The Path to an Integrated Public Health Supply Chain in Mozambique

Credit: Denis Onyondi

A surge in the number and variety of medicines in Mozambique means greater access to needed health products for many Mozambicans.

Yet larger volumes, higher costs and extending health care into more communities can tax even the most sophisticated supply chains. Mozambique's Ministry of Health (Ministério da Saúde or MISAU in Portuguese) began implementing a plan called Plano Estratégico de Logística Farmacêutica[1] (PELF) to help address these challenges. The PELF authorizes the Central de Medicamentos e Artigos Médicos[2] (CMAM) to fully integrate the supply chain with the intent of improving the delivery of all health products across the country.

In partnership with government leaders, VillageReach is building on the strength of the country's private sector to support this undertaking. While this process has been underway for many years, the COVID-19 pandemic doubly affects the supply chain. It is squeezing available resources domestically and globally while necessitating the addition of new products for testing, treatment and prevention. This accelerates the need for the resiliency and efficiency integration can bring. This document outlines the path to make implementation of PELF, and its benefits for the people of Mozambique, a reality.

The Benefits of Integration

By moving from vertically managed programs toward horizontally integrated systems, public health programs are expected to improve efficiency and effectiveness. In essence, integrating supply chains allows for cost sharing, which helps to:

- **Optimize** the use of resources by eliminating duplication and reducing both operational and capital expenditure;
- **Maximize** transport and storage utilization;
- **Leverage** cost savings to increase the ability to finance ongoing improvements;
- **Decrease** health worker time on logistics.

1 Pharmaceutical Logistics Strategic Plan in English
2 Center for Drugs and Medical Supplies in English

Health workers review a packing invoice for a delivery leaving the warehouse in Quelimane, Zambézia Mozambique. Credit: Denis Onyondi

A Central Collaborator

The private sector is a central player in Mozambique's supply chain integration. The Mozambique government states, ***"Private sector supply chain managers have proven they can consistently deliver health goods and services in a wide range of settings, and they are part of the solution."*** [3] In other words, integration helps unlock the capability of the private sector and the financial benefits of outsourcing. Another benefit of outsourcing is the accountability that comes from making Service Level Agreements (SLAs) explicit and enforceable, resulting in improved quality assurance and higher levels of performance.

VillageReach's experience in Mozambique demonstrates that one of the best ways to achieve long-term sustainability is early partnerships and a focus on solutions that can thrive within existing government systems. VillageReach established partnerships with companies including AEC, Aeris, Agility and Bolloré Transport & Logistics to support last mile delivery of products throughout the country.

Without integration, outsourcing can be a very expensive option and one that adds complexity to the system. But with it, governments can leverage the innovation and practices from the private sector, and further improve efficiency and long-term sustainability.

Laying the Groundwork

VillageReach has been working with the Mozambique government to improve the medicines supply chain for nearly 20 years. The organization is also committed to working as a bridge between the government and the private sector to transform health care delivery.

Credit: Denis Onyandi

Three programs have provided VillageReach the experience to support government in navigating the complexities of the shift toward integration:

1. **VillageReach implemented the Dedicated Logistics System (DLS) in Mozambique in 2001 for direct delivery of vaccines from provincial warehouses to health facilities.** Following evidence [4] of a 30 percent increase in vaccine coverage rates from this model, VillageReach began advocating for the system nationally. The direct delivery model was incorporated in the PELF in 2013 and the Country Multi-Year Plan (CMYP) in August 2019.

2. **VillageReach supported the Tete provincial government to introduce the first outsourced and integrated distribution model for health products starting in 2015.** A six-month assessment of the program, called Transport Service Solution, or TSS, demonstrated an increase in product availability, improved efficiency, better data collecting and reporting and enhanced trust in the system. Stockouts of vaccines decreased from 42 percent in the first month to four percent, and ARV stockouts decreased from 27 percent to seven percent.[5]

3. **VillageReach began implementing the USAID-funded Last Mile Supply Chain (LMSC) program in Zambézia province beginning in 2018.** The TSS model scaled to reach all 22 districts and 235 health facilities in Zambézia. This demonstrated the ability to integrate the private sector into government structures. In 2020, LMSC expanded to support monthly integrated deliveries in all districts of Sofala, Tete, Inhambane and Nampula provinces covering 949 health facilities.

3 Integration Opportunities, EPI/CMAM, August 2017

4 Evaluation of the Project to Support PAV (Expanded Program on Immunization) in Northern Mozambique, 2001-2008.

5 Outsourcing Transport to Improve Health at the Last Mile: A Case Study, December 2016. https://www.villagereach.org/wp-content/uploads/2016/12/TSS_Outsourcing_CaseStudy_FINAL-1.pdf

Photo Credit: Denis Onyondi

Milestones

Some of the key policy and technical milestones towards the integration of supply chains in Mozambique:

2013: The PELF recommends a fully integrated supply chain

2015: Integrated outsourced distribution of vaccines and ARVs are piloted in Tete province

2016: Minister of Health Nazira Abdula calls for integrated distributions to increase efficiency, mandating CMAM, EPI and VillageReach to work together to that end

2018: Provincial EPI and pharmacy leaders discuss integration at an initial workshop

2019: National integration committee established

2019: Shared technology device for data is tested (SELV-SIGLUS) in Vilankulo intermediary warehouse

2019: Integration begins in Zambézia province

2020: Integration begins in Inhambane, Nampula, Sofala and Tete.

Beyond 2020: In the coming years, the government of Mozambique will work with VillageReach and other partners to expand integration to new provinces, develop and implement an evaluation framework and plan for long-term sustainability.

A Phased Approach

Mozambique is following a phased approach from preparation to full integration, starting with straightforward activities and increasing complexity over time. This approach allows for:

- Fully understanding the requirements to manage medicines in different settings;
- Ensuring adequate distribution and storage capacity is created over time;
- Allowing time for human resource development needs to be addressed progressively;
- Establishing adequate structures, roles and responsibilities, including strengthening vaccine management skills at every level of the supply chain;
- Learning and adaptation of processes such as aligning monthly planning cycles.

VillageReach supported the transition of vaccine management to CMAM through the following activities:

- **Landscape analysis:** A landscape analysis identified opportunities for integration and potential challenges;
- **Assessment of EPI preparedness:** An assessment revealed EPI perceptions on integration and identified risks and mitigation strategies;
- **Integration Roadmap:** A detailed roadmap was developed in partnership with stakeholders, reflecting opinions from key informant interviews and consultative workshops.
- **SOPs for integrated distributions:** Standard Operating Procedures were developed and used to train relevant Ministry of Health and private sector staff to ensure proper handling of vaccines during distribution.

Credit: Denis Onyondi

Ingredients for Success

Integration will not solve all the challenges in Mozambique's public health supply chain. Outsourcing to the private sector comes with its own set of unique challenges, and much work must be done to build trust between various parties. Furthermore, many practices have been in place for years and change will be difficult. For example, despite the additional efficiency that may be gained by ignoring administrative borders during transport, this could result in friction between different government entities. All those involved in shifts to an integrated system will need to work diligently to avoid alienating key stakeholders during the process.

Our experience highlights the following factors in a successful integration process to date:

- **Vision Alignment:** The goal of an integrated supply chain is defined as a national priority in Mozambique, and is recognized by all stakeholders;
- **Leadership:** Central and provincial government actors play a leadership role in the implementation of integration activities;
- **Strategy Alignment:** Integration activities are aligned with other country strategies and harmonized with other funder and partner initiatives;
- **Integration champion:** A focal point is bridging CMAM and EPI, leading to shared responsibility and oversight of the implementation of the roadmap;
- **Coordination and communication:** Mechanisms for coordination and communication between units and across stakeholders exist through thematic Technical Working Groups.

Positive Signals for the Road Ahead

Over the long term, the benefits of integrated service delivery and inter-sectoral collaborations are likely to outweigh the costs. The Last Mile Supply Chain program proves that integrated distribution of lifesaving products directly to health facilities can be done at scale through outsourced transportation. Additionally, early data from Zambézia province suggests limited variation in transportation costs per site, per kilometer and per volume despite introduction of integrated deliveries. While there may be other factors shaping costs and cost variance, we will continue to evaluate costs and outcomes for integrated and outsourced distribution.

Importantly, government staff value a consistent and predictable process for replenishment, which they say is leading to increased product availability and enhanced trust in the system. This has increased government confidence not only on the concept of integration but also in partnering with private sector.

The need for a high-performance, efficient and resilient supply chain has never been greater. In the time of COVID-19, doing more with less is paramount. While developing and sustaining an integrated distribution system at scale will take time, Mozambique has progressed beyond possibility. The country is on a path to achieve the ultimate goal: availability of quality health products at health facilities throughout the country, where they are most needed for people to receive tests and treatment.

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