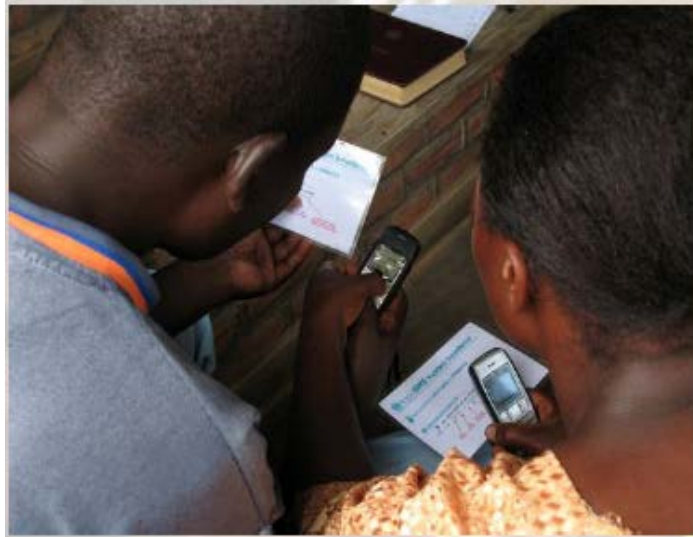# mTrac: Monitoring Essential Medicine Supply

Brief Overview

Challenges in supply chain management of health supplies in Uganda have resulted in regular stock-outs of life-saving medicines in recent years, including artemisinin-combination therapies (ACTs) used for the treatment of malaria and antiretroral (ARV) drugs used for treating HIV and AIDS. In order to to address this, in partnership with the World Health Organization and the UK Department for International Development (DFID), UNICEF Uganda is supporting the Ministry of Health (MOH) in the nationwide roll-out of an SMS-based disease surveillance and medicine tracking system (mTrac) at all 5,000 health facilities and through 8,000 medicine-distributing village health workers.

The main purpose of the mTrac initiative is to strengthen the national Health Management Information System (HMIS) reporting, with an focus on disease surveillance, medicines monitoring, and the generation of community derived reports on health service quality with the aim of empowering government with real-time data, improving health sector accountability, and reducing stock outs. mTrac is built on open-source RapidSMS technology and is designed to work on the mobile phone already in the hands of Ugandan health professionals, with no actual phones being distributed as part of this initiative. mTrac was officially launched in December 2011. mTrac currently has over 15,000 Health Sector Professionals already using the system, with national coverage expected to be achieved by December 2012.

■ **Geographic Coverage:**
   Uganda (National)

■ **Implementation Partners:**
   UNICEF is working with a team of partners which includes:
   Ugandan Ministry of Health | WHO | UK Department for International Development (DFID) | Foundation for Innovative New Diagnostics (FIND) | Ugandan National Medical Stores (NMS) | Ugandan Medicines and Health Service Delivery Monitoring Unit (MHSDMU) | Malaria Consortium

■ **Funder:**
   DFID

■ **For More Information Contact:**
   UNICEF Uganda
   ▪ **Sean Blaschke, Child Survival Systems Strengthening Specialist;**
      Plot 9 George Street, PO Box 7047, Kampala, Uganda;
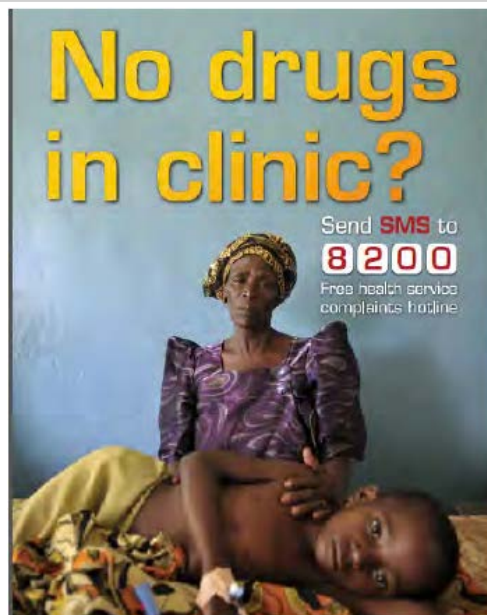   Tel: +256-4-1717-1000; email: sblaschke@unicef.org

About mTrac

mTRAC is an innovation initiative using SMS to transmit weekly HMIS surveillance reports from the nearly 5,000 Health Facilities in Uganda, tracking disease outbreaks and health facility stock of essential medicines. The data is automatically analyzed by a central server with the data validated and disseminated through a web based dashboard and via SMS alerts, providing the Ministry of Health and district health offices with timely, accurate figures with which to plan and monitor programs. District Health Offices are now using this data to shift medicines from overstocked to under stocked facilities, and lobby the NMS for resupply based on their ability to present reliable and timely data.

The second component of mTrac is an anonymous SMS Service Delivery Complaints toll free hotline through which any community member can report health service-related issues, including health centres closed during working hours and stockouts of essential drugs in hospitals. Currently, more than 10 million mobile subscribers are capable of engaging with the government in the monitoring of health services through mTrac using free SMS messages. It is a service that is rapidly gaining popularity among low-income families that do not have access to computers but own phones.

Evaluation and Results

Through mTrac, the Ministry of Health can now access weekly HMIS data in near real-time. For example, mTrac data is now incorporated into the Ministry of Health's Surveillance Unit's weekly news bulletin and reports of drug stock-outs, and is being integrated into the national DHIS2 database. mTrac recently showed, for example, that 14 percent of reporting facilities had complete stock-outs of ACTs. This information is then forwarded to the NMS and MHSDMU for follow-up and action.

Information coming into m-Trac on reported disease cases is also proving extremely useful for districts to identify problems in service delivery. In January 2012 in Kotido district in northern Uganda, for example, district officials noticed a spike in reported cases of fast breathing (a sign of pneumonia). On investigation, the district health team realized that HCW were misdiagnosing and mistreating pneumonia, and conducted a retraining on the spot.

The mTrac hotline has also proven extremely effective, with complaints ranging from drug theft to rape. UNICEF is working closely with the government to follow up on complaints. Between March and June 2012, 524 high priority cases were investigated and 362 cases successfully resolved. Additionally, community reports from suspected disease outbreaks, such as Ebola, have been forwarded to district health teams for further investigation.

Lessons Learned

- National ownership and full government participation is critical to long term project sustainability.
- Regular monitoring and contingency plans must be made for mobile network failures, which were far more frequent than anticipated.

Conclusion

The availability of timely, accurate and complete health information is critical for the planning, accounting, monitoring and evaluation of activities and interventions for the health sector. mTrac is an affordable and sustainable solution that is helping the Ugandan Ministry of Health to improve services, prevent stock-outs, and be held accountable to Ugandan citizens. Using open-source, RapidSMS technology that is utilized by mHealth initiatives in approximately 15 other African countries, mTrac is highly scalable and replicable.