

HEALTH INNOVATIONS

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News from HJF Medical Research International

HJFMRI-Kenya Supports Study of New Maternal RSV Vaccine

A promising vaccine designed to protect infants from severe respiratory illness is progressing towards more global widespread use, and HJFMRI is playing a key role in evaluating its potential as a public health tool in Africa.

The maternal Respiratory Syncytial Virus (RSV) vaccine (RSVA/B-preF with the brand name Abrysvo™) has already been licensed for use in pregnant women in several high-income countries, and many African nations are now moving towards licensure. Trials have shown it to be safe for both mothers and babies and to offer protection against severe respiratory illness associated with RSV.

The IMPACT trial seeks to determine the public health value of maternal RSV vaccination, specifically how well the vaccine protects infants during the critical first six months of life, when RSV poses the greatest danger. In Kenya, the trial will enroll 3,000 women between 24-36 weeks of pregnancy, who will be followed for two years. Live births of the participants will also be followed for at least one year after birth to monitor for Lower Respiratory Tract Infection (LRTI) through biweekly contacts.

Kenya is one of four African countries participating in the IMPACT RSV vaccine trial, in addition to Gambia, Ghana and South Africa. In Kenya, the trial will be conducted in Siaya and Kilifi Counties through the Kenya Medical Research Institute (KEMRI), in collaboration with KEMRI Wellcome Trust and HJFMRI. HJFMRI will help manage the project in Siaya and Kisumu.

The findings from this trial will inform the government of Kenya and national health systems in other low- and middle-income countries (LMICs) about prioritization of RSV maternal vaccination programs to protect infants up to six months of age from LTRI.

The IMPACT trial is funded by The Gates Foundation through Witwatersrand Vaccines & Infectious Diseases Analytics (WITS VIDA). The Abrysvo™ vaccine is produced by Pfizer.



A delegation from The Gates Foundation and the University of the Witwatersrand Vaccines & Infectious Diseases Analytics (WITS VIDA) research unit recently visited study sites in Kenya to monitor capabilities and readiness to conduct the planned RSV IMPACT vaccine trial.

Bispecific Antibodies Are Being Tested in Tanzania for HIV Prevention, Therapy

An ongoing Phase 1 human trial in Tanzania is evaluating the safety and antiviral activity of a novel bispecific antibody, alone and in combination with another potent monoclonal antibody, to combat HIV. Enrollment was completed last Fall, and follow-up visits will continue into Spring 2026. Principal investigator Dr. Marco Missanga will deliver early findings during an oral presentation at the 2026 Conference on Retroviruses and Opportunistic Infections.

Tanzania's National Institute for Medical Research - Mbeya Medical Research Center, a long-time collaborator with the Walter Reed Army Institute of Research (WRAIR), is conducting the study, called RV584. WRAIR, with support from HJF and HJFMRI, has been working in Tanzania on countermeasure development for infectious diseases since 2001, and its research is conducted in close collaboration with the Tanzanian government and the Mbeya Zonal Referral Hospital.

Bispecific antibodies are lab-engineered antibodies designed to target two distinct binding sites on immune cells or virus envelopes. These molecules can neutralize HIV with improved breadth and potency, and they can be used as both preventive and therapeutic countermeasures.

The trial is also exploring fixed dosing and the safety of intramuscular injection to deliver these mAbs, important advantages for future potential use in remote settings where medical infrastructure may be limited.

HJFMRI Helps Launch Antimicrobial Resistance Surveillance Research in Nigeria to Track Bacterial Threats

HJFMRI Ltd/Gte Nigeria is part of a laboratory-based surveillance study focused on antimicrobial resistance (AMR) among military and civilian populations across Nigeria. Working alongside the Walter Reed Army Institute of Research-Africa (WRAIR-Africa) and the Nigerian Ministry of Defence Health Implementation Program, HJFMRI trains field and laboratory staff on collection of clinical samples and data at participating sites. This ongoing study was launched in 2024.

AMR poses a significant risk to force health protection and global health security because it can complicate the treatment of wounds, infections, and other medical conditions. Results from this surveillance study will inform decision-making on antimicrobial stewardship, infection prevention and control, and risk mapping. This work is part of the U.S. Defense Health Affairs Global Emerging Infections Surveillance (GEIS) program.

At six military health facilities in Nigeria, researchers collect samples from patients presenting with infected wounds from surgical-site infections, skin and soft-tissue infections, and other clinically significant bacterial infections. Site laboratory teams conduct preliminary testing and identification of isolates, and some bacterial samples are then shipped to the Defence Reference Laboratory (DRL) in Abuja for confirmation of bacterial species and antibiotic susceptibility. The Nigeria team worked closely with the AMR team from Kenya, led by Dr. Lillian Musila, to develop this work, an example of cross-network capacity strengthening and tech transfer.

Researchers also send a subset of isolates from the study to the WRAIR Multidrug-Resistant Organism Repository and Surveillance Network (MRSN) laboratory in Silver Spring, Md.,



Scanning electron micrograph of methicillin-resistant *Staphylococcus aureus* bacteria (red, round items) killing and escaping from a white blood cell. Image courtesy of NIAID.

for whole-genome and targeted sequencing to characterize resistance mechanisms, virulence factors, and transmission patterns. This study has already detected a strain of *E. coli* in the region that is resistant to the last line of antibiotic treatments, underscoring the need for ongoing AMR surveillance.

This program builds on a long-standing partnership between WRAIR and the Nigerian Ministry of Defence. HJFMRI has supported research and global health programs as part of this team since 2005, and has partnered with GEIS on infectious disease in other parts of Africa, including Kenya, Uganda, Somalia and Tanzania, for more than a decade.

DELIVER Workshop: Strengthening Capacity for HIV Remission Research in Africa



Dr. Abdulwasiu Bolaji Tihamiyu, HJFMRI Ltd/Gte CRC Director in Abuja, Nigeria, participating in the annual DELIVER workshop held in Bangkok, Thailand in 2025.

The U.S. Military HIV Research Program (MHRP) at the WRAIR, together with HJFMRI, gathered a global network of collaborators for a workshop under the Developing Leadership and Innovation in Viral Eradication Research (DELIVER) initiative; an ambitious initiative to advance HIV cure research around the world.

The workshop brought together researchers, clinicians, and community representatives to share insights, align on next steps and create connections to drive research capabilities and innovation. The DELIVER program is being implemented in Kenya, Mozambique, Nigeria, Tanzania, Uganda, Thailand, the Philippines, and Brazil, where researchers participate in activities to foster collaboration between international and local experts to encourage knowledge transfer and sharing of best practices. HJFMRI plays a key role in coordinating program activities across research sites.

DELIVER focuses on developing laboratory and clinical site infrastructure to build capacity to conduct long-term HIV remission studies in countries most impacted by HIV. This initiative is funded by the Division of AIDS of the National Institute of Allergy and Infectious Diseases, one of the National Institutes of Health.

Motorcycle Couriers Improve HIV Testing Access in Remote Regions of Tanzania

Efficient sample transportation is critical in delivering quality HIV services to ensure timely diagnoses and prompt access to care and treatment. Muze village in the Sumbawanga District of Tanzania's Rukwa Region faces multiple challenges in transporting samples to labs due to its infrastructure: rough roads, limited mobile health services, and minimal public transport options.

For years, residents of the village have relied on a simple but powerful solution to overcome these obstacles: using local bodaboda (motorcycle) drivers to transport medical samples. With support from HJFMRI, this grassroots solution has become a critical resource for people living with HIV (PLHIV) in remote areas, ensuring that no one is left behind.

Before HJFMRI began supporting sample transportation, challenges made it nearly impossible for clients to access essential HIV monitoring/diagnostic services, particularly viral load (VL) testing, CD4 testing and HIV Early Infant Diagnosis (EID).

In 2021, with funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through the U.S. Military HIV Research Program at WRAIR, and in collaboration with the Rukwa Regional Health Management Team, HJFMRI launched a community-based and cost-effective integrated sample referral system. At the heart of this system are trained, locally-based motorcycle drivers who transport samples

from peripheral health facilities (spokes) to central storage hubs, and from there to the Regional Referral Laboratory. This "spoke-to-hub" model has proven to be transformative.

One of the local heroes of this initiative is Simon Kazule, a dedicated bodaboda driver from Muze village. Each day, Simon travels over 140 kilometers, collecting samples from six health facilities and delivering them to Muze Health Centre. His work ensures blood samples reach testing labs on time, and that results are swiftly returned to clients, improving patient management and outcomes.

Victor Simon, HJFMRI Regional Laboratory Lead, sees this as a game-changer for HIV care in the region. "This model solves one of the biggest challenges in rural HIV care because it provides reliable, fast transport and is very cost effective. We've improved sample integrity and reduced turnaround time from 20–30 days to just 10–14 days. It aligns with national benchmarks and is a scalable solution with real, measurable impact."

The success of the model extends beyond HIV diagnostics. The integrated transport system now also delivers essential medications, supplies, and medical tools to peripheral facilities. HJFMRI has also introduced digital platforms to track samples in real time between collection points and labs, improving oversight and reducing delays.



European Union Funding to Enhance Integrated HIV Care in Kenya



HJFMRI has received inaugural funding from the European Union (Horizon Europe) to

support the HIVE project, an initiative to enhance long-term care for people living with HIV (PLWH) in Kenya. The project uses an implementation research framework to improve self-management and streamline the healthcare of PLWH by integrating other noncommunicable disease care and psychosocial support directly into HIV clinic settings.

Central to the project is the HIVE application, designed to help patients manage multiple health conditions. The technology will provide personalized health management tools aimed at empowering PLWH to take an active role in managing their health, including medication and appointment reminders, symptom tracking, educational material and lifestyle

recommendations. It will also feature a telemedicine platform to facilitate access to psychosocial support services.

HIVE will be implemented in Kenya by a consortium that includes WRAIR, the KEMRI Kombewa Clinical Trial Center, and the Center for Family Health Research and Development in Kisumu. HJFMRI will provide financial, operational and technical support to ensure successful implementation across Kenya. This consortium will lead clinical trial work with partners from Kazakhstan, Greece and Malta, addressing the unique needs of PLWH in diverse disease settings and cultural contexts.

HIVE (project 101226666) is funded by the European Health and Digital Executive Agency under the powers delegated by the European Commission.

Visit the HIVE website (<https://hivehealth.eu/>) for additional information.

WRAIR Marks 20 Years of Military-to-military Health Partnership in Nigeria

In September 2025, WRAIR and the Nigeria Ministry of Defence Health Implementation Programme (NMOD-HIP) marked 20 years of groundbreaking military-to-military health partnership. Over the years, this collaboration has provided HIV prevention, care, and treatment services to military and civilian communities in the region and conducted research to counter HIV, malaria, Lassa fever, and more. Since 2005, HJFMRI Ltd/Gte in Nigeria has supported this partnership and helped strengthen military and civilian health systems through the development of clinical, laboratory, and logistical capabilities aimed at long-term sustainability.

Based out of Abuja, HJFMRI Ltd/Gte works closely with WRAIR and NMOD-HIP to implement HIV prevention, care, and treatment with funding from PEPFAR. Over the past 20 years, the partnership has transformed health outcomes for

thousands of Nigerians. More than 41,000 adults and children are currently on treatment and HIV testing services have reached 1.6 million clients.

The partnership has also strengthened Nigeria's health system by training more than 2,000 healthcare workers in HIV and TB management and upgrading over 50 laboratories nationwide. These efforts culminated in 2024 with the commissioning of a state-of-the-art TB Modular Laboratory, located in the Defence Reference Laboratory in Abuja, boosting Nigeria's diagnostic capacity and advancing regional biosafety standards. In addition, HJFMRI Ltd/Gte supports WRAIR-Africa and other research partners' missions to guard against regional epidemics and build research capabilities through participation in clinical trials, data analysis, and biosurveillance activities.



Left to right: Mr. Zubairu Elayo, Deputy Director, Acquisitions, HJFMRI Ltd/Gte; Dr. Anise Happi, Deputy Director IGH; Dr. Sandhya Vasan, VP, HJF Global Infectious Diseases; Colonel Shannon Lacy, Director, WRAIR-Africa; Dr. Abdulwasiu Bolaji Tihamiyu, Abuja CRC Director, HJFMRI Ltd/Gte; Brigadier General Babatunde Solebo, Director General, NMODHIP; Major General Paula Lodi, Commanding General, USAMRDC; Colonel Brianna Perata, Commander, WRAIR; Monnet Bushner, Command Sergeant Major, WRAIR; Ms. Helina Meri, Country Director, WRAIR-Africa, Nigeria; Major Assedi Njatou Fouapon, WRAIR-Africa, Nigeria; Dr. Yakubu Adamu, Deputy Country Director, WRAIR-Africa, Nigeria

Influenza to COVID-19: Expanding Kenya's Respiratory Illness Surveillance Scope

Since 2006, the U.S. Centers for Disease Control and Prevention (CDC) has worked with the Kenya Ministry of Health (MoH) to track flu through a national surveillance system at nine sentinel sites across the country. When COVID-19 emerged in 2020, Kenya responded quickly by expanding its national flu surveillance to include testing for the virus that causes the disease (SARS-CoV-2) at the sentinel sites. Building on that progress, four sentinel sites began testing for respiratory syncytial virus (RSV) in 2024, strengthening the network's ability to track a virus that can cause serious illness, especially in young children and older adults.

This integrated approach for respiratory disease surveillance has helped providers and public health officials understand viral trends and identify unknown respiratory illnesses in their communities. This system also allows them to prepare better and act faster when new outbreaks happen. "There are times when we have higher numbers (upsurge) and the doctors become curious, wondering what is happening. It is this surveillance that helps to point out the problem," said Milka Bunei, respiratory disease surveillance officer at the Kenyatta National Hospital.

Over the last year, more than 5,500 samples have been collected and tested for influenza and SARS-CoV-2. Additionally, 1,179 samples from children under two years of age were tested for RSV. During this period, four respiratory outbreaks were reported, investigated, and responded to through the strong collaboration between the Kenya MoH, KEMRI, U.S. CDC and HJFMRI. The U.S. CDC has been providing financial and technical assistance to HJFMRI since 2021 to support the Kenya MoH's surveillance of respiratory pathogens.



Severe Acute Respiratory Illness Study Set to Launch in Kingdom of Jordan

The Viral Diseases Program at WRAIR and HJFMRI completed two site initiation visits in December and January to the Kingdom of Jordan as part of the lead-up to the Severe Acute Respiratory Infection (SARI) project led by WRAIR. This epidemiology study will characterize the regional impact of viral pathogens causing SARI in Jordan, including SARS-CoV-2, to inform biomedical response and countermeasure development.

The SARI project is funded by the Coalition Warfare Program and the Global Health Engagement Research Initiative (GHERI) of the Uniformed Services University's Center for Global Health Engagement. The study will enroll up to 200 participants hospitalized at the Al-Hussein Hospital- King Hussein Medical Center in Amman, Jordan. Findings will help characterize the demographic, geographic, and epidemiological characteristics of people diagnosed with SARI, as well as the burden of pathogens causing SARI in Jordan.

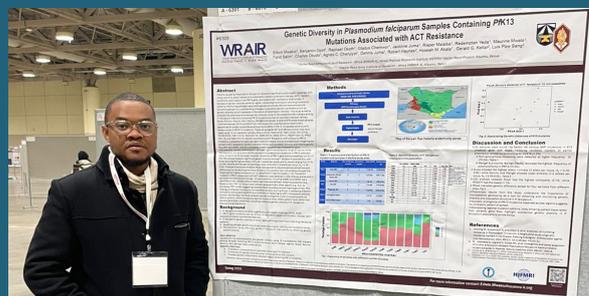
These activities are part of an ongoing partnership between WRAIR's Viral Diseases Program and the Royal Medical Services, Jordanian Armed Forces, with support from HJFMRI, which focuses on training and capacity-building in the region. Early initiatives of this military-to-military collaboration focused on training staff, enhancing regional biosurveillance and upgrading laboratories and equipment. WRAIR previously collaborated with Jordanian partners on an observational epidemiological study of HIV in the region. Next up is a planned bat vector viral disease surveillance study to be conducted in partnership with the Jordan University of Science and Technology



Advancing Global Health: HJFMRI and Partners at the 74th Annual ASTMH Meeting

HJFMRI and collaborators took part in the 74th American Society of Tropical Medicine and Hygiene (ASTMH) Annual Meeting in Toronto, Canada, presenting several scientific posters and engaging in discussions to help shape the future of global infectious disease research.

HJFMRI congratulates our collaborators with Walter Reed Army Institute of Research (WRAIR) for their strong contributions, including poster presentations on malaria *Plasmodium* species and genetic mutations, multidrug resistance variants and disease surveillance across different transmission zones. HJFMRI was represented at the meeting by team members with expertise spanning medical laboratory science, clinical trials and international program management.



Breath-Based TB Detection: A Novel Approach Tested in Kericho, Kenya

Tuberculosis (TB) remains one of the world's most persistent public health challenges and one of its deadliest infectious diseases. In 2023, an estimated 10.8 million people fell ill with TB, and about 1.25 million died, according to the World Health Organization.

Early diagnosis and treatment are critical to managing TB and preventing its spread, but many current diagnostic tools can be slow, costly, and dependent on specialized facilities. These constraints can limit access and delay care, particularly in rural and underserved communities.

To help address this challenge, Noze, in collaboration with HJFMRI researchers at the KEMRI Clinical Research Center in Kericho, Kenya, has sponsored a first-in-human proof-of-concept study evaluating its innovative breath-based diagnostic platform for TB. The investigational device, DiagNoze[®], combines advanced odor-detection technology with artificial intelligence to analyze biomarkers in exhaled breath that may indicate TB.

Funded by the Gates Foundation, the study has enrolled 200 adults living with and without TB. Participants each provided up to five breath samples using the DiagNoze[®]

device, alongside demographic and clinical data. Comparator samples including blood, urine, and respiratory specimens were collected for established TB and HIV testing, enabling head-to-head benchmarking of DiagNoze[®] against reference methods. Enrollment began in May 2025 and was completed in November 2025. Data analysis is currently underway.

Findings from this study will inform the next phase of development of this novel diagnostic device, which has the potential to transform TB detection by offering a rapid, portable, non-invasive, and cost-effective tool for communities where healthcare resources are limited and TB prevalence remains high.



About HJFMRI

HJFMRI develops partnerships, infrastructure, and expertise around the world to help researchers solve complex challenges in global health. We provide a range of services that facilitate laboratory research, scientific trials, clinical care, training, capacity-building, program management, and more.

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