

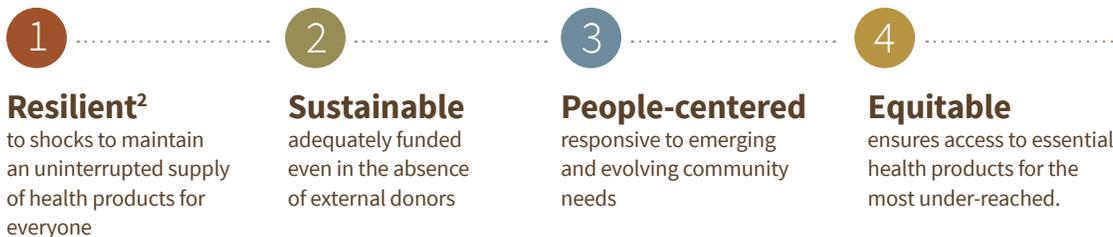
# Strengthening Public Health Supply Chains

## *An Integration Framework*

Achieving Universal Health Coverage in low- and middle-income countries (LMICs) by 2030 requires strengthening all aspects of the health care system — including supply chains, which are inherently complex to manage due to the increasing volume of health products<sup>1</sup> and the challenge of forecasting dynamic national supply chain needs.

VillageReach focuses on **getting health products to people**, particularly the most under-reached populations. For over 20 years VillageReach has worked with African ministries of health to strengthen public health supply chains. Our experience and expertise in supply chain management has allowed us to identify country-specific strategies that ensure lifesaving health products reach the last mile.

We recognize four main attributes in high-performing public health supply chains:



Our **Supply Chain Integration Framework** offers a path towards building a supply chain with these four attributes by describing the core pillars that must be integrated into the supply chain. We also identify the cross-cutting areas necessary to success.

1 IQVIA (2019) The Global Use of Medicine in 2019 and Outlook to 2023 [online] Available at [https://www.iqvia.com/-/media/iqvia/pdfs/institute-reports/the-global-use-of-medicine-in-2019-and-outlook-to-2023.pdf?\\_=1583767847316](https://www.iqvia.com/-/media/iqvia/pdfs/institute-reports/the-global-use-of-medicine-in-2019-and-outlook-to-2023.pdf?_=1583767847316)

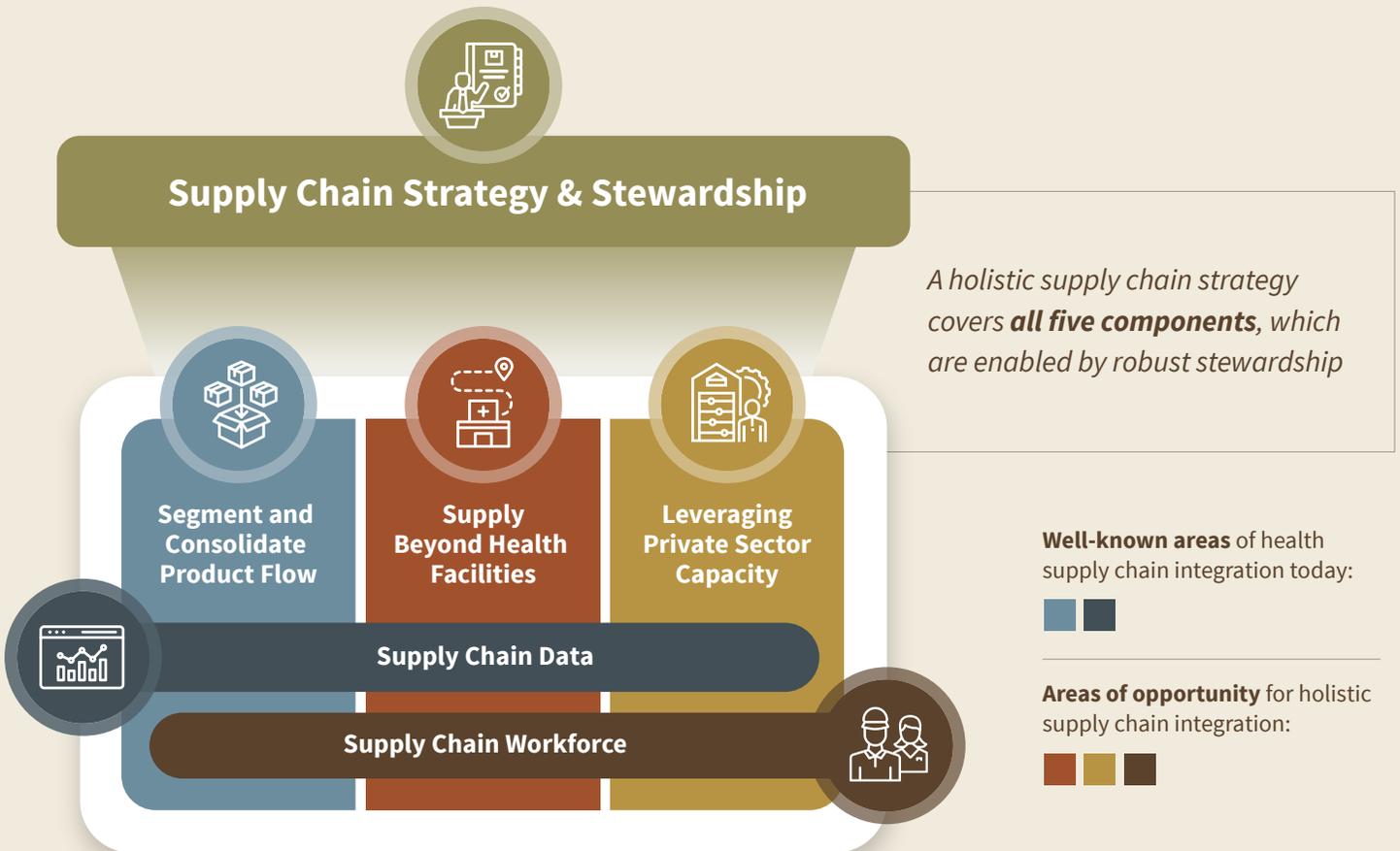
2 Resiliency is the ability to return to a position of equilibrium after experiencing an event that causes operational results to deviate from expectations (source: Association for Supply Chain Management)

# Integration: A Broader Vision

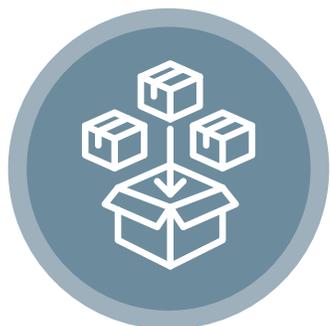
Supply chains in LMICs often suffer from duplicated efforts and inefficient allocation of limited resources due to split management between departments, programs (such as HIV or malaria) or levels (central or regional). Our broader vision honors the complex nuances involved while simultaneously reducing inefficiencies to develop supply chains that are **resilient, sustainable, people-centered** and **equitable**.

An integrated public health supply chain is a coordinated network of organizations and stakeholders aimed at getting health products to the point of care. The three pillars of the **Supply Chain Integration Framework** (Figure 1) are consolidated product flow, supply beyond health facilities, and private sector capacity. While integrating product procurement storage and transport in LMICs has led to cost savings,<sup>3</sup> supply chain integration also needs to include community-level health services (e.g. by community health workers (CHWs) or provision of services through community pharmacies outside a traditional health facility) and private sector capacity. Successfully integrating these pillars requires three crosscutting enablers: strategy and stewardship, health workforce, and data.

**Figure 1: Supply Chain Integration Framework**



# Pillars of Integration



## Segment and Consolidate Product Flow

Integrating products (such as vaccines, pharmaceuticals or medical consumables) can create a more efficient supply chain to replace the vertical organization that often sees health facilities receiving multiple shipments of health products at different times. When informed by robust segmentation analysis, integrating health products can reduce parallel logistics processes and redundant work.

Eliminating inefficiencies through integration has tremendous cost-saving potential for governments, and it makes supply chains more **sustainable**.

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## Supply Beyond Health Facilities

An integrated supply chain means that health products are available at all levels of the health system, including the community level.

A combination of economic, social and geographical barriers keeps people from accessing traditional health care facilities<sup>4</sup>. In Africa, over 400 million people<sup>5</sup> receive the majority of their health services at the community level, placing paramount importance on using innovative means of getting supplies beyond the health facility. This includes mobile services, medicine collection lockers as well as home delivery services by community healthcare workers

CHWs provide both preventive and curative services in homes and in a central location within a community. They are often the only touch point many rural residents have with the public health system, making community level deliveries a critical service in the national health system.

Yet, CHWs cannot do their jobs effectively without access to health products. In many LMICs, supply chain planning stops at the health facility level, making the medicines and vaccines CHWs need to provide inaccessible.



Community health service deliveries make public health supply chains become **people-centered** and **equitable**.

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4 Tracking universal health coverage: 2017 global monitoring report. World Health Organization and International Bank for Reconstruction and Development / The World Bank; 2017. Licence: CC BY-NC-SA 3.0 IGO. <https://apps.who.int/iris/bitstream/handle/10665/259817/9789241513555-eng.pdf?sequence=1>

5 [Protecting Community Health Workers PPE Needs and Recommendations for Policy Action](#), Center for Global development

Integrating community health services into public health supply chains means:



Community-level supply needs are systematically quantified and incorporated into national demand and supply plans



Delivery channels and transport routes are optimized



End-to-end visibility extends to community level

VillageReach's **Supply Chain for Community Health Workers (SC4CHWs)** solution connects CHWs to a country's public health supply chain. We have been implementing this solution with the Liberian Ministry of Health since 2019. The **Community Health Impact Coalition**, which exists to make a professionalized community health workforce a norm worldwide, has also developed several resources that can help with integrating community health service delivery into public health systems (i.e., **guidance for counting CHWs**, a **tool for optimizing community health programs**).



## Leveraging Private Sector Capacity

Private sector integration through commercial contracts uses available private sector resources to add capacity to the public health supply chain. Ways to integrate private sector capacity include distributing health products, providing discrete activities (warehousing, transportation or cold chain maintenance) and integrating technology (warehouse management systems, vehicle tracking systems, temperature monitoring systems, network analysis, and supply chain data analytics) to name just a few.

*Using existing private sector resources helps public health supply chains become more **resilient**, by increasing resource availability, and **affordable**, since their fixed costs are spread across multiple sectors and customers.*

Private sector resources can also provide specialized expertise that is often difficult to develop and maintain in the public sector. For example:



In 2021, VillageReach in partnership with the Democratic Republic of Congo (DRC) government and private company **Swoop Aero**, launched drone delivery operations serving 38 hard-to-reach health facilities in one province, with a focus on transporting vaccines, laboratory samples and test results.



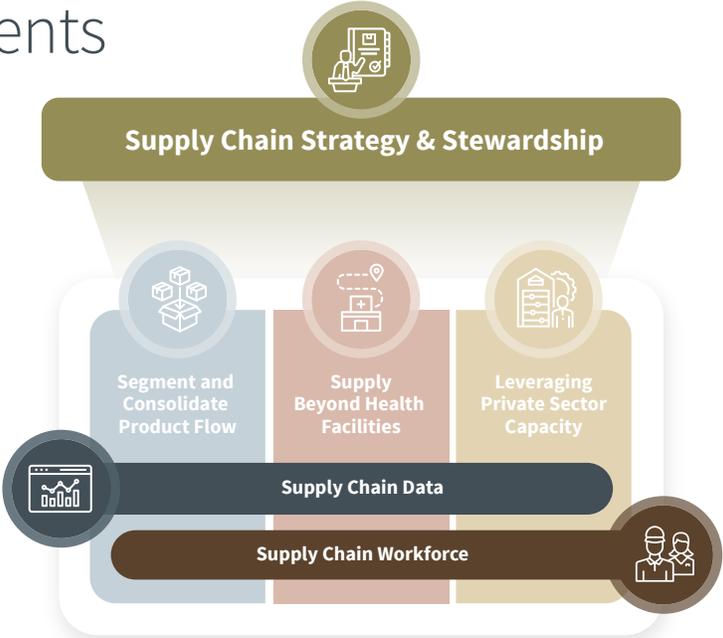
In 2021, the Mozambique Ministry of Health successfully **scaled outsourced transportation** to nine of the 11 provinces in the country. This was based on 2015 work where **VillageReach and the Tete provincial government outsourced transportation** from the provincial storage facility to health facilities throughout the province.

Integrating private sector resources into the public health supply chain is about assessing country needs and all in-country private sector resources to find the right fit. Fortunately, there is an increasing number of tools available including the **Outsourcing Toolkit** managed by the Africa Resource Center.

## Cross-cutting elements

To achieve integration of the core pillars, three crosscutting elements are required to drive and enable supply chain integration. These include:

- **National strategy and stewardship** to *drive* public health supply chain integration
- Timely and routine **data** that enables end-to-end- visibility of the integrated supply chain network
- **Health workforce** to enable integration of the core components





## Supply Chain Strategy & Stewardship

Integration that trickles down to the community level must be guided by clearly defined and costed national and sub-national supply chain strategies that are executed through effective coordination across government ministries, ministry of health departments, civil society, funders and the private sector. This means the government must decide which resources to use and formalize, when and how they will be used, and how to coordinate on a subnational level.

As an example, In 2020, VillageReach implemented **Supply Chain Investment Coordination & Advocacy (SCICA)** with the DRC government for national health programs and provinces. SCICA is a management approach that ensures governments can set supply chain priorities based on real performance and can also manage and coordinate technical partners.



A new leadership approach is needed within national and sub-national governments to set and drive this integration agenda. These “integrators” need to be able to define and gain consensus on clear strategy; mobilize and coordinate domestic and donor investments for that set agenda; and, ensure effective execution through multiple stakeholders.

## Supply Chain Data

Effective integration requires an accurate data flow across the supply chain accounting for health products from procurement all the way to the service delivery point. This means supply chain leaders need real time, reliable data from all distribution points, and in return, health facilities need supply planning /distribution information from the national level to ensure resources are in place to store and distribute incoming products.

In addition to data sharing within the public health supply chain, data sharing must include private sector partners.

*Data visibility across the public health supply chain creates resilience and **agility**<sup>6</sup>.*



6 Agility is the ability to quickly plan, source, make and delivery to adapt and respond to changes in the environment (ASCM)



## Skilled Supply Chain Health Workforce

A public health supply chain that integrates multiple products across all levels and all sectors needs a suitably **skilled health supply chain workforce** to manage coordination, demand and supply planning and distribution amongst others.

Standardization and institutionalization of national supply chain roles, competencies and training and certification requirements improve supply chains.

People that Deliver has developed a **supply chain management professionalization framework** to provide a set of global standards that align career path, education and professional growth in health supply chain management. This provides guidance to create a skilled workforce in both the private and public sectors to manage an integrated supply chain.



## Achieving Integration

This **Supply Chain Integration Framework** offers a vision to help LMICs design a strong, high-performing public health supply chain. Successfully integrating this framework requires buy-in from governments and funders—stakeholders whose actions are critical to success.



### Governments

To lead the integration process, national governments must:

1. Develop *country supply chain strategies* to guide integration in a way that meets country needs
2. Establish *stewardship mechanisms* to coordinate all supply chain investments towards implementing country strategies



### Funders

Funders must:

1. Encourage partners to utilize *private sector resources*
2. Invest in supply chain channels *beyond health facilities*. This includes funding not only direct service delivery like CHWs, but also programs that will foster the integration of community health supply chains, such as end-to-end supply chain visibility.

Learn more about how VillageReach is using this Integration Framework, and how we can help with supply chain integration efforts in your country.

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