



FROM EARLY ADOPTION TO
FULL INTEGRATION:

GHANA'S JOURNEY WITH THE GLOBAL FAMILY PLANNING VISIBILITY AND ANALYTICS NETWORK



+ Introduction

This case study dives into the experience of implementing the Global Family Planning Visibility and Analytics Network (VAN) in Ghana and the subsequent integration into its country-level electronic logistics management information system (eLMIS), known as the Ghana Integrated Logistics Management Information System (GhiLMIS).

It covers Ghana's unique journey as an early adopter of the VAN, why the country later chose to integrate these two systems along with the outcomes of its overall implementation of the VAN, including improved accuracy and reliability of country-level data, access to additional technical support at the international-level, empowered and data-driven collaborative decision-making, and the effectiveness of advocacy efforts.

+ Overview of VAN

The Reproductive Health (RH) community has long recognized that the availability of a range of safe, affordable contraceptives is a prerequisite for contraceptive security and forms the bedrock of efforts to increase contraceptive prevalence in developing countries. In the complex realm of public sector contraceptive supply chains, a dizzying number of actors with varying technological capabilities spread across countries and time zones need to work together in concert to ensure sufficient quantities of contraceptives are funded, procured, shipped, warehoused and delivered to the health facilities for women to access. For over a decade, suppliers, procurers, funders, and country supply managers worked through the Reproductive Health Supplies Coalition (RHSC) to share data and develop systems to support more collaborative supply planning, forecasting, and

replenishment to ensure a reliable supply of products to countries.

In 2016, the members of the RH community asked the RHSC to take the lead in defining and operationalizing an even more coherent and efficient way to gather and use data for upstream supply chain decision-making, building on the foundations of the past. The vision that emerged was the VAN. The vision is premised on the idea that *you cannot manage what you cannot see*. 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."¹ The VAN's network is more than a data tool, it brings people and information together in new ways to make getting family planning products to health facilities easier.² The VAN offers a platform to estimate and prioritize supply needs and engages people and processes to act not only when supply imbalances loom, but also to monitor stock levels. Indeed, the people and processes that are built around utilizing the VAN's data are more important than the technology alone in that they create a collective mindset which drives supply chain improvements and ownership in country.

+ Methodology

The USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project collected and analyzed data to illustrate the significant benefits of VAN membership and the integration of an eLMIS with the VAN as



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1. Reproductive Health Supplies Coalition. End-to-End Visibility in Ghana. Page 1.

2. Reproductive Health Supplies Coalition Management Unit. Global Family Planning VAN: Proof of Concept (phase 1) Review. May 2019. Page 2.

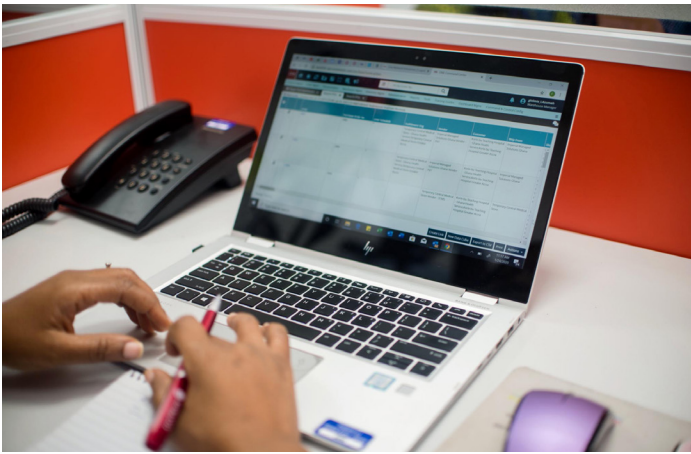


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demonstrated in the country case of Ghana. This included a desk review of relevant documents, mostly pertaining to standing up the VAN, country snapshots, and membership details. This was followed by a short interview for background conducted remotely with members of the VAN Management Unit. The desk review and background interview informed the development of an interview guide used to remotely conduct a key interview with four country stakeholders as a group. The stakeholders interviewed included representatives from the Ghana Health Service (and designated VAN Ambassador for Ghana), GHSC-PSM and social marketing organizations who all have planner roles in the VAN for their respective organizations. A thematic analysis was then conducted on the qualitative data collected and is summarized in this case study.

+ Background on Ghana's involvement in the VAN and the decision to integrate

In 2019, Ghana was among the first countries to join the VAN and as such was given access to its more advanced features as part of its membership and as part of the initial proof of concept. With these features, Ghana can track incoming orders and shipments, upload and monitor supply plans and inventory against incoming order and shipment data, communicate action requests through an electronic ticketing module, and access advanced analytics and technical support.

Also in 2019, Ghana launched the phased rollout of GhiLMIS, designed to eliminate manual reporting and provide the data required to effectively manage commodities in the supply chain system.³ GhiLMIS can capture real-time logistics transactions, providing supply chain actors with timely data for decision making.⁴ The system allows country-level supply chain managers to monitor and manage stocks from the central warehouse down. However, there was no integration with upstream data such as incoming orders and expected shipments which the VAN captures. As a result of data residing in separate systems, Ghana needed to use a manual process to compile the GhiLMIS data into the VAN which was time-consuming and prone to error. The GhiLMIS data was incorporated "as-is" and was often unreliable. From this data integration gap came the vision to one day connect these two systems for complete, end-to-end visibility from the supplier down to the service delivery point.

In 2021, Ghana initiated a process to bring this vision to reality through the integration of GhiLMIS with the VAN to reduce reliance on manual manipulation of data. This process included a series of stakeholder engagements starting with small group discussions between RHSC, GHSC-PSM, and the Ghana Family Health Division. The small group concluded that it was appropriate to bring the proposal to a broader group of stakeholders including the Central Medical Stores, Ministry of Health (MOH) Leadership as well as the Supplies, Stores and Drugs Management Division of the Ghana Health Service (GHS). Additional technical consultations also took place with the software providers. These discussions were intended to gain stakeholder buy-in for the proposed integration.⁵

Interviewees cited the existing strength of engagement, collaboration, and community in the country that predated the VAN launch which created a strong foundation for building the network of people and processes around the technology platform. This created an enabling environment to forge ahead with the integration. The VAN Management Unit's support and participation in the stakeholder engagement process allowed for questions to be answered during the broader consultation and for stakeholders to realize the VAN integration with GhiLMIS could benefit their own work. Moreover, Ghana's experience with VAN membership allowed them to demonstrate, firsthand, the value of the platform and understand how an integration would benefit them. For example, the interviewees explained that their

3 Reproductive Health Supplies Coalition. End-to-End Visibility in Ghana. Page 1.

4 Reproductive Health Supplies Coalition. End-to-End Visibility in Ghana. Page 1.

5 Reproductive Health Supplies Coalition. End-to-End Visibility in Ghana. Page 2.

day-to-day experience of pulling data manually from multiple sources and then reporting on various platforms each month featured prominently in the decision to integrate.⁶ Interviewees focused on the benefit of having all the data in one place and the ability to manage stocks better overall along with the ability to make timely interventions.

A key issue for stakeholders in-country in determining whether to integrate was the question of data ownership and protection. Prior to launching the VAN, the RH community, led by the RHSC, invested significant time and resources into developing a single data-sharing [policy](#). The goal of this effort was to “operationalize a multilateral data sharing policy that enables a diverse network of members to share data via one central platform.”⁷ This policy governs “how members use the VAN, how they share, access, and use data within the VAN.”⁸ In interviews, it was clear that having this policy in place and approved by the RH community, including key donors, such as UNFPA and USAID was an important consideration. The VAN Management Unit’s engagement during the decision-making process in explaining the Terms of Use was essential to building stakeholder confidence in sharing data on the platform which allowed the GHiLMIS integration to move forward.

In early 2021, Ghana began integrating the VAN with GHiLMIS with support from Systems for Development (S4D), GHSC-PSM, GHS and the VAN engineers. As with the GHiLMIS roll out, the integration was completed incrementally beginning with the central warehouse data followed by the regional level. “The team reconfigured tables, harmonized, and mapped product and facility codes for both systems.”⁹ In September 2021, Ghana launched the live integration between VAN and GHiLMIS.

+ Current VAN usage by country partners

Interviewees in Ghana reported using the VAN regularly, mostly on a monthly cadence. At the end of the month, they review the stock status and ensure the GHiLMIS data interfaced correctly with the VAN. Social marketing organization partners upload monthly inventory data from their systems which currently are not integrated. Users reported reviewing shipment data from all partners and the supply planning module using the multi-collab



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view (MCV). In addition, users reported reviewing the analytics dashboards to get an overall picture of the country’s stock projections. The electronic ticketing module is used to communicate regarding specific stock issues. However, it was clear that the focus of using the VAN was to improve supply planning. Usage hit a high in 2022 at 57 logins per month, as new users were trained in how to take advantage of the new integration. Social marketing organizations also started manually sharing their data at that time, and together with the VAN Control Tower Analyst (CTA), began identifying and resolving data quality issues. As users became familiar with how to use the VAN and integrated it into their regular schedules, and as the MOH refined their data processes with social marketing organizations and others, VAN usage has stabilized at 13.5 logins per month.

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6 Reproductive Health Supplies Coalition. End-to-End Visibility in Ghana. Page 2.

7 Reproductive Health Supplies Coalition. Sharing Data Across a Community: Operationalizing a Collective Legal Framework for the VAN. 2016-2021. Page 2.

8 Reproductive Health Supplies Coalition. Sharing Data Across a Community: Operationalizing a Collective Legal Framework for the VAN. 2016-2021. Page 3.

9 Reproductive Health Supplies Coalition. End-to-End Visibility in Ghana. Page 1.



OUTCOMES FROM IMPLEMENTATION OF VAN AND INTEGRATION WITH GHILMIS

With the decision to adopt the VAN complete with its advanced features and then to integrate GhiLMIS with the VAN, Ghana achieved several outcomes as a benefit of the VAN. These include improvements in the following areas and are discussed below in detail:

01

RELIABILITY AND ACCURACY OF INVENTORY DATA

02

QUANTIFICATION PROCESS



03

IN-COUNTRY COLLABORATION WITH CTA ENGAGEMENT

04

DATA-DRIVEN AND COLLABORATIVE DECISION-MAKING

05

PROCUREMENT ADVOCACY

+ Data integration and alignment yielded improved reliability, accuracy of inventory data

The process of integrating the two systems provided an opportunity to improve reliability, accuracy, and further support supply planning efforts. At the time the integration took place, partners were engaged in every step of the process. They played a key role regarding which data should be synchronized in the VAN. According to one interviewee, “We became engineers... just to make sure nothing was put in that we didn't like.” Stakeholders ensured only essential data was included and that the final set-up met the needs of the country users.

As part of this process, national and sub national stocks from ten regional warehouses were fed directly into the VAN. Interviewees reported that in the past, the GHS needed to request downstream supply chain data and review it separately. While it is still necessary to request data for the lower levels of the supply chain, processes were put in place that allow users to review all the stock data in the system and take action within the same platform using the ticketing system. The intensive review of inventory data as part of the VAN processes uncovered additional data reliability issues, in particular around discrepancies between the paper-based logistics management information system and GhiLMIS. Ghana is identifying options to eliminate the paper-based system for lower supply chain levels and strengthen the data-quality in GhiLMIS. Users have also secured technical assistance funding to address targeted data quality issues identified through the VAN. In the meantime, technical advisors at GHSC-PSM download the GhiLMIS and other VAN data, review and address any errors, and ensure alignment prior to uploading it back into the VAN. Interviewees universally reported increased trust of the stock data.

+ Improved data reliability resulted in faster quantification process, freeing up resources to further strengthen supply planning

The main area impacted by improved reliability and data accuracy was in the quantification process. Feedback suggested that the VAN resulted in a [faster quantification process](#) which freed up time and resources to improve forecasting and supply planning

further. For example, prior to implementing the VAN, securing shipment data involved calling UNFPA or USAID to request the shipment information and waiting for the data to be shared thus delaying the quantification process. The VAN brought the shipment and inventory data together in the supply planning module, which includes information on the shipments estimated arrival and quantities.¹⁰ The VAN, along with the addition of the downstream data from GhiLMIS, created a centralized, one-stop-shop to view shipment and stock data together.

The Ghana VAN users and country partners have continually improved the quantification process as they gained confidence in the newfound visibility and data reliability over the last few years, which resulted from the VAN implementation and subsequent integration with GhiLMIS. In the words of Abdul-Fatahi Adam, Program Officer with GHSC-PSM, “Every quantification exercise we've had always been an improvement on the previous quantification.” Anecdotally, interviewees believed that forecasts are more accurate. Ghana has since focused on incorporating other improvements to the quantification and forecasting process; in their words, to become more “scientific” in the forecast produced. Notably, in a March 2024 quantification exercise, stakeholders discussed incorporating demographic data into the process for the first time.

+ Responsiveness and accessibility of VAN CTA staff bolstered collaboration of in-country actors and strengthened connection to international procurers and suppliers

benefit of VAN membership is the additional engagement and capacity-building provided by the VAN team via a dedicated VAN CTA. This engagement began when Ghana became a VAN member. The engagement of the CTA and the VAN Management Unit was a crucial factor in supporting the decision to integrate GhiLMIS and the VAN. CTAs along with others from the VAN Management Unit regularly engage Ghana users in capacity development related to data quality improvement, management by exception, and collaborative forecasting and supply planning. They answer questions and concerns as well as convene and participate in key stakeholder meetings.

Another unique aspect of CTA support was the analyst's availability and engagement in-country operations. Several users commented on the CTA always being a phone call or WhatsApp text away and accessible at any time of day or night to help understand the data and make decisions in the country context. One interviewee noted the willingness of the CTA to provide training or give guidance whenever needed, even if not in the original plan. Moreover, there was a strong sense that the CTA was more than just a resource for the country but a colleague and key component of the network. According to Dr. Claudette Diogo, National Family Planning Manager / Logistics and Supply Manager of the Ghana Health Service and VAN Ambassador, "He goes even beyond just being an analyst." Others noted the was CTA up-to-date on everything happening in the country and that the technical advice is grounded in Ghana's context. This deep in-country knowledge translates into a trusted advocate for supporting the country's needs at the international level when additional support is needed from procurers or others to address stock issues for Ghana.

+ Easy access to single source of data fostered empowered, data-driven, and collaborative decision-making

The goal of the VAN's network of people, processes and technology is to improve supply chain decision-making and drive country ownership. When asked about collaboration, interviewees pointed to the strong in-country collaboration in place prior to the implementation of the VAN and maintained through the stakeholder engagement process and implementation. The feeling was that Ghana went from strength to strength in that the VAN increased data visibility to an existing foundation of strong collaboration on supply chain matters.

According to Dr. Diogo, "We already have very good linkage and collaboration, but the VAN makes it better because there is evidence right there for us to discuss."

Incorporation of this data coupled with the increased accuracy and reliability of the VAN data, empowered collaborative decision-making and boosted the confidence of decision-makers to take corrective actions when needed. According to Faustina Tetteh with Planned Parenthood Association of Ghana, "If you have the information, you have the power to take firm decisions and you can defend the solution you've taken." Some examples¹¹ of published decisions include:

56,750

In 2021, the United Nations Population Fund approved a government request to expedite 227,000 units of MPA-SC, which arrived in March 2022 and provided 56,750 couple-years of protection (CYPs).



105,840

An additional order of 105,840 progestin-only pills was canceled in Q3 2021 to avoid overstock.

224,700

Through 2022, six new orders were created with 224,700 CYPs and two orders were expedited.

¹¹ Reproductive Health Supplies Coalition. End-to-End Visibility in Ghana. Page 2. This case study made the decision to use examples of published decisions made with data from the VAN, however, there are also more recent examples from 2023 and 2024.

The newfound confidence and empowerment, drawn from the strength of the network and processes put in place, appear to drive country ownership of the supply chain as confirmed in interviews. It was noted that MOH and GHS are now better able to make sound strategic decisions in collaboration with partners. As MOH and GHS are better informed, they are also empowered to leverage partners more effectively. In the future, this empowerment could yield less reliance on the CTA and the VAN Management Unit.

+ Effective procurement advocacy improved the government’s ability to address potential stock risks and secure more sustainable funding

Together with the increased ownership of the supply chain by the Government of Ghana comes the use of the VAN for advocacy purposes by MOH and GHS officials. Interviewees noted the easy and useful visuals contained within the advanced analytics dashboard in the VAN were beneficial for the country’s advocacy needs. The visuals clearly show the gaps in commitment for product procurement along with the current state of the supply plan and forecasted stock levels. These visuals were then shared with the Inter-agency Coordinating Committee for Contraceptive Security which meets quarterly. Through this committee, Ghana can use VAN visuals to advocate to international donors via their staff in-country who in turn can work through their headquarters to support the country’s needs. See example visual below which outlines current procurement commitments and projected gaps by product.

Users cited advocacy to international donors and within the GHS to channel more procurement funding or to secure more sustainable domestic spending on family planning products. One user noted using data from the VAN to support domestic requests for general family planning programming in addition to procurement needs.



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+ Conclusion

Ghana had a singular vision in 2019 to build complete supply chain end-to-end visibility. After almost five years on its journey since its early adoption of the VAN, Ghana has realized benefits from improved accuracy and reliability of country-level data, access to additional technical support at the international-level, empowered and data-driven collaborative decision-making and effectiveness of advocacy efforts. It was also the first VAN member to integrate its eLMIS with the platform. From the launch of the VAN in country through the end of 2022, the Ghana team collectively tracked 95 orders, 136 shipments, and resolved 36 data quality issues.¹² Given the value brought by the VAN in Ghana, as well as the positive outcomes previously discussed, multiple partners are interested in supporting this work in the future including UNFPA. Following a presentation about the VAN integration in Ghana at the RHSC General Membership Meeting by Dr. Diogo, a new donor expressed interest in funding this work. In the words of Ghana’s VAN Ambassador, “If there is anything above the [current integration level] Ghana is ready to take it up there! We just want to go up and up and up because we will continue to talk about the VAN as it has actually helped the country, and we are actually happy to have used it.”



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