

# Sub-regional stockpiling: Increasing responsiveness to African public health emergencies

Africa is confronted by an increasing number of public health emergencies every year, placing a heavy burden on the national health systems. **Dr Abdou Salam Gueye** and **Charlie Reeves** examine sub-regional stockpiling as a solution



**D**uring this year alone, the region has already faced outbreaks of Ebola, Marburg, Mpox, Dengue and Cholera, alongside sudden onset and ongoing protracted humanitarian crises. Robust public health interventions can prevent or control such events. However, these crises often occur within the context of fragile health systems, so they overwhelm national capacity, disrupt essential health services, and deepen existing vulnerabilities.

In 2021, in the wake of the Covid-19 pandemic, WHO's Africa Regional Office (AFRO) Emergency Preparedness and Response (EPR) Cluster launched three flagship initiatives. The initiatives aim to strengthen AFRO member states' capacity to prepare for, detect, and respond to public health and humanitarian emergencies in the region. Building on existing national and regional infrastructure, the initiatives create a co-ordinated, responsive, and effective support system, strengthening national capacities and drawing on important lessons learnt from past public health crises such as Covid-19 and the 2014-15 West Africa Ebola outbreak.

Aligning with the phased sequence of 'prepare, detect, respond,' three flagship initiatives have been introduced. The first, Promoting Resilience of Systems for Emergencies (Prose), focuses on ensuring that each of AFRO's 47 member states is better equipped to plan for public health emergencies and humanitarian crises. The second initiative, Transforming African Surveillance Systems (TASS), aims to enable quicker detection of public health threats across the region. Finally, Strengthening and Utilising Response Groups for Emergencies (Surge) is designed to ensure that member states can mobilise and respond to public health emergencies with speed and effectiveness.

The cornerstone of these flagship initiatives are sub-regional hubs which will act as Centres of Excellence, improving preparedness and response effectiveness across the AFRO region. Located in Nairobi, Kenya, and Dakar, Senegal (with a third planned for Pretoria, South Africa), the hubs enhance sub-regional co-ordination during emergencies, serving as focal points for expertise across each initiative.

A core element of the hubs in Nairobi and Dakar are two sub-regional warehouses that supply East and Southern, and Western and Central Africa, respectively. Supporting the Surge initiative's goal of responsiveness, these pharma-grade warehouses currently hold a combined total of over US\$11 million worth of dedicated health supplies that can be despatched to the region's member states within 72 hours of an emergency being declared. They are wholly integrated into WHO's supply chain network of national warehouses and backstopped by the global supply hub in Dubai, UAE.

Supported by generous donations of prime real estate and funding from the host governments of Kenya and Senegal, new, cutting-edge warehousing facilities will be constructed as part of the Centres of Excellence. These bespoke warehouses will increase pharma-grade storage capacity for the WHO and selected health partners, fundamentally increasing the levels of service that can be provided to member states during emergency response situations.

As the backbone of the EPR cluster, the Operations Support and Logistics (OSL) unit ensures successful operational outcomes during public health emergencies. It plays a cross-cutting role across the flagship initiatives

*OSL Nairobi team overseeing the loading of Mpox supplies onto aircraft for delivery to DRC*

Photo: WHO

and throughout all phases of the emergency management cycle.

By strengthening the capacity of national workforces and working in collaboration with respective ministries of health, OSL provides a valuable service to member states, delivering innovative

logistics, operations, and supply chain solutions, and ensuring a timely, effective and efficient operational response to public health emergencies.

As the time-based function of agility, responsiveness is one of OSL's core strategic priorities and adds significant value to member states at the onset of an emergency. Considered through a commercial supply chain lens, agility places the customer front and centre, prioritising service level over cost. Reducing the lead time between demand and supply can become an 'order winner' for a commercial organisation. However, within the volatile ecosystem of outbreaks and humanitarian crises, providing quality-assured medical supplies in a timely manner is more than just about gaining a competitive advantage. It can be the difference between life and death and is an operational necessity for OSL.

Despite advances in forecasting and early detection of public health emergencies, the landscape in which OSL operates remains unpredictable in terms of the time, location, nature, and severity of an event and its subsequent effect on national health systems. Accepting this uncertainty is a prerequisite to success, and resources must be invested to overcome it. OSL's deliberately sub-optimised response strategy, incorporating planned redundancies such as the emergency stockpiles in Nairobi and Dakar, seeks to mitigate the risks associated with such uncertainty.

For a lean supply chain with a predictable demand signal and a reliable information flow, where the value driver is the reduction of cost, holding excess inventory can be considered wasteful. It ties up working capital in surplus stock, increasing the risk of obsolescence, deterioration, or damage. Within such supply chains, downstream stock movements can be frictionless, allowing organisations to respond to changes in market demand with speed. For the



*Goma Warehouse*

Photo: WHO

complex landscapes within which OSL operates, however, holding strategic inventory closer to the point of demand is critical. Dedicated supplies at the Nairobi and Dakar warehouses create a buffer between planned upstream activity and volatile downstream demand, guaranteeing stock availability and bridging the lead time gap to provide a timely service to member states.

While significant working capital is committed to procuring and managing the stockpile, the investment is more than justified when balanced against the risks associated with failing to provide the necessary levels of service to member states and the implications for their national health systems and the affected population. The Covid-19 pandemic exposed the implications of holding inadequate buffer stock. Increased global demand for personal protective equipment (PPE), coupled with reduced production capacity in China owing to lockdowns, severely limited upstream supply and significantly extended delivery lead times.

Since their launch in 2022, WHO's sub-regional warehouses have significantly improved supply chain responsiveness across the continent. To date, over US\$22 million worth of emergency supplies have been dispatched over 518 individual shipments, supporting member states to respond to numerous outbreaks and crises.

Prior to the warehouses' establishment, the average lead time for the delivery of emergency supplies was three weeks. Today, the majority of shipments arrive well within 72 hours. This can, without doubt, be attributed to the fundamental redesign of the supply chain network and the significant investments made in warehousing and strategic regional stockpiles. As crucial nodal points within WHO's global supply chain network, the sub-regional warehouses receive critical backup and support from the global hub in Dubai, UAE. Together with WHO's network of national warehouses, these assets provide a resilient three-level response system. This integrated network is designed for responsiveness, enabling OSL to provide the highest level of service to member states. **C•R**

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