

END-TO-END VISIBILITY IN GHANA

BACKGROUND

Ghana's health sector vision is to reduce inequalities in access to care and increase coverage, quality, and use of health services so as to achieve a healthier national population.

In view of this, Ghana launched its Supply Chain Master Plan to outline interventions to strengthen the management of health commodities within the health supply chain.

A key intervention was the rollout of its electronic logistics management information system (eLMIS), known as the Ghana Integrated Logistics Management Information System (GhiLMIS), to eliminate manual reporting and provide an effective and sustainable supply chain system for commodity management. GhiLMIS began a phased rollout in June 2019.

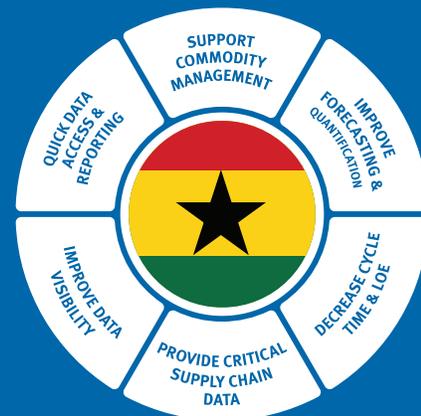
Despite a successful GhiLMIS rollout, there was no integration with other systems to allow visibility of incoming orders and shipments and Family planning (FP) data was still being pulled from diverse sources and reported on different platforms each month. This was time-consuming, and it posed challenges in terms of incomplete data for decision-making.

To help eliminate these challenges and provide a central, collaborative platform where all FP data on shipment, consumption, and inventory could be located, the country decided to integrate the GhiLMIS with the Global Family Planning Visibility and Analytics Network (GFPVAN, or VAN) of the Reproductive Health Supplies Coalition.

The VAN is a shared platform to capture and use supply chain data from multiple sources and organizations to provide enhanced visibility for decision-making. The VAN is able to integrate data from a country's eLMIS with international procurers' shipment data so countries can easily map their inventory on hand with expected deliveries from incoming orders to maintain healthy stocks of contraceptives. Ghana became a VAN member in 2019.



GHILMIS OVERARCHING GOAL AND OBJECTIVES



Design, build, and implement a computerized Logistics Management Information System that collects, records, and reports logistics data; providing decision makers throughout the supply chain with accurate, timely and appropriate data and ensures the rights of a supply system by delivering the right products the right quantities, in right time, in the right condition, for the right cost and to the right place.

ACTIVITY TESTED

In 2021, after two years as an active VAN member, the Ghana team identified integration with the VAN as a solution to time-consuming, duplicative data entry across multiple systems. They worked with representatives involved in the design of the GhiLMIS and the VAN team to integrate the systems. The hypothesis was that a routine connection between the two systems would improve efficiency by eradicating the manual reporting of inventory data into the VAN, and it would enable end-to-end visibility by linking incoming orders and shipments in the VAN to inventory and consumption data in the GhiLMIS.

METHODS

The process started in 2021 with a series of engagements to gain stakeholder buy-in, after which working sessions were held to determine requirements and design the integration. Similar to the GhiLMIS, implementation of the VAN connection was incremental, starting from the central warehouses and later adding regional level warehouses. The team reconfigured tables, harmonized and mapped product and facility codes for both systems, and successfully integrated the GhiLMIS and the VAN.

KEY FINDINGS



Reduced manual data entry and improved trust in inventory data thanks to automated data feeds that reflect inventory data from the GhiLMIS and the central warehouses and the 10 regional warehouses in the VAN at the end of every month.



Improved data visualization and data analysis now that requisition, order, shipment, consumption, and inventory data are available in one single view. A favorite dashboard is Ghana's supply outlook and consumption outlook across a defined period.



Improved coordination with Planned Parenthood Association of Ghana and Marie Stopes Ghana by supporting joint uploading and review of supply plans in the VAN.



Proactive decision-making with donors and partners to prevent stock imbalances, as inventory can be evaluated against incoming shipments shown in the VAN.

- In 2021, the United Nations Population Fund approved a government request to expedite 227,000 units of DMPA-SC, which arrived in March 2022 and provided 56,750 Couple-Years of Protection (CYPs).
- An additional order of 105,840 progestin-only pills was canceled in Q3 2021 to avoid overstock.



Improved quantification and funding decision-making, following integration of the VAN into the quarterly Interagency Coordination Committee for Contraceptive Security in March 2022.

LESSONS LEARNED

Others interested in moving toward similar system strengthening and end-to-end visibility should consider these learnings:

- ✔ Good stakeholder engagement and ministry of health stewardship from the beginning are key to a successful and sustainable technology integration.
- ✔ Technology systems require more defined roles and process workflows than manual processes, and so the act of integrating will require a commitment to reviewing and improving processes. Unclear roles and responsibilities can cause confusion and derail progress.
- ✔ Plan to conduct a series of discussions to clarify data flow and integrity between internal country systems and those shared with a system outside the country.

Stakeholders in Ghana are now looking toward the next step in their digital transformation journey: integration of lower-level facility data into the data feed from the GhiLMIS to the VAN.

Collaboration view	Past Due	2021-01	2021-02	2021-03	2021-04	2021-05	2021-06	Total
Monthly Plan // Levonorgestrel/Ethinyl Estradiol 150/30 mcg + Ferrous Fumarate 75 mg 28 Tablets/Cycle								
Monthly Consumption		325,032	2,511	75,567	166,671	204,471	230,385	6,945,4...
Prev. Monthly Consumption		325,041	2,511	2,066,346	230,385	230,385	230,385	7,189,8...
Supply Plan Inventory		2,167,383	2,147	2,066,346	100,197	2,913,699	3,703,554	
Monthly Inventory								
Manual Adjustment							480,000	480,000
Projected Inventory Adjustment		55,780	-17,172	-4,790	-6	17,973	0	50,785
In-Transit Shipments	1,200,528				1,200,528			1,660,6...
Un-Shipped Orders	0							1,020,1...
Scheduled Un-Referenced Shipments	0							0
Delivered Shipments								0
Expected Requirements					1,200,528	1,020,240		5,675,3...
Projected Inventory		0	0	2,066,346	3,100,197	2,913,699	2,683,313	
Projected MOS		0.0	0.0	13.9	15.5	13.1	11.6	

SHIPMENT SUMMARY	DATA VALIDATION TICKET SUMMARY	ACTION REQUEST TICKET SUMMARY
434 Scheduled	434 Assigned	34 Assigned
10 Scheduled Un-Referenced	10 In Review	5 In Review
1000+ Shipped	1000+ Cancelled	739 Cancelled
5 Shipped Un-Referenced	5 Closed	163 Closed
250 Delivered		
1000+ Received		
190 Cancelled		



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