



U.S. Army Medical Research Directorate-Africa

One of the Walter Reed Army Institute of Research's overseas directorates, USAMRD-A accelerates biomedical research, product development, outbreak response and disease surveillance in support of military and global health.

USAMRD-A and its many partners in Africa develop and test improved means for predicting, detecting, preventing and treating infectious disease threats important to the U.S. military and host nations. Headquartered in Nairobi, Kenya, USAMRD-A works with clinical research sites in seven African countries and is known in local communities as the Walter Reed Program. They collaborate with host governments and communities to advance research on endemic diseases such as malaria and HIV, and to help identify and develop countermeasures for emerging infectious disease threats such as COVID-19, Ebola and Lassa fever.

Malaria

The USAMRD-A research network leads malaria and infectious disease diagnostics and immunology studies in conjunction with local government, military, academic and nongovernmental organizations.

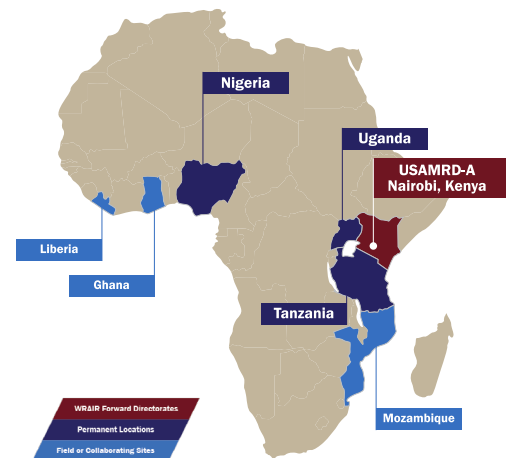
USAMRD-A established a clinical trials research center in Kenya capable of on-

site clinical microbiology testing and is a major site for Phase I-III clinical trials for new vaccine candidates and treatments. The team provides timely surveillance on current and emerging antimalarial drug resistance, serving as an early warning system for the global health community.

USAMRD-A also delivers key training throughout Africa for malaria diagnosis, specializing in classical blood smear microscopy and rapid diagnostic tests.

Emerging Infectious Diseases

USAMRD-A's Department of Emerging Infectious Diseases (DEID) plays a key role supporting the Global Emerging Infections Surveillance and Response System (GEIS) and provides technical support to U.S. AFRICOM-led international scientific coalitions and strategic engagement efforts. This encompasses the rapid detection and advanced characterization of endemic, emerging and novel threats to the force, including vectors and reservoirs of infectious disease transmission.



USAMRD-A research includes:

- COVID-19
- HIV/AIDS and Malaria
- Monkeypox
- Enteric Diseases
- Trypanosomiasis, Leishmaniasis
- Ebola, Marburg and Lassa
- Vector Biology and Rapid Diagnostics

Accomplishments

- Helped develop and test the first efficacious malaria vaccine candidate, RTS,S
- Examined twelve antimalarial drugs and reported on surveillance of emerging antimalarial drug resistance
- Conducted two HIV vaccine trials and many HIV/AIDS therapeutic studies and acute HIV infection studies
- Initiated five Ebola vaccine studies and published one of the first long-term follow-up studies on Ebola survivors

The USAMRD-A team works closely with local partners and militaries on surveillance, diagnostics, training and outbreak response. They have analyzed thousands of samples for outbreaks such as chikungunya, dengue, Rift Valley fever, cholera and influenza. USAMRD-A scientists also detect and track emerging antibiotic resistant bacteria.

WRAIR's Emerging Infectious Diseases Branch (EIDB) is leveraging USAMRD-A's strategic position to study and develop countermeasures for threats including Ebola, Marburg, Lassa fever, COVID-19, monkeypox and other emerging disease threats. Current research efforts focus on characterizing the epidemiology of Lassa fever in Abuja and Lagos, Nigeria, and Lassa vaccine studies with international partners are planned in West Africa.

WRAIR and its partner sites have been working to anticipate and pursue the threat of Ebola in Africa since it began the first Ebola vaccine clinical trial there in 2010. They have conducted multiple clinical trials of vaccine candidates for Marburg, and the Zaire and Sudan.

After the West African Ebola outbreak, the U.S. Department of Defense pioneered a strategic initiative called the Joint West Africa Research Group (JWARG) in 2015. JWARG is leveraging existing research platforms and partnerships in Nigeria, Ghana and Liberia to improve biopreparedness in the region.

Enteric Diseases Research

USAMRD-A plays a key role supporting the global effort to reduce the impact of diarrheal disease and protect the U.S. military during combat and humanitarian missions.

USAMRD-A scientists have been conducting enteric disease surveillance and supporting intervention research for more than 20 years. The Microbiology Hub in Kericho, Kenya, is a College of American Pathologist (CAP) accredited laboratory focused on enteric diseases that has become a leader in immunological assessments of enteric infections and responses induced by vaccination.

HIV

The U.S. Military HIV Research Program (MHRP) at WRAIR conducts research in Kenya, Tanzania, Uganda and Nigeria. Efforts include HIV cohort development, vaccine studies and research for a functional cure.

WRAIR was one of the first organizations to conduct HIV research in Africa in the 1990s, building on USAMRD-A's longstanding partnerships. This early work helped MHRP scientists identify nearly half of the known subtypes of the virus. Since then, MHRP partner sites have conducted many HIV vaccine and therapeutic clinical studies, many through two NIH-funded HIV clinical trial networks. Several sites in East Africa also participated in a groundbreaking acute HIV infection study, RV217, which has provided insights into the earliest stages of HIV infection and informed vaccine and cure research.

USAMRD-A Helps Combat COVID-19:

USAMRD-A has an established network of partner clinical research sites in Africa, several of which participate in MHRP's Clinical Trials Unit, funded by the U.S. NIH. In addition to conducting HIV vaccine and therapeutic studies, these sites have been leveraged to help test multiple vaccines to prevent COVID-19. In addition, sites and infrastructure developed through WRAIR's HIV prevention, care and treatment programs funded by PEPFAR have been utilized for COVID-19 testing and vaccine administration.

WRAIR also used existing supply chains to provide personal protective equipment early in the pandemic. In addition, they also helped procure reagents and speed delivery, lab supplies and diagnostic platforms to improve the pandemic response with military partners in Africa.



Several USAMRD-A partner sites implement the President's Emergency Plan for AIDS Relief (PEPFAR) initiatives with MHRP, which provides comprehensive HIV prevention and treatment services to military, civilian and key populations throughout four countries in Africa. MHRP provided more than 1 million people with HIV testing and counseling services in 2021, and currently provides lifesaving antiretroviral therapy to nearly 370,000 people with PEPFAR support.

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