

# SMS FOR LIFE

## *Preventing malaria and other medicine stock-outs at the remote health facility level in sub-Saharan Africa*

Malaria is a preventable and treatable mosquito-borne disease whose main victims are children under five years of age in Africa. Although highly effective antimalarial drugs are available, countries continue to experience stock-outs due to systematic shortcomings. It is essential to have adequate supplies of drugs when and where they are needed. However, this continues to be a major challenge, especially in remote rural communities where widespread antimalarial stock-outs frequently prevent patients from receiving treatment.

In response, Novartis, utilizing public-private partnerships, has led the development of the SMS for Life system. Leveraging the availability of mobile phones in remote areas, the internet and mapping technologies, the solution increases the visibility of antimalarial stock levels at remote health facilities, thereby ensuring district medical officers have the information they need to adequately manage antimalarial commodities at each and every facility.

**Implementation date:**  
2010

### About

Each country's system provider, guided by the Ministry of Health (MOH), the National Malaria Control Program (NMCP) and the SMS for Life Team, configures the SMS for Life system to national needs. It can flexibly address the priorities of the local MOH, including better availability of commodities, prevention of stock-outs and better forecasting of drug needs, and provide timely surveillance information to support best practices in disease management.

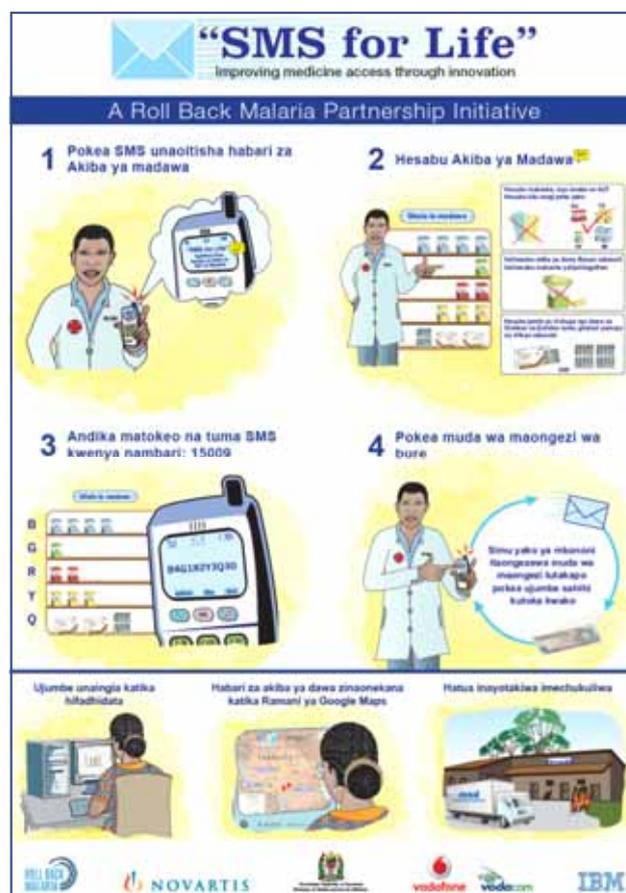
Each week, automatic SMS text messages are sent to mobile phones at health facilities requesting information on current stock levels and disease surveillance. Responses are reported via SMS, centrally stored in a database and made accessible to key health-care staff via the internet and email. The website provides the following: current and historical data on stock levels of antimalaria medicines, antibiotics and rapid diagnostic

tests at the health facility and district level. The system also provides disease surveillance current and historical information, in addition to calculated indices such as percentage of confirmed cases under and over the age of five. The system also tracks and reports on system usage statistics, such as numbers of received messages, errors and system accesses, and has a data extraction function.

Reports are created and can be delivered by mobile phone, email or the internet to staff at all system levels. District medical officers can utilize reporting data for decisions about transferring commodities between facilities in response to stock-outs or make emergency orders to replenish stocks that are running low. National health authorities can view disease surveillance and various data

such as numbers of patients, testing rates and test positivity rates, by facility, District, Region or Country.

Any mobile phone can be used at the health facility level for data reporting, with district managers using smart phones or internet to access email and web-based information. District medical officers and regional- and national-level authorized users can use any personal computer with Internet access to view the website.



## Evaluation and Results

SMS for Life has been rolled out nationally in Tanzania and pilots have been completed in Ghana and Kenya. Both countries have indicated interest in national scale-ups. Cameroon has begun nationwide implementation and the program has also been implemented in five provinces in Democratic Republic of the Congo. In addition, the system is being used to track blood supplies in all blood stocking locations in one region of Ghana and countrywide scale-up is planned for 2014.

## Lessons Learned

- The key to long-term sustainability lies with local ministries of health. They should commit at early stages to taking over the system after successful roll-out and to running it for an extended period, until it is integrated into the mainstream health system and can continue to evolve in that context.
- It can be a challenging and time consuming, albeit worthwhile process to establish and manage partnerships between ministries of health and mobile phone companies.
- An in-country presence would be very helpful and early discussion on funding and funding sources is essential.
- It would be beneficial to find evidence-based solutions through publications and pilots, as well as a cost analysis of necessary full country scale-up prior to implementing the pilot

## Conclusion

The improved visibility of medicine stock levels at remote health facilities allows better management of essential commodities and increased availability and access. Sustainability of the SMS for Life intervention is increasingly attainable because of productive public-private partnerships among local authorities and telecommunications companies, the system provider, major funders and NGOs, and their goal of eliminating almost all malaria deaths in Africa by 2015.

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**Geographic Coverage:** Cameroon, Ghana, Kenya, United Republic of Tanzania, Democratic Republic of the Congo

**Implementation Partners and Funders:** Novartis, Ministry of Health United Republic of Tanzania, Medicine for Malaria Ventures (MMV), Swiss Agency for Development and Cooperation, Vodacom Tanzania, IBM, Google, Vodafone, Ghana Health Service, Swiss Tropical and Public Health Institute, Ministry of Public Health Cameroon, Malaria No More, Ministry of Public Health and Sanitation Kenya, Safaricom Kenya, Management Sciences for Health, PSI/PMI, Norad

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