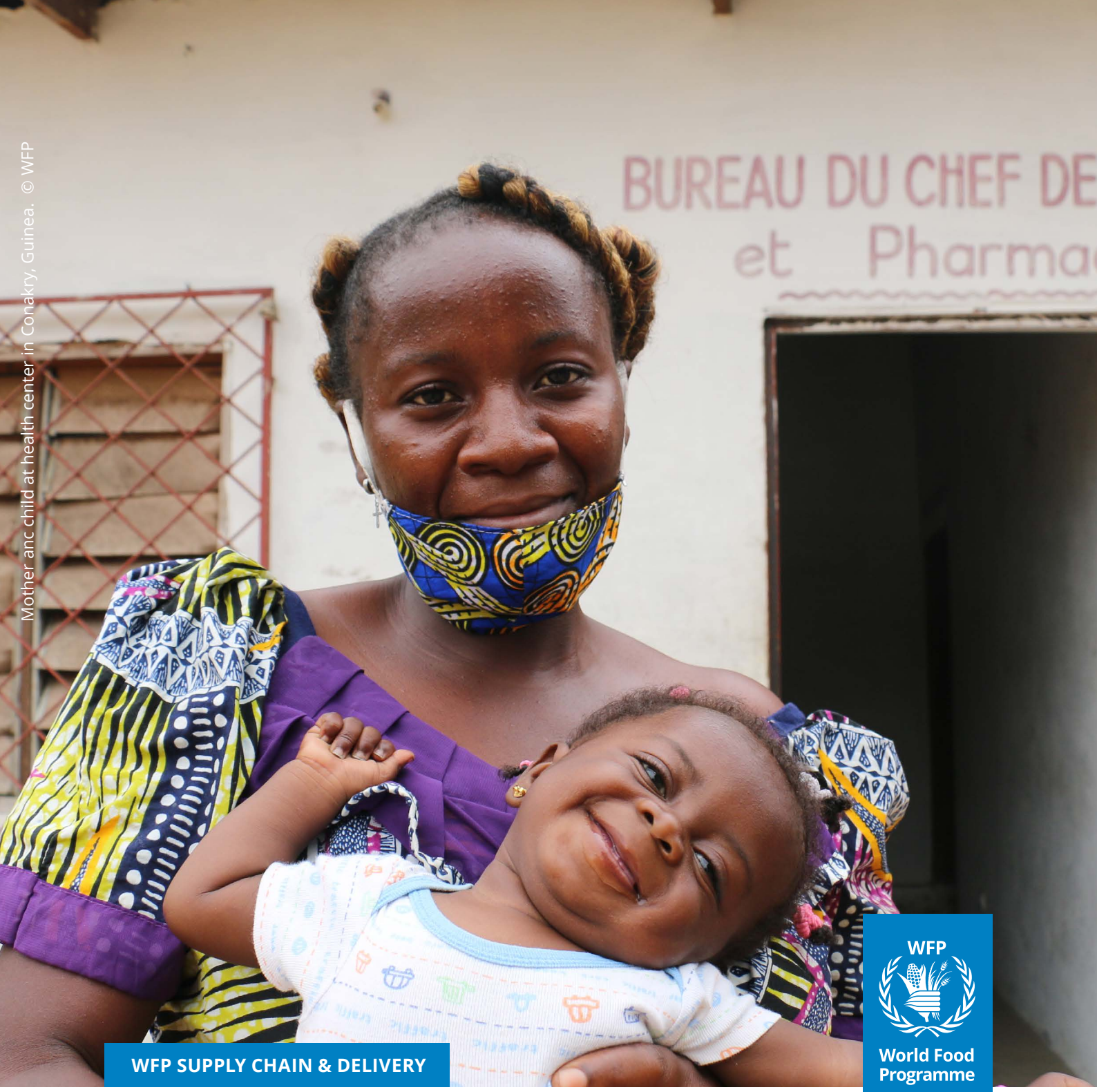


Mother anc child at health center in Conakry, Guinea. © WFP

WFP SUPPLY CHAIN & DELIVERY

WFP
World Food Programme

SAVING LIVES
CHANGING LIVES

End of Project Report: HS3

Strengthening public health supply chains from crisis response to long-term resilience in Africa

Takeda

WFP World Food Programme

June 2025

Introduction

Strong **public health supply chains** are the foundation of functional, equitable health systems. They ensure that essential medicines, diagnostics, and health supplies reach the people who need them, reliably and efficiently – especially during health crises. Yet, the COVID-19 pandemic exposed **critical weaknesses in health logistics globally**.

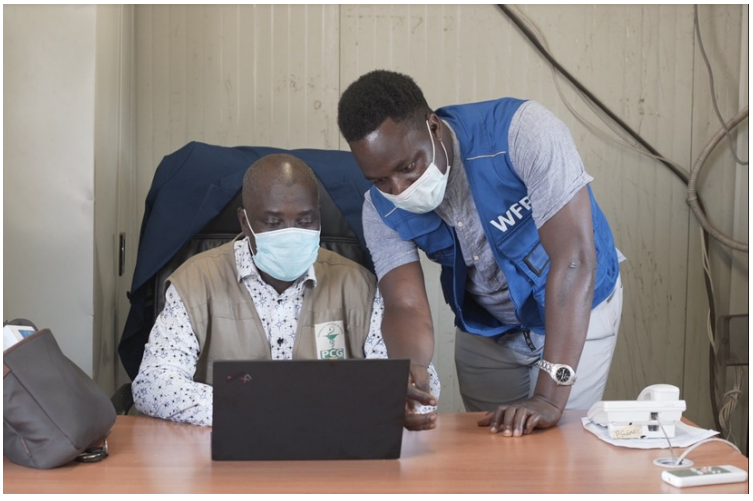
With over six decades of operational experience in humanitarian logistics, WFP has built a robust global supply chain network and footprint, enabling the delivery of assistance in some of the world's most complex and challenging environments. Building on this expertise, WFP also acts as an enabler of supply chain solutions — supporting governments, international partners, and the private sector to strengthen national systems. In the context of public health supply chains, WFP steps in at the request of governments and partners, or where critical gaps exist that cannot be met by actors with a public health mandate. This approach has been evident in responses to major health emergencies such as the West Africa Ebola outbreak (2014–2015) and the global COVID-19 pandemic (from 2020), and aligns with Sustainable Development Goal 17 by promoting effective partnerships for sustainable development.

In the face of this COVID-19 challenge, the **World Food Programme (WFP)** and **Takeda Pharmaceutical Company Limited (Takeda)** joined forces in 2020. WFP's Health Systems Supply Chain Strengthening (HS3) Project was established as one of Takeda's global initiatives aligned with the UN COVID-19 Global Humanitarian Response Plan. Building on WFP's legacy in humanitarian logistics and supply chain innovation, Project HS3 aimed to support the response to the COVID-19 pandemic and empower countries to build more resilient, data and performance-driven public health supply chains.

Launched during the COVID-19 pandemic, Project HS3 was implemented in two phases.

- The first phase focused on supporting the United Nations' COVID-19 global response.
- The second phase, initiated in 2021, focused on long-term public health supply chain strengthening. WFP played an enabler role, partnering with Ministries of Health (MoH) and local actors to help build more robust national supply chains, more resilient to health shocks and driving the vision of Universal Health Coverage.

The project concluded in June 2025 and this summary reflects on achievements.



WFP Guinea country office. © WFP

Field Hospital in Accra, Ghana. © WFP

SimEx training. © WFP

Phase 1: The COVID-19 Response

In October 2020, with support from Takeda and guided by public health partners, WFP constructed a COVID-19 field hospital in Accra, Ghana—at a time when the country had one of the highest rates of COVID-19 infections among health workers in West Africa. The 50-bed facility treated 81 frontline workers from 43 countries before being handed over to the Ministry of Health in 2022.
In parallel, WFP launched a dedicated COVID-19 logistics platform to maintain the global flow of critical supplies amid commercial disruptions. Between 2020 and 2022, the platform supported 84 partners and delivered vital health and humanitarian cargo to over 160 countries. These efforts exposed persistent supply chain gaps and directly informed the design and priorities of the HS3 project.

Phase 2: Strengthening in-country public health supply chains

WFP launched a five-year initiative, beginning in 2021 with the support of Takeda to strengthen national public health supply chains across four African countries - Côte d'Ivoire, Guinea, Malawi and Zambia - responding to the needs and priorities expressed by partners. WFP supported governments with proven and transferable supply chain practices from its experience in food logistics, in the areas of supply chain visibility and optimization, transport and fleet management, warehouse and inventory management, and of course emergency preparedness.

Throughout the project, a total of 15 initiatives were implemented and 197 solutions - such as tools, processes or standard operation procedures - deployed in partnership with **10 government agencies** across the four countries. Each initiative focused on a specific activity under the framework of a Memorandum of Understanding

with a government agency, with clear objectives and deliverables guiding implementation. 1,821 supply chain professionals benefited from the project's activities that are described in the following sections. This work has given Malawi government a clear indication on which activities would be the most impactful if invested on at system level, no longer activity by activity.

PREPARING PUBLIC HEALTH SUPPLY CHAINS FOR EMERGENCIES

For many years, WFP has been using Simulation Exercises (SimEx) as a tool to better prepare for complex emergencies. SimExs aim to test and strengthen logistics response capacities such as planning, coordination, information management and decision-making for optimal responses.

From 2022 to 2025, WFP worked with the MoHs of Côte d'Ivoire, Guinea and Malawi, as well as national disaster management agencies. In Côte d'Ivoire, WFP helped revamp the country's emergency supply chain toolkit – a series of procedures and tools for first responders – and trained 45 local health actors. A SimEx was carried out to test the supply chain toolkit in a realistic emergency crisis.

In Malawi, public health supply chain and emergency stakeholders participated in the delivery of 3 large scale SimEx. WFP, the MoH, the Department of Disaster Management Affairs (DoDMA), and other agencies collaborated to ensure the SimExs encompassed country-specific elements, such as the regular occurrence of cyclones. Finally, in Guinea, 2 regional SimEx were conducted with the MoH.

Across countries, a total of **199 participants from 38 organizations joined the SimExs**. 126 logistics staff received additional training in pandemic logistics. The impact of SimExs is tangible. In Côte d'Ivoire and Malawi, WFP observed significant increases in participant competences: 69% in coordination, 72% in planning, and 121% in information management and decision-making.

> **"Malawi by itself cannot manage all these epidemics or emergencies that come along. To do that, we forge partnerships. There's UNICEF, there's WFP and many others that come to help Malawi to build the capacities as well as manage the disasters."**
>
> **GODFREY KADEWERE**
> MINISTRY OF HEALTH DIRECTOR, MALAWI

EMERGENCY PREPAREDNESS SYSTEM DYNAMICS MODEL

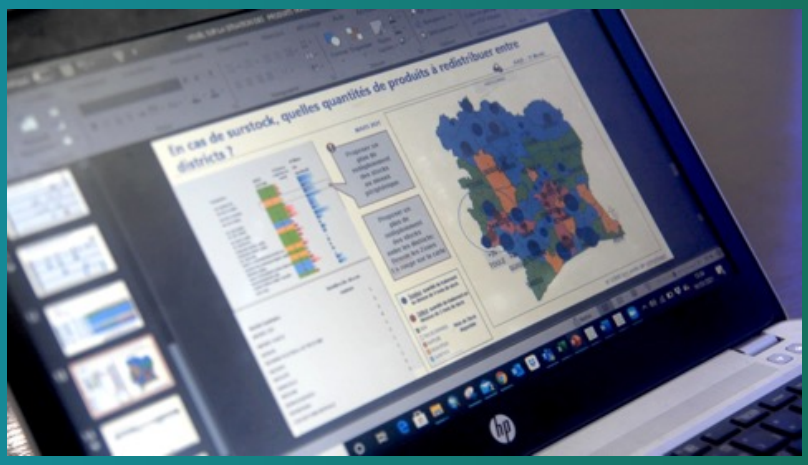
In 2021, WFP partnered with the Kuhne Logistics University (KLU) to research ways to improve the resilience of health systems to disease outbreaks. Using system dynamic, an innovative decision-making tool was developed and piloted with the Malawi MoH in 2023. Researchers from KLU used the tool to evaluate which emergency prepardness measures – such as stockpiling, transport and warehousing capacities, etc. – would have the greatest impact on supply chain performance allowing governments and donors to make informed strategic investment decisions. This work has given Malawi government a clear indication on which activities would be the most impactful if invested on at system level, no longer activity by activity.

TRANSPORT & FLEET MANAGEMENT

WFP draws on a global fleet of over 1,000 trucks. Central Medical Stores (CMS) and WFP operate in the same environments facing similar logistics challenges, especially at the last mile. WFP collaborated with CMS in Guinea and Côte d'Ivoire to help enhance transport capabilities.

In Côte d'Ivoire, the optimization of 155 last mile vehicle routes reduced the lead times of deliveries by 17% and **distances covered by 25%**. CMS network optimization uncovered potential to increase truck utilization by 39% and reduce costs between USD 290,000 and USD 450,000 per year. In Guinea, Project HS3 developed and deployed a customized fleet management system called T.O.M.S (Transport Operation Management

Transport and fleet management. © WFP



Supply Chain Control Tower Dashboard. © WFP

System) to help reduce costs, mileage and fuel consumption across all 7 regional hubs. Good transport practices were introduced in the CMS – named Pharmacie Centrale de Guinée (PCG) - and a specialized unit set-up. Across these 2 countries, **40 truck drivers were trained** in eco-driving, safety, and basic mechanics, using a WFP truck driving simulator to provide realistic, hands-on learning.

> **"The T.O.M.S tool has allowed the PCG to control all the routes of the fleet of vehicles, but also to control the quantity of fuel consumed and the costs of maintenance and repair, as well as the costs generated by the distribution of health products. The PCG staff has been trained in the use of this T.O.M.S tool. The PCG and WFP have a fruitful collaboration as the PCG benefits from WFP's expertise in fleet management to deliver health supplies to health facilities for the well-being of the population of Guinea."**
>
> **BRAHIMA KEITA**
> PROJECT COORDINATOR WFP-PCG

QUALITY ASSURANCE IN DOWNSTREAM TRANSPORT

Project HS3 collaborated with the CMS of Zambia in assessing 13 key transport corridors across 4 regional hubs to help improve cold chain standards. To support real-time temperature monitoring, 400 data loggers were provided to the CMS. 49 CMS staff were trained in quality assurance, including transport lane assessments and good cold chain practices, to enable the CMS to strengthen and sustain its cold chain quality assurance system in the long run.

SUPPLY CHAIN VISIBILITY TOOL

At any moment in time, visibility is needed across the supply chain, so that adequate operational decisions can be made. Working together with the MoH of Côte d'Ivoire, WFP helped design and implement a "Control Tower" approach to improve the end-to-end visibility of the country's public health supply chain – an approach widely used in WFP's humanitarian operations.

With WFP's support, a MoH supply chain analytics team was established, tasked with producing standardized dashboards to guide planning decisions. Initially piloted in the malaria programme, the system was later scaled to tuberculosis, HIV, family planning, and nutrition programmes, helping to improve planning, coordination, and early identification of potential product stockouts. By 2021, 58 forward-looking dashboards had been produced in Côte d'Ivoire, largely autonomously by the MoH, contributing to a **30% reduction in stockouts of malaria products**.

Building on this success, WFP replicated the Control Tower in Guinea and Malawi. In Guinea, the Control Tower allowed **reducing projected stockouts by 25% and expiries by 90%** for the malaria programme, and was then expanded to 4 other health programmes. In Malawi, this dashboard-based planning approach was rolled out to other programmes, including antibiotics, malaria and antirabies commodities. A **17% reduction in stockout rat**e has been observed, as well as a **100% reduction in the value of expired medicines** and a **28% reduction in the percentage of emergency order**s placed.

Across the 3 countries, the project supported data-driven planning for 12 health programmes. A total of **229 dashboards** were created, informing 88 supply chain planning meetings. To ensure sustainability, 22 MoH staff were appointed as data analysts and received on-the-job coaching. An additional 374 supply chain staff were sensitized to the Control Tower approach.

"With WFP's support we engaged all health stakeholders to discuss supply questions using a common set of data analytics. This approach is already in use to pre-empt stockouts in malaria, HIV and other programmes. Ultimately this means more patients can access their treatments."

DR. MARIE-APOLLINE ADOU
DEPUTY DIRECTOR HEALTH SUPPLY CHAIN COORDINATION CÔTE D'IVOIRE, DIRECTION DE L'ACTIVITÉ PHARMACEUTIQUE

Inventory management. © WFP

A digital supervision tool was introduced to standardize data collection, enabling more consistent and actionable insights. WFP also provided on-the-job coaching, sharing its expertise in stock management with frontline health workers, training a total of 423 health facility staff.

"This exercise has reminded us of the storage practices, data management of the drugs. My impression of this exercise is that it will help me improve the store's management and data management, it will help facilities improve their day-to-day services."

RANKEN MLANGA
PHARMACIST IN MALAWI

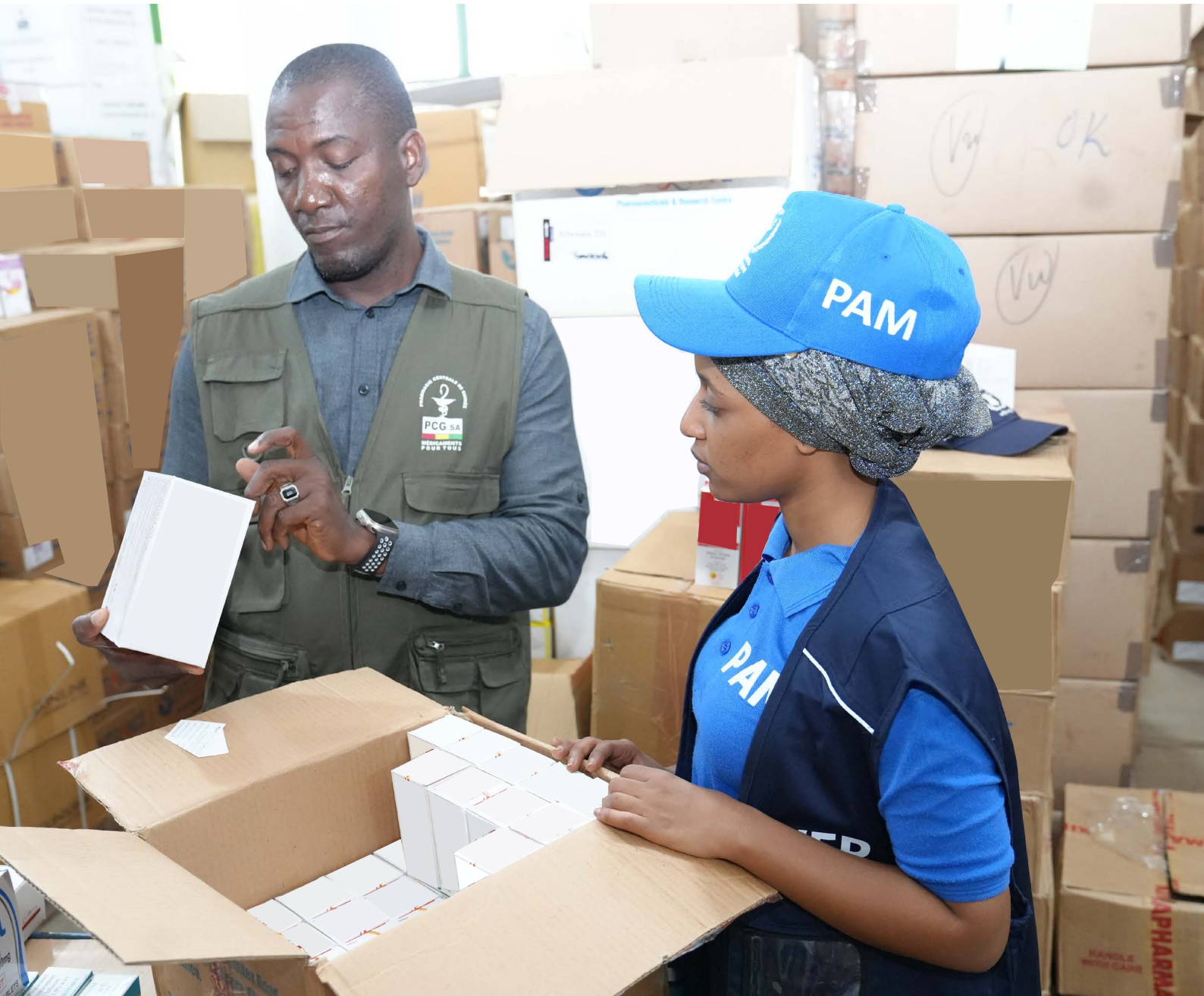
Conclusion

Project HS3 concluded in June 2025, marking the end of a focused contribution to strengthening public health supply chains in Africa. In collaboration with national partners, the project identified practical solutions, tested new tools, and reinforced existing systems.

WFP invested in ensuring the sustainability of these efforts by supporting functional processes and training staff, laying a foundation for continued progress. The experience highlighted the value of long-term partnerships and locally led capacity strengthening, offering lessons for future initiatives.

As national actors and health agencies continue to lead efforts to improve public health supply chains, ongoing investment remains essential. WFP stands ready to support with targeted supply chain services where gaps exist and when requested. The collaboration with Takeda has shown that partnership-based approaches can strengthen national systems and promote more resilient and equitable access to health supplies.

Inventory management. © WFP



For more information,
please contact:
silvia.rossi@wfp.org
chris.ronalds@wfp.org

World Food Programme
Via Cesare Giulio Viola 68/70,
00148 Rome, Italy - T +39 06 65131
wfp.org