

# Beyond the Health Facility

## Strengthening Community Supply Chains



Photo: Wolff Mugos

Where a person lives should not determine the quality of health care they receive. However, in Africa 615 million people<sup>1</sup> remain without access to primary health care services. The current health systems in many African countries do not meet the needs of the most under-reached, a problem only exacerbated by a consistent shortage of human resources for health. The World Health Organization estimates a global shortfall of 10 million health workers by 2030.<sup>2</sup> Community health workers (CHWs) are poised and ready to fill this health workforce gap and deliver quality primary health care services<sup>3</sup> in a cost-effective way.<sup>4</sup> However, CHWs must first be salaried, skilled, supervised and **supplied** to get more health products and services beyond the health facility and closer to people's homes.

## Building solutions that work

For CHWs, consistent access to quality health products remains a challenge in Africa. CHWs are stocked out of essential medicines one-third of the time, and at a significantly higher rate than the health facilities they are associated with.<sup>5</sup> Additionally, the lack of health supplies is a major hindrance to CHWs productivity and motivation globally.<sup>6</sup> VillageReach first began to address these challenges in 2018, in partnership with the Liberian Ministry of Health and Social Welfare (MoHSW) and Last Mile Health. We wanted to develop a solution to strengthen community supply chains with the ultimate goal of integrating CHWs into national public health supply chains. This solution, now called Supply Chain for Community Health Workers (SC4CHW), provides technical assistance to governments and communities in five main areas: human resources, data, advocacy, supply chain financing and transport. This solution is designed to adapt to country context and address specific challenges to the community health supply chain. It has been implemented in both Liberia and Kenya to date.



Photo: Paul Joseph Brown

1 [AHAIC. \(2021\). The State of Universal Health Coverage in Africa: Executive Summary of the Africa Health Agenda International Conference Commission.](https://ahaic.org/download/executive-summary-the-state-of-universal-health-coverage-in-africa/)

2 <https://www.who.int/news/item/02-06-2022-global-strategy-on-human-resources-for-health--workforce-2030>

3 <https://joinchic.org/resources/the-case-for-chws-champions-of-the-health-system/>

4 <https://chwcentral.org/resources/strengthening-primary-health-care-through-community-health-workers-investment-case-and-financing-recommendations/>

5 Stock-outs of essential medicines among community health workers (CHWs) in low- and middle-income countries (LMICs): a systematic literature review of the extent, reasons, and consequences ([biomedcentral.com](https://www.biomedcentral.com))

6 [https://www.researchgate.net/publication/321214428\\_Practitioner\\_Expertise\\_to\\_Optimize\\_Community\\_Health\\_Systems\\_Harnessing\\_Operational\\_Insight](https://www.researchgate.net/publication/321214428_Practitioner_Expertise_to_Optimize_Community_Health_Systems_Harnessing_Operational_Insight)

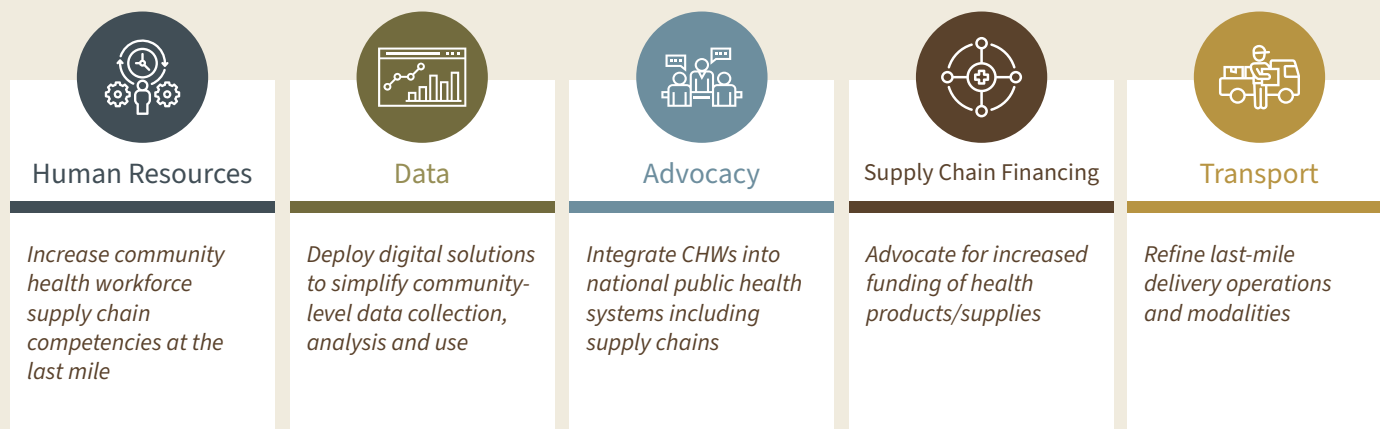


Figure 1: SC4CHW Solution: Areas of Technical Assistance

## Implementation in Liberia

In Liberia, CHWs, known as Community Health Assistants (CHAs), serve close to 30% of the country’s population who live beyond 5km from the nearest health facility,<sup>7</sup> but were facing consistent stockouts because they were historically only allocated 20% of national supplies. A 2018 Supply Chain Diagnostics Report from JSI found that CHAs consistently had less stock of essential medicines, such as zinc and amoxicillin, when compared to health facilities during that same time period.<sup>8</sup> VillageReach also analyzed the community supply chain in 2019 and found major challenges related to a lack of data for decision-making, limited supply chain expertise and inconsistent delivery systems that led to health facilities stock-outs. The state of the community supply chain during this time was also heavily fragmented and mostly partner-driven with low levels of government investment.<sup>9</sup>

Given that CHAs provide primary health care to nearly 1.5 million people in Liberia, we wanted to address these challenges with the SC4CHW solution. Between 2019 and 2023, VillageReach provided MoHSW with technical assistance (Figure 1) in five counties (Bomi, Grand Bassa, Grand Gedeh, Rivercess and Margibi) to ensure CHAs were officially recognized as part of the national public health supply chain and their commodity needs were formally integrated into national policy. We achieved these goals through advocacy, securing government stewardship and financial commitments, CHA training and through developing and deploying a community-based information system (eCBIS) for CHAs to manage supply chain data, as well as developing a kitting distribution system to get routinely supply CHAs.

## Lessons Learned in Liberia

Over the course of five years, we experienced several challenges in Liberia related to supply chain workforce turnover, the development and use of eCBIS for data visibility as well as rampant stockouts of essential medicines at the national level. By learning from and adapting to these challenges we identified enabling factors (Figure 2) for a successful solution to strengthen community supply chains. These enabling factors are important lessons that should be considered by governments and their partners interested in implementing a community supply chain solution.

7 Healey J, Wiah SO, Horace JM, Majekodunmi DB, Duokie DS. Liberia’s Community Health Assistant Program: Scale, Quality, and Resilience. *Glob Health Sci Pract*. 2021 Mar 15;9(Suppl 1):S18-S24. doi: 10.9745/GHSP-D-20-00509. PMID: 33727317; PMCID: PMC7971381.

8 <https://www.exemplars.health/topics/community-health-workers/liberia/challenges>

9 Global Fund Report. Achieving Sustainable Health Financing in Liberia: Prospects and Advocacy Opportunities for Domestic Resource Mobilization (2019) <https://thepalladiumgroup.com/downloads/154c298dc25924bda064f5b6cebdef46>



Figure 2: Enabling Factors for Successful Solutions

## Product Availability

It is critical to have predictable and reliable procurement and distribution cycles at the national level. Without reliable product availability, key inventory management policies, such as buffer stock, resupply intervals and LMIS reporting timelines, are negatively impacted. Introducing the [kitting system in Liberia](#) was a positive experience for CHAs, but national-level stockouts made reliable access to essential medicines challenging and resulted in only two kit deliveries between 2022-2023.

Figure 3 shows five commodities intended for the CHA kits, comparing the average availability of stock before the distribution system began in 2022 and the average availability of stock after kit implementation in 2023. For zinc, national-level stockouts led to a reduction in stock availability for CHAs, while Amoxicillin, ALx1 and ALx2 only had a small increase in stock availability either due to national-level stock outs – or in the case of ALx1 the stock available expired and could not be used. Oral rehydration salts (ORS) tells a clearer story of kit effectiveness because when stock is available, the kitting system significantly increases CHA access to essential medicines (i.e., **prior to kits less than 10% of CHAs had access to ORS, but after kit distribution nearly 70% of CHAs had access**). Therefore, government coordination with donors for financing, procuring and distributing essential medicines is key to ensuring product availability is consistent across the country.

## % of CHAs with Commodity in Stock on Date of Visit

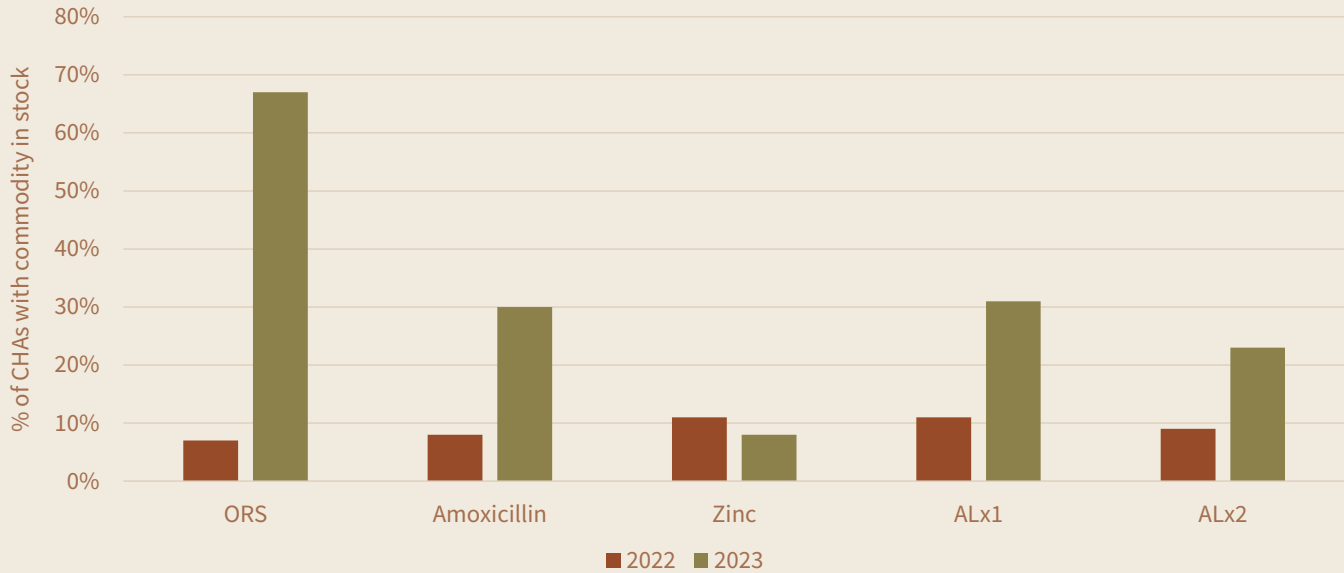


Figure 3: Percent of CHAs with Essential Medicines in Stock

## Storage & Transport

In Liberia, we learned that picking and packing CHA kits at the county level was more efficient than doing it at the central medical stores. In fact, the process went from **34 days to 7 days** once we moved picking and packing to the county level. However, a time-saving process is only possible if county-level depots have dedicated storage space for picking and packing kits and monitoring CHA supplies. These depots also need available and reliable transport to deliver kits quickly once packed to reduce both storage costs and product waste from expiry.

## Data for Decision-Making

Implementers must ensure funding and strong political commitment are in place to develop and create consistent use of a digital system for monitoring supply chain data. Data must be digitized and linked to existing country systems (i.e., eCBIS or LMIS). For example, prior to digitizing supply chain data, it took four months for stock-out information to reach the national level from CHAs, but with digital tools in place, the stock-out data was made available in near real-time for review by the national government. Our work led to **100% reporting**, across five counties, to the country's logistics management information system (LMIS) getting data routinely from the community supply chain to the national level. Additionally, by working with Ona and other partners we trained **1,428 CHAs and supervisors** serving over 200,000 households on the eCBIS digital tool.

## Humans Resource Capacity

A dedicated workforce is necessary to manage the community health supply chain. Picking and packing of CHA kits was assigned to volunteers who were not always motivated and these volunteers led to high turnover. Having a dedicated supply chain manager for the last mile that is paid for and supported by the national government is critical to success. In Liberia, we successfully introduced a new workforce cadre, County Supply Chain Specialist, whose role was to support both CHAs and MoHSW staff. Additionally, any solution to supply CHAs that uses digital tools must include training on commodity and waste management for them to effectively use, manage and track supplies, as well as training to address varying levels of digital literacy.

Integrating supply chain mentorship and coaching into routine supportive supervision of last-mile health workers is an effective way to build supply chain capacity by reinforcing best practices and monitoring improvements over time. In Liberia, providing this coaching was critical to the SC4CHW solution, where **we coached 3,391** CHAs, CHA supervisors, health workers and staff. These coaching sessions resulted in an increased supply chain capacity **from 31 to 71%** among people trained in Grand Bassa, Grand Gedeh and Rivercess.

## Responsive Solutions

In Liberia, [we sought input from CHAs](#) and their supervisors to refine the SC4CHWs solution and ensure that the solution was meeting their ongoing needs to help them serve their communities. This required seeking input from key stakeholders and CHAs prior to and throughout implementation, which created space for continuous improvement and innovation. When designing the eCBIS, we used iterative, user-centered design – incorporating multiple rounds of testing and feedback sessions to ensure it was user-friendly. Overall, **97% CHAs and supervisors trained** to use eCBIS said they had a positive perception of the tool and wanted to use it all the time.

## Government Stewardship

Sustainable solutions require government stewardship to integrate solutions into national policy and funding mechanisms. In Liberia, we successfully advocated for the **integration of CHA commodities into the new National Public Health Supply Chain Master Plan 2023-2028 (SCMP)**. This achievement helped us ensure elements of the solution were embedded within partner, donor and government systems at closeout in 2023. Additionally, through our advocacy work to integrate CHAs into the national supply chain and secure government financial commitments we:

- Developed National Quantification Standard Operating Procedures that include community commodities and Terms of Reference for the Quantification Technical Committee;
- Institutionalized [supply chain technical working groups](#) at the national level and the country levels;
- Ensured CHA commodity needs and forecasts were included in the national commodity quantification and supply plan reviews; and
- Incorporated supply chain priorities into the annual county operational plans, which included budgetary allocations to enhance storage conditions.

## From Learning to Action

We know CHWs can fill critical workforce gaps and provide life-saving services to the under-reached. Achieving universal health coverage by 2030 means [building responsive primary health care systems](#) to reduce inequities in access to health care globally. CHWs play a critical role in building these responsive systems that get health products and services to people when and where they are needed. Therefore, solutions designed for the community supply chain, like SC4CHWs, are urgently needed. These solutions require investment and resources from governments, technical partners and donors; however, they must be proven effective and align with country priorities to make a real impact. We encourage other stakeholders to use our [SC4CHW solution toolkit](#), and our lessons to adapt and implement this solution in their country.