

Rapid SMS providing availability of essential medicines

Country of origin | United States of America, Tanzania, Malawi

Health problem addressed

Many public health supply chains in Africa suffer chronic shortages and stock out of essential medicines, contributing to high morbidity and mortality rates. Decision makers have little access to stock levels, rendering them unable to monitor stock availability and address stock outs.

Solution description

At pre-scheduled time intervals, facility/community users send text messages with key data to a toll-free short code using their personal mobile phones. Data is used to calculate resupply quantities, which are sent via SMS to resupply facilities to enable prepacking of orders. Reported data items, such as stock on hand, as well as monthly email summary reports and supply management reports are displayed on an interactive web-based interface, with varying access levels, to enable decision making. The solution also alerts higher level staff via SMS if stock levels are limited or depleted.

Functionality

Refer to solution description.

Developer's claims of solution benefits

In Tanzania, evaluation results indicated that 88% of facilities improved on-time stock report submission rates, and 93% improved stock counting exercises because of receiving routine mobile alerts; 45% of facilities reported improved product availability. In Malawi, community health worker(CHW) logistics reporting rates grew to 97% from 43%; and lead times were reduced. The group messaging feature enables managers to reinforce skills and procedures.

Future work and challenges

Some challenges include maintaining the system and solving software problems when they occur. Timely resolution of problems is key to maintaining user confidence in the system. Common human resources challenges also can occur such as turnover of trained staff. Additionally, transitioning the system to full Ministry of Health ownership can be a challenge if they are not engaged from the outset in the technology development. Future challenges include how to continue to ensure increased product availability, use of data for decision making and determining to what extent it can supersede the existing paper-based system rather than be a supplement.

User and environment

User: community health worker, health facility staff, district health staff, and national health staff.

Training: training is conduct by trained trainers using phones and training manuals for one or two days.

Settings: rural, urban, primary, secondary, tertiary and national level.

Reviewer's comments

Very good use of SMS, a well-used feature by cell phone users, to trace medication stock, and also analyse their use and distribution. The pilot of this tool has shown promising results, with high comfort of use and also good results not only on replenishing medications but also tracking usage and reminders to restock.

Solution specifications

Solution is used to support: Decision Support Systems; mHealth; Supply Chain Data.

Software/Hardware requirements: Requirements include simple mobile phones for health workers and access to network coverage, and electricity to recharge phones. Health centre and district staff reviewing the data dashboard online need regular access to a computer with the Internet access.

The software is open-source and built on the rapid SMS platform. The source code is available for any user that would like to adopt and adapt the system for their use.

Standards: HL7

Currently used in: Tanzania, Malawi.

Evaluation: In Tanzania, of the 5 district users and 17 facility users surveyed, 100% indicated that they preferred SMS based reporting, and 88% of the facility users further said that the stock reporting system has also helped improve their reporting rates and adherence to reporting groups. At the facility level, the stock reporting system has increased the attention of health workers on their reproductive health commodities and as a result, improved the timeliness of ordering and stock management.

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