

Health Product Integration

A Critical Enabler for Outsourcing Transport



Leveraging of local private sector capacity for public health supply chains is a key component for building supply chains that are more equitable, people-centered, resilient and sustainable. One way to use this capacity is through outsourcing the transport of health products to private transporters. The benefits of outsourced transportation,^{1 2 3} combined with government stewardship are well documented, but successfully outsourcing transportation in low- and middle-income countries (LMICs) requires more than developing partnerships with private sector transporters. It also requires thoughtful integration of health products that are often managed by different government teams and partners.

At VillageReach we define supply chain integration holistically to include the integration of private sector resources as well as the integration of products and supply chain data. This technical brief highlights the important link between product integration and outsourced transport and outlines several barriers to product integration that countries should consider before implementing an outsourced transport solution.

Benefits of Product Integration in Mozambique

VillageReach has worked in Mozambique since 2000 in close partnership with Mozambique Ministry of Health (MISAU) to implement supply chain improvement strategies on a national scale. In 2013 MISAU adopted the Pharmaceutical Logistics Strategic Plan (PELF) to address supply chain challenges and authorized the Central Medical Store (CMAM) to fully integrate the health supply chains to improve health product delivery across the country. VillageReach is supporting MISAU in supply chain integration to combine the distribution of all medicines and vaccines into a single supply chain, as well as through the Last Mile Supply Chain (LMSC) program.

Product integration in Mozambique required time and a phased approach, however its benefits for all stakeholders are clear. For the government, an *increased focus on management* of the supply chain is easier as all products leave the warehouse on the same day and arrive at health facilities in one combined delivery; both the government and private sector partners agree that product integration has led to *transport cost-savings*, and product integration created *increased health workforce efficiency* whether in preparing orders at the warehouse or receiving products at health facilities.

INCREASED FOCUS ON MANAGEMENT

Product integration allows government staff to focus on supply chain management. Governments are the stewards of public health supply chains, they provide overall leadership and management, even when they partner with other

¹ Patrick Lydon, Ticky Raubenheimer, Michelle Arnot-Krüger, Michel Zaffran, Outsourcing vaccine logistics to the private sector: The evidence and lessons learned from the Western Cape Province in South-Africa, Vaccine, Volume 33, Issue 29, 2015, Pages 3429-3434, ISSN 0264-410X, <https://doi.org/10.1016/j.vaccine.2015.03.042>

² Martin Wright, Gary Forster, John Beale, Improving iSC performance through outsourcing – Considerations for using third-party service providers to increase innovation, capacity and efficiency, Vaccine, Volume 35, Issue 17, 2017, Pages 2195-2197, ISSN 0264-410X, <https://doi.org/10.1016/j.vaccine.2016.11.108>.

³ Priya Agrawal, Iain Barton, Roberto Dal Bianco, Dana Hovig, David Sarley and Prashant Yadav Global Health: Science and Practice September 2016, 4(3):359-365; <https://doi.org/10.9745/GHSP-D-16-00130>

sectors to operate different aspects of the supply chain.⁴ Providing this overall leadership and management is challenging when supply chains are fragmented and health products are procured and distributed in silos. Sergio Gomes, CMAM focal point for Outsourced Transportation with the Mozambique government, explained how product integration improved his ability to manage the supply chain.

“The integration of medicines and vaccines improved supply chain management because we developed SOP’s (standard operating procedures) to ensure the quality of processes and procedures for transport in the supply chain, management and handling of medicines and vaccines and stock control at health facility and warehouses.

TRANSPORT COST-SAVINGS

Product integration has significant cost-saving potential for both management and operating costs which makes supply chains more sustainable and resilient. Product integration allows for cost sharing which helps to optimize the use of resources by:

1. eliminating duplication and reducing both operational and capital expenditures;
2. maximizing transport and storage utilization; and
3. leveraging cost savings to finance ongoing supply chain improvements.

“The use of the same transport resources to distribute medicines and vaccines simultaneously proved to be clearly more efficient than the use and allocation of parallel resources for different programs such as malaria, tuberculosis, HIV, among others to be implemented in the country,” Gomes said. “Integration led not only to the reduction of costs for implementation, (but also) positively influenced the performance of distribution.”

Without product integration, outsourcing transportation will likely be seen as an overly expensive option as well as one that adds complexity to the health system. However, in Mozambique Gomes noted that product integration improved the government’s ability to partner with the private sector, and improve private sector willingness to operate in the public health space.

INCREASED HEALTH WORKFORCE EFFICIENCY

The largest benefit of product integration in Mozambique has been the increased efficiency in the supply chain and among supply chain workers. Izequiel Filipe Chilengue, Maputo Provincial Warehouse Manager, noted how integration improved his overall workflow.

“The use of the same transport resources to distribute medicines and vaccines simultaneously proved to be clearly more efficient than the use and allocation of parallel resources for different programs...” Gomes said.

“The work has improved, because in the old days the warehouse managed transport and deliveries to the last mile health facilities. There were difficulties in terms of lack of human resources. With outsourced transport and the integration of medicines and vaccines, there was a great reduction in the workload. Now we can spend more time serving patients instead of stopping work to receive and sort multiple supply deliveries each day.”

These efficiencies in Chilengue’s workflow ultimately benefit communities. For example, he pointed out that with the integrated transport of medicines and vaccines in the outsourced model, more products are reaching more health facilities on time, because in the past his warehouse operations team often lacked the resources, (i.e. transport, fuel, staff) to get these products into some of the hardest-to-reach communities.

⁴ A stewardship approach to shaping the future of public health supply chain systems. Alan Bornbusch, Todd Dickens, Carolyn Hart, Chris Wright Global Health: Science and Practice Dec 2014, 2 (4) 403-409; DOI:10.9745/GHSP-D-14-00123

“When medicines and vaccines are allocated in a coherent and consistent way, they allow the pharmacist to better estimate what their consumption is and, in this way, calculate what quantities to order for a given period, thus avoiding getting into situations of eminence or out of stock,” Gomes said.

Barriers to Product Integration

Achieving product integration in Mozambique required overcoming several barriers to other LMIC public health supply chain systems.

ORGANIZATIONAL MISALIGNMENT

Government stakeholders must align on the concept of product integration across the public health supply chain. For example, in Mozambique the PELF was created in 2013, but it was not until 2019 that vaccines, managed by the Extended Program of Immunization (EPI) department, were integrated with the delivery of other health products. VillageReach believes the following factors contributed to alignment in Mozambique:

- Vision Alignment: The goal of an integrated supply chain is defined as a national priority in Mozambique, and is recognized by all stakeholders (PELF);
- 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; and
- Coordination and communication: Mechanisms for coordination and communication between units and across stakeholders exist through thematic Technical Working Groups.

“...in the past we only distributed drugs, now there is the integration of the vaccines.... Now we have to sit down with the EPI to plan the distribution and identify route challenges, which was something that did not happen and changed our routine”, Chilengue said.

FRAGMENTED SUPPLY CHAIN PROCESSES

Increasing efficiencies in public health supply chains requires an integrated system design and standard processes for all stakeholders.

Fragmented vertical supply chains use different SOPs, data systems, demand and distribution planning and transportation cycles. When VillageReach began working in Mozambique the country’s supply chains were fragmented. As the government took a more strategic approach to oversee all supply chain distributor types (i.e. public, private for-profit and private non-profit) this fragmentation declined as Mozambique moved to a more integrated supply chain design stewarded by government.

“The introduction of SOP's for the transport of medicines and vaccines has improved the quality of services and at the base level there is an improvement in working relationships (between public and private sector) in the sense of carrying out work as a team and in a coordinated way through the elaboration of the joint distribution plan,” Gomes said.

POOR UNDERSTANDING OF INTEGRATION

Product integration does not mean all products are under the control of one transport company. Integration is about using the same planning and execution schedule and ensuring that all transporters are using the same tools and SOPs. Some government employees have unfortunately confused integration with having only one transporter. In fact, having multiple companies is a key lever to ensure competition and cost effectiveness so this confusion can hinder successful outsourcing. In Mozambique, prior to product integration, the government transported vaccines and cold

chain products with one set of vehicles and other health products with a different set of vehicles. Once the private sector partners understood the cold chain requirements for specific products they had the capacity to transport all health products in one vehicle while maintaining the cold chain requirements for specific products. This required a lot of planning and logistics but integrating vaccine supply chains with other health products in one delivery greatly enhanced the effectiveness and efficiency of the public health supply chain in Mozambique and can do the same in other LMICs.

DONOR EXPECTATIONS

In many LMICs, funders procure medicines and vaccines for distribution for specific health programs, such as malaria, HIV and/or family planning contraceptives. In Mozambique the government manages the warehousing of all health products, but due to its limited resources it cannot always transport medicines and vaccines procured by these funders as quickly as needed. Therefore, many funders in Mozambique had their own dedicated transport resources which created parallel supply chains, in turn requiring health facilities to receive multiple shipments from multiple suppliers. Additionally, when funders have separate supply planning from the public sector it makes government procurement more difficult potentially leading to stock-outs or over-purchasing of certain drugs. Through outsourced transport the government was able to ensure that all funder procured health products would be distributed on time through consistent delivery. Overtime donors saw outsourced transport as reliable, allowing funder procured products to be integrated into the same delivery with all other health products.

“With outsourced transport and the integration of medicines and vaccines, there was a great reduction in the workload,” Chilengue said.

TRANSPORTER CAPABILITY

Governments need the right transport partner(s) with the capabilities to move all types of health products. This means they must adhere to cold chain requirements and the specific distribution needs of specific health products. Finding the right partner(s) can be challenging, in Mozambique many private sector transporters did not have experience moving vaccines and medicines with specific cold chain requirements. This required training private transporters on how to properly manage cold chain distribution. These trainings were led by the government and mechanisms were put in place to ensure that private sector transporters adhered to all cold chain requirements. When governments have the right transport partners they can build strong relationships and better collaborations.

“In general, at the beginning there was a lack of unity and collaboration between the transporters and the warehouse team, but over time coordination and communication improved and this had a direct impact on the way our activities were carried out,” said Ernesto Bento Mondlane Manager, WSS Logistics (third party logistics (3PL) firm in Mozambique that provides transportation services to CMAM).

Conclusion

Today people in Mozambique have much improved access to the medicines they need. As of 2021 all provinces were using fourth-party logistics firms (4PL) for transport management (Bolloré Transport & Logistics and Agility) to reach over 1,540 health facilities. These firms managed a network of local transporters that regularly conducted integrated product deliveries of medicines, vaccines and surgical materials on a monthly basis. This would not have been possible without the benefits of product integration. In addition to greater product availability, the country saw the benefits of increased focus on supply chain management for government, reduced transport costs and increased health worker efficiency. We would advise any country considering outsourcing to first assess its specific barriers to product integration before implementing and outsourced transport solution. When we approach supply chain integration holistically we can build high-performing supply chains and ultimately healthier communities.

To learn more about product integration and outsourced transport contact the Outsourced Transport Resource Center at otrc@villagereach.org

