Building Clinical Research Infrastructure for the Future of Epidemic Preparedness in West Africa

04 Jun 2025 | News | 5 min read | Admin

In West Africa, where a rapid response to health emergencies can significantly impact the trajectory of an outbreak, building a robust clinical research infrastructure is not just important; it is transformative. The Advancing Research Capacity in West Africa (ARC-WA) project is making this vision a reality, one concrete pour and steel beam at a time.

With funding from the Coalition for Epidemic Preparedness Innovations (CEPI) and led by the Medical Research Council Unit The Gambia at the London School of Hygiene & Tropical Medicine in partnership with the International Vaccine Institute (IVI), the ARC-WA project is currently constructing state-of-the-art Clinical Trial Units (CTUs) at the project sites to serve as the backbone of West Africa's epidemic preparedness and vaccine research capabilities.

Earlier in the second quarter of 2025, construction teams achieved a major milestone by completing the reinforced concrete foundations at two sites in Nigeria. At the Abubakar Tafawa Balewa University Teaching Hospital in Bauchi, in the Northeastern part of the country, specialised trenches and conduits have been meticulously integrated into the foundation, creating the infrastructural backbone for cold-chain storage and advanced laboratory services that will be essential for vaccine trials. At the Federal Medical Centre in Owo, strategically positioned in a high-incidence Lassa fever zone in Southwestern Nigeria, the CTU’s foundation was completed in record time through round-the-clock construction shifts and unwavering community support from residents who understand the critical need for this facility.

These foundations represent far more than concrete and steel; they embody a commitment to Good Clinical Practice (GCP) standards from the very beginning. Concealed within these solid bases are carefully planned networks for secure data cabling, medical gas piping, and vibration-free footings that will support ultra-sensitive diagnostic equipment.

The CTU in Bauchi has become a testament to what commitment and clear vision can achieve. Over the past four months, the facility has progressed through site clearance and excavation, structural frame erection, mechanical, electrical, and plumbing rough-in, and now, roof installation with high-grade corrugated metal sheets to crown the structure, providing complete protection from the region's tropical and changing weather conditions thanks to climate change.

Once fully operational, these CTUs will provide GCP-certified patient wards, pharmaceutical cleanrooms, and sample processing laboratories capable of evaluating new vaccine candidates with the highest levels of scientific rigor, particularly for Lassa fever research. These functions will support the facilities to anchor phase 2b/3 vaccine studies.

As the units are designed as "sprint laboratories" ready to transition into emergency mode within 48 hours of an outbreak declaration, enrolling patients, collecting vital data, and processing samples when every moment counts, they will position the two facilities to implement effective and rapid outbreak responses.

Upon completion, the facilities are also expected to host comprehensive training programs for local investigators, laboratory technicians, and trial monitors, transforming West Africa from a research location into a global center of clinical excellence.

The strategic positioning of these units, particularly the CTU in Owo, ensures that research capabilities are placed where they can have the most immediate and meaningful impact on community health outcomes. They embody a commitment to ensuring that West Africa has the infrastructure necessary to respond swiftly and effectively to health emergencies while building long-term research capacity that will benefit communities for generations to come.

By establishing modern clinical research infrastructure with near-complete facilities in key locations, the ARC-WA project is creating the groundwork for equitable access to lifesaving vaccines, accelerated research timelines, and ultimately, lives preserved across the region. Together, these rising structures symbolise hope, resilience, and a healthier future for all of West Africa.