“SMS for Life”
‘Improving medicine access through innovation’.

A solution to the longstanding problem of stock-outs at the remote health facility level will now be rolled out to 5000 health facilities in all 131 districts in Tanzania.

Maintaining adequate supplies of antimalarial medicines at the health facility level in rural sub-Saharan Africa is a major barrier to effective management of the disease. Lack of visibility of anti-malarial stock levels at the health facility level is an important contributor to this problem.

“It’s simple. If there are no malaria treatments, someone will die. It is very likely to be a child. Reducing stock-outs saves lives.”

Prof. David Mwakyusa, Minister for Health & Social Welfare, Tanzania, April 2010

Tanzania was the Pilot country and will also be the first country to scale-up to all Health Facilities, Districts and Zonal Stores. 20 regional managers from PSI have been trained in how to implement, in addition to Ministry IT personnel. Rollout has started and by Q2 2011, Tanzania will be the first African country to have complete on-line visibility, on a weekly basis, of all their malaria medicine stock in all health facilities and stores locations countrywide.

The rollout project is being jointly supported and funded by The Ministry for Health & Social Welfare Tanzania, RBM, MMV, Vodacom Tanzania and Novartis.

**Methods.** A 21-week pilot study, ‘SMS for Life’, was undertaken during 2009-2010 in three districts of rural Tanzania, involving 129 health facilities, covering a population of 1.2 million. Undertaken through a collaborative partnership between Novartis, the Roll Back Malaria Partnership, IBM, Vodafone and the Ministry for Health of Tanzania, SMS for Life used mobile telephones, SMS messages and electronic mapping technology to facilitate provision of comprehensive and accurate stock counts from all health facilities to each district management team on a weekly basis.

The system covered stocks of the four different dosage packs of artemether-lumefantrine (AL) and quinine injectable. The data captured through the SMS stock count messages is available through a secure reporting website. The website can be accessed via the internet on a computer or a Blackberry or other smart mobile phone. Access to the website is...
granted through a unique User ID and password allocated at the group level and has been granted to the following groups:

- The District Medical Officer and his staff in each district.
- The Regional Medical Officer and his staff in each region affiliated with the chosen Districts
- The Project Team
- The National Malaria Control Program in the Ministry of Health
- The Medical Stores Department (including the Zonal Stores affiliated with each district)

**Results.**

Stock count data was provided in 95% of cases, on average. A high response rate (≥93%) was maintained throughout the pilot. The error rate for composition of SMS responses averaged 7.5% throughout the study; almost all errors were corrected and messages re-sent. Data accuracy, based on surveillance visits to health facilities, was 94%. District stock reports were accessed on average once a day. The proportion of health facilities with no stock of one or more antimalarial medicine fell from 78% at week 1 to 26% at week 21. In Lindi Rural district, stock-outs were eliminated by week 8 with virtually no stock-outs thereafter. During the study, AL stocks increased by 64% and quinine stock increased 36% across the three districts.

**Conclusions.**

The SMS for Life pilot provided visibility of anti-malarial stock levels to support more efficient stock management using simple and widely available SMS technology, via a public-private partnership model that worked highly effectively. The SMS for Life system has the potential to alleviate restricted availability of anti-malarial drugs or other medicines in rural or under-resourced areas.

Overall, the SMS for Life system was built to be a generic and highly scalable solution that can be leveraged to support any medicine or product, and can be implemented in any country with minimal tailoring. Additionally the system could also be utilized for disease surveillance.

“I’m grateful for what you are doing for my country – I loose a child every five minutes which is a waste from a disease that is completely preventable. This is a great project and an innovation that I support very much, it’s exciting to me.”

*Prof. David Mwakyusa, Minister for Health & Social Welfare, Tanzania, April 2010 when presented with the “SMS for Life” Pilot results.*
• How does it work

The system will automatically send an SMS request to all health facilities on a weekly basis asking for their current stock of ACT’s and Quinine Injectables. The responses will be collected and stored centrally on a web site and generate the following reporting:

- **using mapping technology**, to display at the country and district level the stock situation by individual health facility

- **using SMS technology**, to send ‘alerts’ to the district or central stores giving immediate information on stockouts

- **using WEB technology**, to provide query and reporting of stocks by health facility, district, region, zone and calculate average weekly usage by health facility etc.

- **using statistical tools technology**, to provide early warning of malaria outbreaks, e.g. highlight when there is a sharp rise in the weekly usage above the average in a number of closely located health facilities.

• Who are the main users of the information produced?

  - District Medical Officers (including District Pharmacists)
  - the National Malaria Control Programme (NMCP),
    - Central Medical Stores Department (MSD)
    - Personnel at the Zonal Medical Stores
    - Regional Medical Officers

• Who is on the program steering committee?

  - Exec. Dir. Roll Back Malaria Partnership (Chair) Prof. Awa Marie Coll-Seck
  - Tanzania Nat. Malaria Control Program Manager Dr. Alex Mwita
  - PSI Vice President and Global Malaria Control Director Dr. Desmond Chavasse
  - Director of the Swiss Tropical Institute Prof. Marcel Tanner
  - Global Health Solutions, Vodafone. Joaquim Croca
  - CEO Novartis Foundation for Sustainable Development Prof. Klaus Leisinger
  - Exec. VP Novartis Malaria Initiatives Silvio Gabriel
  - “SMS for Life” Program Director Jim Barrington