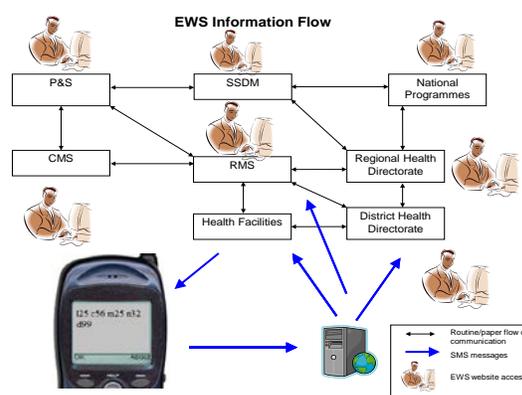


Early Warning System

Brief Overview

Access to essential medicines and supplies at the last mile (i.e., service delivery points) is fundamental to the good performance of any health care delivery system. This calls for, among other things, the existence of an operational health supply chain system with a workable logistics management information system (LMIS) that routinely and systematically churns out data needed for important decisionmaking at all levels of the supply chain. Complementing a functional LMIS with mobile technology can help address some of the health supply chain challenges, which include irregular and haphazard requisitions, and late and incomplete reporting of stock status at the last mile that have resulted in occasional stock outs of essential health commodities at the service delivery point.



The mobile phone-based Early Warning System (EWS) began in July 2011 and is currently being piloted in over 200 health facilities in all 10 regions of Ghana. The USAID-funded Focus Regions Health Project (FRHP) supports implementation in all Ghana Health Service health facilities, including hospitals, health centers, and community-based services, in three regions with the USAID | DELIVER PROJECT supporting implementation in the other seven regions. Participating facilities include all regional hospitals, select district hospitals, select health centers, and community-based health planning and services (CHPS).

- Geographic Coverage:**
 Ghana
- Implementation Partners:**
 Ghana Health Service | USAID Focus Regions Health Project (JSI Research & Training Institute, Inc.) | USAID | DELIVER PROJECT (JSI)
- Funder:**
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About Early Warning System

In an effort to address some of the challenges confronting the health supply chain in Ghana, two USAID funded projects—the Focus Region Health Project (FRHP) and the USAID | DELIVER PROJECT—collaborated with the Ghana Health Service to take advantage of recent advances in mobile technology to enhance logistics data reporting, visibility, and utilization for improved supply chain functioning.

The Early Warning System (EWS) involves the use of mobile phones by health facility staff to report stock levels of 27 tracer commodities (HIV, malaria, and family planning) via SMS to a dedicated short code on a weekly basis. By logging in to the EWS website through the Internet, Regional Medical Stores are also able to input their stock levels for the 27 tracer commodities. Data is then processed and immediately made available to all relevant participants on a website accessible to all program managers and participating providers.

This information helps managers to intervene when there is problem and determine appropriate interventions to improve the availability of health products.

Evaluation and Results

The pilot was assessed after six months of implementation. Below are some of the major findings and conclusions.

Providing near real-time stock status

With the introduction of the EWS, there is improved visibility of stock status data from facilities through the weekly submission of the stock status report. This provides real time stock status information for management use. An improvement in the reporting rates will certainly improve visibility of stock status situations of many more facilities.

The proportion of facilities reporting that have stocked out of any commodity decreased from 32 percent in July 2011 to 24% by November 2011. It is believed that stock-out rates would have been even lower but for the erratic availability at the national level of some program

commodities, including family planning commodities during that period.

Visibility of Stock Status

By clicking on the stock status levels on the EWS website, a manager is able to view the stock levels at the regional level and down to the facility level.

Lessons Learned

- The EWS improved the visibility of stock status for family planning, PMTCT, and malaria commodities at the facility and Regional Medical Stores levels.
- Inventory management practices improved; for example, about 81% of facilities maintained tally cards for PMTCT commodities and 70% of such cards were updated.
- Initially, timely reporting rates were not very encouraging in some of the regions; however, reporting improved after supportive supervision to sites.
- Stock-out rates have been erratic as some commodities have seen declines in stock-outs while others have seen escalations. Availability of stocks at service delivery points (SDP) depends on a full pipeline.
- Stakeholders were highly involved at every stage of the development process. This involvement sets the stage for a successful implementation of the system.

Conclusion

The mobile phone-based EWS pilot made key SDP logistics data available in real time. Given the challenges faced by Ghana's paper-based logistics data reporting system, this pilot demonstrated that mobile technology presents a viable solution.

The system is being upgraded to make it more user friendly and also to ease report generation. Once the necessary upgrades and improvements are completed, the EWS will make it easier for managers to access and use facility-level stock status information to guide their decisions as they work to improve the availability of essential medicines and supplies at the last mile.