# MALARIA COMMUNITY SURVEILLANCE FOR ELIMINATION

*Leveraging mobile phones and community health workers for malaria surveillance in Zambia*

## SERVICE DELIVERY

**Implementation date: February 2012**

*Zambia has set the forward-looking goal of malaria elimination, targeting select areas before expanding efforts nation-wide. This is a very ambitious goal given the landlocked country has varied malaria risk with areas of the north possessing a very high malaria burden with more than 24 percent of children infected and the central and southern regions with far less malaria. Akros and partners developed a surveillance system that leverages community health workers (CHWs) and mobile phones to increase access to malaria testing and treatment services, provides high-resolution data and maps that illustrate hotspots, and reveals areas nearing the goal of malaria elimination.*

## About Malaria Community Surveillance for Elimination

There was a need to go further beyond the facility-level in diagnosing and treating malaria if Zambia is to be successful in eliminating the disease. Malaria services need to be extended to the community level, especially in the rural areas of Zambia, where these services are difficult to access. People living in these communities often have to travel long distances to access malaria services and treatment. In acknowledging this critical need, Akros and partners developed a community-level malaria surveillance system, which relies on tireless efforts of community health workers (CHWs). The CHWs were trained to diagnose and treat malaria and report these data to the central DHIS2 (District

Health Information System) through java-enabled feature phones. Dashboards and feedback loops have been developed and implemented, also leveraging mHealth technologies, to ensure district and community counterparts understand and utilize data in their resource allocation and decision-making. The district dashboards created within DHIS2 provide graphs and maps showing different types of information including reporting rates, commodity stocks and malaria burden indicators, by clinic and on a monthly basis. This allows districts to monitor performance of clinics remotely and target areas that require on-site technical support or additional malaria response activities.

## Evaluation and Results

This new system has revitalized malaria surveillance in eight districts of Zambia. Malaria-related data are now reported on a weekly and monthly basis by cell phone in the districts of Choma, Kalomo, Kazungula, Namwala, Pemba and Zimba in Southern Province as well as Itezhi tezhi and Mumbwa Districts in Central Province. Surveillance coverage has also been significantly improved from some 150 data points represented by health facilities to more than 1,500 data points now represented by CHWs tasked with providing services for malaria screening and treatment in their villages.

Data received provide a near real-time picture of the location of malaria hotspots as well the progress of areas towards the achievement of zero malaria cases (elimination). In the trenches of malaria elimination campaigns, the speedy, granular data provided through the community surveillance system are necessary to encourage political will and a continued push towards achievement of elimination.

## Lessons Learned

- CHWs are the crucial workforce within this system; their involvement in this system is a source of pride; maintaining communication through feedback loops (via mobile phone and personal interaction) is essential

- Incentives such as providing prepaid air time vouchers for personal cell phones encourages strong reporting rates

- Keep it simple; long lists of indicators to collect are not a good choice for rural community surveillance systems

- Data must be extremely tangible and accessible to all stakeholders in order to actually be integrated into decision-making; DHIS2 dashboards have been an invaluable tool in that regard

## Conclusion

As Zambia, and other countries embark on malaria elimination goals, the establishment of quality surveillance systems is crucial. Clinic-based systems are typically not enough in areas moving from the pre-elimination to elimination stages. Increasing access to care to ensure all malaria infections are identified and treated to prevent onward transmission is essential. Leveraging mHealth tools such as the use of mobile phones to capture and report data from the most rural of areas is possible and can be highly successful.

**Geographic Coverage:** Three provinces (four districts) in Zambia

**Implementation Partners:** Akros, MACEPA, Zambia Integrated Systems Strengthening (ZISSP)/ USAID, Isdell Flowers Cross-border Malaria Initiative

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