cStock

Brief Overview

Hard-to-reach communities in Malawi rely on community health surveillance assistants (HSAs) to provide quality medicines and services for the treatment of childhood illnesses. However, these HSAs frequently experience stock outs of essential medications. The Improving Supply Chains for Community Case Management of Pneumonia and Other Common Diseases of Childhood Project (SC4CCM) is a five year project funded by the Bill & Melinda Gates Foundation that focuses on finding affordable, simple, and sustainable supply chain solutions that address the unique challenges of community health workers.

cStock is a rapid SMS, open-source, web-based system that was custom designed by SC4CCM and the Malawi Ministry of Health (MOH) to resupply, monitor and manage community-level essential medicines and commodities for child health, family planning and HIV testing. The system allows HSAs to transmit information regarding their supply of nineteen essential medicines to the health center. This community level information is also available to decision makers at all levels of the system.

The project started in November 2009 and runs until October 2012 and works in Ethiopia, Malawi, and Rwanda.

- **Geographic Coverage:**
  Malawi

- **Implementation Partners:**
  Supply Chains for Community Case Management Project (SC4CCM), John Snow International (JSI)

- **Funder:**
  Bill & Melinda Gates Foundation

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About cStock
To address the lack of data visibility in the supply chain, SC4CCM worked with MOH and partners to create cStock. Each community-based HSA was trained in cStock to report commodity information via SMS. cStock automatically calculates the resupply needs for each HSA based on reported stock levels and transmits this data to the health center, enabling health center staff to pre-pack orders and text the HSA when orders are ready.

In addition, cStock alerts higher level staff via SMS if supplies cannot be replenished or an HSA remains at low levels of stock despite being resupplied. Data is available via a web-based dashboard that provides timely visibility into actual stock levels held by HSAs, enabling real time identification of problem areas and overall monitoring of supply chain performance by the district and central level administration.

To launch the system, MOH Malawi and SC4CCM partnered to provide one day of training to HSAs, health center staff and district staff on using cStock. It is essential that staff at all levels of the system understand their role in the system. As cStock is more than a one-way reporting system, each person needs to fully understand how to respond in a timely way.

Evaluation and Results
The formal program evaluation will begin in January 2013, thus the information below are preliminary results from a smaller sample obtained during regular monitoring of activities. Results from monitoring visits found a two-fold increase in the percent of registered HSAs who had four essential medicines (cotrimoxazole, Artemether, lumefantrine and ORS) in stock; these drugs were used as “tracers” to monitor general availability of supplies. As illustrated below, in the first quarter of the project 61 percent of HSAs had the four “tracer” products in stock during the monitoring visit compared to only 27 percent before cStock was implemented.

Additionally, there was a significant adoption of cStock among HSAs. After cStock was implemented 97 percent of HSAs reported logistics data to their respective health center compared to only 43 percent prior to cStock. Supervisors also reported HSA collection of supplies also improved with approximately half of all HSAs collecting products within one to two days of receiving a message that products were ready. One additional encouraging outcome was that access to cStock appeared to motivate HSAs without phones to quickly purchase phones to be able to access the system.

Lessons Learned
- Having good visibility into the messages received from HSAs on the cStock website was critical so that data entry errors, like using the letter ‘O’ rather than the number zero (0), could be quickly identified and addressed.
- HSA trainings should be done in pairs: one who knows how to write and send SMS messages can be a mentor to one who cannot.

Conclusion
Given SC4CCM’s focus on sustainability, the project decided not to provide phones to HSAs, to minimize risks to the long term effectiveness of the system. One positive and encouraging outcome was that access to cStock appeared to be a motivating factor; some HSAs who arrived at the training without phones used their per diem to purchase phones so that they too could use cStock. This not only underlines their trust and commitment to invest in the system but will improve their communication regarding supplies and enable them to better communicate with clinical supervisors, friends and family.

Information was excerpted from:
cStock: Creating an SMS system to improve supply of child health medicines for CCM in Malawi: http://sc4ccm.isi.com/Docs/MwSC4CCMcStock 9.12.11 1 1.pdf