology provider communities has resulted in a rich array of mobile tools and platforms which can be leveraged for use in both malaria as well as other disease programs

➔ **Read the full 'Mobile Solutions for Malaria Elimination Surveillance Systems: A Roadmap' report here**

➔ **Read a summary of the report here**

Solution

The Bill & Melinda Gates Foundation engaged Vital Wave to identify actionable next steps for developing mobile tools for malaria surveillance. The team interviewed global and country-level malaria experts and technology providers and used the results to map, in detail, the current and desired states of malaria surveillance and the current landscape of mobile surveillance tools. Using detailed process maps for the current and desired surveillance processes, the team facilitated a convening with technology providers and malaria program experts to identify the priority features and capabilities required for a mobile tool to successfully support the malaria surveillance activities.

Results

Designing a tool that meets the needs of malaria surveillance field teams requires the development of specific features and capabilities. Through this work a collective understanding and evidence base for malaria experts and technology providers on the landscape of mobile tools for malaria surveillance, the trade-offs and nuances of critical features, and the technology gaps which may require additional focused investment has been developed. As a result of this project, a comprehensive list of priority ("must have") and nonessential ("nice to have") features that mobile tools and platforms must support malaria surveillance were developed and an assessment of the current tools available that meet these features as well as the gaps that remain were documented.

Despite the gaps identified, it is clear that mobile tools and platforms can support the shift to malaria elimination and that aligning efforts and investments to build on existing technologies and progress to date is a feasible goal. The final report recommends building a multi-platform toolkit where priority features are developed across a suite of interoperable but separate platforms. Using this approach, current technologies would be strengthened through the development of prioritized features as stand-alone pieces inside one or more platforms, while foundational components of mobile solutions—which can be reused on multiple mobile technologies—could also be developed. This approach would enable multiple platforms to be integrated and used together to support the complete set of required features or, alternately, for platforms that provide similar features to be swapped in and out as needed. This would give countries the opportunity to continue working with tools that they have already incorporated into their health information system and to select additional tools that are best suited to their program implementations.

The conclusion is that mobile tools can support countries' move to malaria elimination and that it is feasible to focus efforts and investments in a new manner that builds on existing technologies and progress to date. The most significant challenges are the lack of a product vision and an organizing force backed by sufficient funding. The ingenuity and creativity of the malaria and technology provider communities has resulted in a rich array of mobile tools and platforms which can be leveraged for use in both malaria as well as other disease programs.