



MINISTRY OF HEALTH REPUBLIC OF GHANA

Ghana: Landscape Analysis of Supply Chain Management Software Tools in Use

Objective

In May 2012, IBM, with the Ministry of Health (MOH) and the Ghana Health Service (GHS), developed recommendations for an information system to support the supply chain for public health commodities in Ghana. At that time, the consultants recommended assessing the automation already existing and in use for supply chain management in the country. This landscape analysis would determine (1) what supply chain management software tools were already being used at different levels of the public health supply chain, and (2) determine the gap that must be filled by an information system. This information would help inform the next steps for creating an integrated information system for managing public health commodities.

Methodology

To collect information on software tools in use in the public health supply chain, consultants working on the landscape analysis developed a questionnaire for in-person interviews. The questionnaire included a broad range of questions, including type of application, length of time in use, maintenance and support processes, and others. Informants were interviewed at the Central Medical Stores (CMSs); two regional medical stores (RMSs) (Ashanti and Western); Korle-Bu Teaching Hospital; Lekma District Hospital; the Stores, Supplies and Drug Management (SSDM) unit of the GHS; the National AIDS Control Program (NACP); and the Expanded Programme on Immunization (EPI). In addition, the questionnaire was incorporated into a subsequent warehouse assessment activity, which included the RMSs and teaching hospitals that the team did not visit. Combined, information was gathered from the following:

- All 10 RMSs—Ashanti, Brong Ahafo, Central, Eastern, Greater Accra, Northern, Upper East, Upper West, Volta, and Western
- All three teaching hospitals—Komfo Anokye, Korle-Bu, Tamale
- CMS

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- Two health programs—EPI and NACP
- One district hospital—Lekma District Hospital
- SSDM.

Findings

The assessment revealed that a wide variety of software applications are being used for commodity management throughout the public health supply chain. Although the RMSs are not officially using one common tool, nine of the 10 RMSs are using an application to manage their inventory (Upper West RMS is not using any software at this time). Four of the applications are being used in more than one location, but no one tool is in use in more than three locations. Most of the tools in use were procured commercially and require some paid support and updates. In addition, only two tools are web-based; the rest are desktop-based client-server applications connected through a local area network (LAN), or are stand-alones on a single computer. Eighteen software tools were documented as being in use within the public health supply chain. It should be noted that because not all large hospitals in the country were surveyed, other software tools may be in use that were not documented. However, capturing the tools in use at all the RMSs, teaching hospitals, and the CMS includes everything being used by the major players in the public health supply chain.

Table 1 is a synopsis of the information gathered, with the full results attached.

Note: These findings are based on self-reporting by informants. Where possible, efforts were made to verify and harmonize the information; however where this was not possible, information was left as reported.

Table I. Supply Chain Management Software Tools in Use in Ghana

Software Name	Developer	Off-the-Shelf/Custom Built	Location	Function	Length of Use
District Vaccination Data Management Tool (DVD-MT)	World Health Organization	Off-the-shelf	Expanded Program on Immunization (EPI)	<ul style="list-style-type: none"> ▪ Inventory management ▪ Analysis 	Since 2002
eLMIS for ARVs	National AIDS Control Program (Ghana)	Custom built	ART facilities, RMSs, NACP	<ul style="list-style-type: none"> ▪ Inventory management ▪ Dispensing 	Since 2009
Health Administration and Management System (HAMS)	Infotech Dot Net Systems (Ghana)	Commercial off-the-shelf (COTS)	Komfo Anokye Teaching Hospital	Hospital management	Not yet in use (staff training has been organized)
			Tamale Teaching Hospital	Hospital management (pharmacy, stockkeeping, medical records, labs, finance)	Not yet in use (staff training in progress; expected to be in use within six months)
InventoryBiz	DCS Infoway (India)	Commercial off-the-shelf (COTS)	Ashanti RMS	<ul style="list-style-type: none"> ▪ Inventory management ▪ Accounting ▪ Invoicing 	Since Jan 2013
			Central RMS	<ul style="list-style-type: none"> ▪ Inventory management ▪ Sales ▪ Purchase invoicing 	Over a year
Laboratory information management system	Axon Information Systems (Ghana)	Custom built	Korle-Bu Teaching Hospital (lab)	<ul style="list-style-type: none"> ▪ Inventory management ▪ Billing 	7 years
Logistics management system	Maxi Systems Ghana Ltd. (Ghana)	Custom built	Planned for all RMSs and health facilities	Logistics management	Not yet in use (plan to start piloting this year)
Long Term Asset Management System	Weber State University (Utah, USA)	Custom built	Korle-Bu Teaching Hospital (central store)	Inventory management	Not yet in use (currently piloting in one sub store)
MedicalPro	Sag Systems	Commercial off-the-shelf (COTS)	Komfo Anokye Teaching Hospital	<ul style="list-style-type: none"> ▪ Inventory management ▪ Service data ▪ Human resources ▪ Accounting 	5 years (being replaced with HAMS)

Software Name	Developer	Off-the-Shelf/Custom Built	Location	Function	Length of Use
Medx	ProgSoft Solutions Limited (Ghana)	Commercial off-the-shelf (COTS)	Eastern RMS	<ul style="list-style-type: none"> ▪ Inventory management ▪ Accounting 	7 years
mSupply	Sustainable Solutions (Nepal)	Commercial off-the-shelf (COTS)	Central Medical Stores	<ul style="list-style-type: none"> ▪ Inventory management ▪ Invoicing 	3.5 years
Patient Clinical and Health Information System (P.H.I.S.)*	ProgSoft Solutions Limited (Ghana)	Commercial off-the-shelf (COTS)	Lekma District Hospital	<ul style="list-style-type: none"> ▪ Inventory management ▪ Patient registration 	1.5 years
Persol Inventory Management System	Persol Systems Ltd. (Ghana)	Commercial off-the-shelf (COTS)	Korle-Bu Teaching Hospital (pharmacy)	Inventory management	Over 15 years
PharmaBiz	DCS Infoway (India)	Commercial off-the-shelf (COTS)	Northern RMS	<ul style="list-style-type: none"> ▪ Order processing ▪ Inventory management 	2 years
Procurement management system	Local consultant	Custom built	Stores, Supplies and Drug Management (SSDM)–GHS	Procurement	A long time
QuickShop Pro	Persol Systems Ltd. (Ghana)	Commercial off-the-shelf (COTS)	Korle-Bu Teaching Hospital (pharmacy)	<ul style="list-style-type: none"> ▪ Billing ▪ Sales 	16 years
Requisition/Issuing management system	Central Medical Stores (CMS)	Custom built	Volta RMS	<ul style="list-style-type: none"> ▪ Invoicing ▪ Receipt processing ▪ Inventory management 	Over 15 years
			Western RMS	Inventory management	Since July 2007
			Greater Accra RMS	Inventory management	6 years
Stock Management Tool (SMT)	World Health Organization	Off-the-shelf	Expanded Programme on Immunization (EPI) cold store	Inventory management	Since 2002
Tally	Tally Solutions (India)	Commercial off-the-shelf (COTS)	Upper East RMS	Inventory management	4 years
			Brong Ahafo RMS	Inventory management	6 years

Note: ** This system is used in 15 other hospitals, including, but not limited to Nkawkaw Holy Family (Eastern), Tetteh Quarshie District Hospital (Eastern), Koforidua St. Joseph's Hospital (Eastern), Brekum Holy Family Hospital (Brong Ahafo), Addidome District Hospital, Anfoega Catholic Hospital, Drobo St. Mary's Catholic Hospital (Brong Ahafo), Quality Health Care Hospital (Ashanti), La General Hospital (Greater Accra), and Lekma Hospital (Greater Accra).

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