MHRP EXCHANGE

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NEWS FROM THE U.S. MILITARY HIV RESEARCH PROGRAM
AT THE WALTER REED ARMY INSTITUTE OF RESEARCH

MOCHI HIV/STI incidence cohort study launches third site in Philippines

MHRP and local partners in Manila, Philippines, enrolled the first participants in the site's Multinational Observational Cohort of HIV and other Infections (MOCHI) study in May.

The Philippines site is the third to launch the MOCHI study to characterize the regional incidence of HIV and other sexually transmitted infections (STIs); the study is already underway at sites in Kenya and Uganda. MOCHI is conducted in collaboration with the Armed Forces of the Philippines, the LoveYourself non-governmental organization, and other regional stakeholders in the HIV response.

MOCHI is designed to provide one unified protocol and set of data collection instruments for deployment across multiple sites in diverse regions of world, with a target of enrolling 400-500 participants without HIV at each site. In addition to estimating HIV and STI incidence and tracking the evolution of risk and healthcare-seeking behaviors, the study will also facilitate the sites' preparedness for future HIV and STI countermeasure clinical trials by building capacity, evaluating site recruitment and retention and maintaining relationships with affected communities.

Every 12 weeks, participants receive clinic-based HIV testing, counseling and PrEP referrals, and are provided HIV home testing kits for use between scheduled visits. Behavioral questionnaires are completed at every visit, and testing for bacterial STIs is conducted at every other visit. Participants diagnosed with HIV are offered antiretroviral therapy (ART) according to the local standard of care and continue follow-up visits to monitor early events in HIV pathogenesis and response to ART. Participants who start ART soon after acquiring HIV may be eligible for participation in future therapeutic studies.

A key pillar of the MOCHI study involves engaging community stakeholders to provide input on MOCHI recruitment, objectives and information sharing. Prior to study launch, public service specialists, policy developers, medical doctors, community members, researchers, and academicians attended a stakeholder meeting to discuss research concerns and enhance collaboration.

Vaccinations begin in "RapidVax" trial

The first study participants were enrolled and vaccinated in March into MHRP's "RapidVax" trial conducted with the Makerere University Walter Reed Program (MUWRP) in Kampala, Uganda. This study, RV591, combines experimental HIV vaccines with a novel dose escalation strategy with the goal of improving the body's immune response.

When an HIV infection occurs, the virus rapidly makes copies of itself and spreads throughout the body, making it difficult for the body to mount an effective immune response. This rapid vaccination strategy mimics those early-stage viral dynamics by administering vaccines more frequently than the traditional vaccine schedule and in ascending doses. Researchers hypothesize that with RapidVax's repeated immune system stimulation the body can better defend itself against infection.

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WRAIR
Walter Reed Army Institute of Research
MILITARY HIV RESEARCH PROGRAM

Stakeholders meet to update guidelines informing analytical treatment interruption in HIV cure research

MHRP and the Sub-Saharan African Network of TB/HIV Excellence co-hosted a workshop in May with stakeholders from many interest groups to discuss strategies for the conduct of analytical treatment interruption (ATI) in HIV cure research and update guidelines regarding participant eligibility, study design, and sociobehavioral considerations.

Results of the ATI consensus workshop will be announced at the AIDS 2024 International AIDS Conference in Munich, Germany, and complete recommendations will be published in 2025.

Nigeria Site Commanders' meeting focuses on military-military collaboration to enhance health services

In May, site commanders from 33 PEPFAR-supported sites met to discuss the ongoing partnership between Nigeria and the United States, which aims to deliver high-quality health services to both military personnel and civilians in Nigeria. The annual meeting, which was held in Abuja, Nigeria, was organized by the Nigerian Ministry of Defence – Health Implementation Programme (MOD-HIP) and WRAIR Africa, and attended by health officials, military leaders, and PEPFAR staff.

Kampala, Uganda, workshop kicks off DELIVER HIV cure initiative

MHRP and partners, hosted by the Makerere University Walter Reed Project, held a workshop in Kampala, Uganda, in June to mark the launch of an HIV cure initiative called DELIVER: Developing Leadership and Innovation for Viral Eradication Research.

The Uganda workshop brought together more than 70 attendees from five African countries, Thailand, Brazil and the Philippines to foster collaboration between international and local experts to strengthen the ability of laboratories, clinics and communities at these sites to conduct HIV cure research. U.S. Ambassador to Uganda William Popp opened the workshop by welcoming the international network of DELIVER collaborators.

"This workshop represents a pivotal moment in our collective efforts to address the HIV epidemic head-on and pave the way for a future free from the burden of this disease," Popp said. "Your work will continue together in the future to help ensure that the countries and communities most impacted by HIV are part of the solution."

DELIVER will facilitate stakeholder and community engagement, develop clinical and laboratory infrastructure, and coordinate technology transfer and training to build towards the goal of conducting 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.

MHRP hosts inaugural Early Career Investigators Showcase

In May, MHRP hosted its inaugural Early Career Investigators Showcase at WRAIR to highlight junior researchers' contribution to MHRP's ongoing efforts in HIV vaccine and cure research and global health.

Held in commemoration of HIV Vaccine Awareness Day, the "build-the-bench" event featured early- and mid-career researchers presenting oral abstracts, posters, and one-minute "scientific elevator pitches" about their work. "For some of the participants, it was their first time presenting their science to an audience of their peers and institute leadership," said MHRP Director Col. Julie Ake. "It provided them with valuable experience while honoring their contributions as tomorrow's leaders in infectious disease research and military medicine."

Brig. Gen. Edward Bailey, commanding general of the U.S. Army Medical Research and Development Command, opened the showcase with remarks about the opportunities available to early-career investigators in military medicine. Guest judges from the The National Institute of Allergy and Infectious Diseases Division of AIDS and the Armed Forces Health Surveillance Division Global Emerging Infections Surveillance branch scored the presentations, alongside various WRAIR leaders. Congratulations to the winners:

- **Best Oral Abstract Presentation:** Amobi Andrew Onovo, "Pediatric HIV Hotspots: Machine Learning and Geostatistical Analysis for Enhanced Case Finding."
- **Best Poster Presentation (tie):** Michelle Zemil, "Selecting candidates for next-generation bNAb isolation to address the decreasing neutralization sensitivity of HIV-1 Env;" and Maj. Brennan Cebula, "COVID-19 knowledge, attitudes, and practices among people vulnerable to HIV in western Kenya"
- **Best Scientific Elevator Pitch:** Ashan Dayananda, "From algorithms to action: machine learning for decision making in biology"

Written by Elsa Moseley, WRAIR

Researchers work to identify next-generation broadly neutralizing antibodies

Researchers with MHRP's B cell immunology lab are working to screen hundreds of samples from the program's African Cohort Study (AFRICOS) to identify and isolate the next generation of potent, broadly neutralizing antibodies (bNAbs) that have potential to prevent or treat new and evolving strains of HIV.

Many of the bNAbs currently in clinical development are becoming less potent over time because the HIV virus is mutating and evading those antibodies. Also, most existing bNAbs were identified and isolated from people living with HIV subtypes B and C, meaning products developed from those antibodies might not be as effective against other underrepresented HIV subtypes. Isolating new bNAbs from AFRICOS participants could potentially address these issues.

AFRICOS is a large, long-term cohort study conducted at multiple African sites in Kenya, Nigeria, Tanzania and Uganda that primarily evaluates HIV prevention, care and treatment services. The study also prospectively stores specimens that can be used for virologic and immunology research.

AFRICOS is continually enrolling new participants living with HIV, so any bNAbs that might be identified and isolated from these samples may be more effective against currently circulating strains than bNAbs in current prevention and treatment trials. AFRICOS takes place in regions where underrepresented HIV subtypes are prevalent, which could lead to the development of a more diverse slate of candidate bNAb products. Identifying and developing multiple potential bNAb candidates is also beneficial because administering cocktails of multiple antibodies that target different regions of the HIV virus provides greater breadth.

MHRP's B cell immunology team, led by Dr. Shelly Krebs, screened more than 500 AFRICOS samples to identify those with antibodies that can neutralize a panel of different HIV strains. The next steps will be to isolate and characterize monoclonal antibodies to advance the most promising neutralizers. Agreements are in place to collaborate with VIR Biotechnology and the NIH Vaccine Research Center to help isolate monoclonal antibodies.

New Armed Forces of the Philippines HIV policy allows for continued service post-acquisition

In April, the Chief of Staff of the Armed Forces of the Philippines (AFP) officially approved the HIV/AIDS Prevention and Control Guidelines in the AFP. This marks the culmination of two years of effort by a steering committee, with the guidance and support of the U.S. Department of Defense President's Emergency Plan for AIDS Relief (PEPFAR) Philippines team.

Of significance is the removal of dismissal based on HIV status; any AFP service member who acquires HIV during active service will be assured of continued opportunity to serve if all other fitness standards are met.

In addition, the policy now extends HIV services not only to military personnel, but also to military dependents and authorized civilians. The approval of the AFP policy is a pivotal milestone that sets an evidence based public health foundation for an AFP-driven and sustainable HIV program.

MHRP has supported military-to-military PEPFAR activities in the Philippines since 2021 through the Armed Forces Research Institute for Medical Sciences (AFRIMS) under the direction of the Department of Defense HIV/AIDS Prevention Program. WRAIR-AFRIMS, with the Philippines AFRIMS Virology Research Unit (PAVRU), has been working in the Philippines since 2008, based out of the Victoriano Luna Medical Center.

Thailand Research Updates

- Vaccination and follow-up have been completed for study RV546, a Phase 1 trial to evaluate two HIV vaccine candidates with and without the Army's novel ALFQ adjuvant to gain insight into late boosting strategies and the effects of fractional dosing.
- Researchers are planning to add an analytical treatment interruption phase to RV550, a Phase 2 clinical trial in Thailand to evaluate an interleukin-15 (IL-15) superagonist, ImmunityBio's Anktiva® (also called N-803), administered as an experimental therapy to target establishment of the HIV reservoir at a very early stage.
- Enrollment has been completed in the MAGI study, a NIAID-sponsored Phase 2 trial of a meningococcal Group B vaccine, Bexsero, in preventing gonococcal infection.

Kericho, Kenya, community posts take HIV services beyond the clinic

MHRP, the KEMRI/Walter Reed Project, and local stakeholders have opened three community posts in outlying areas of Kericho, Kenya, to provide accessible, decentralized HIV prevention, care and treatment services under the President's Emergency Plan for AIDS Relief (PEPFAR).

The community post model expands the footprint of HIV services by opening small outposts in communities away from larger clinics and treatment facilities. The model harnesses community platforms such as churches, markets and bus stops to deliver more accessible continuum of care services and alleviate the burden on overwhelmed health systems. MHRP partners opened the first Kericho post in March 2024 in the Nyagacho settlement, followed by posts in Brooke and Kahororah.

"Community involvement is key, and including community members in planning supports service uptake," said Fillet Lugalia, a case-finding manager overseeing community post implementation. "Community members, faith communities, and administrative leaders help decide where the posts should be located based on data and community needs."

Community posts offer convenience to PEPFAR clients, addressing barriers to service by reducing the time, resource, and stigma constraints of accessing HIV treatment and care from traditional clinic settings. Posts are chosen and outfitted to appear discreet, and they employ local, trusted staff trained in customer core "RECIPE" values: responsibility, empathy, compassion, integrity, passion, and ethics. The Kericho community posts offer pre-exposure prophylaxis (PrEP), condom education and distribution, risk reduction counseling, gender-based violence prevention services and vulnerable child linkages and referrals.

The community post model was established in Zambia, and the Kenya team worked with originators to apply best practices and discuss lessons learned prior to implementation.

"We learned men do not easily visit health facilities, but when testing is available near them, they easily take up testing," said Lugalia. "Individuals living with HIV who interrupt treatment due to various barriers are brought back to treatment through a community post and monitored on a weekly basis."

As of June, staff have identified 53 cases of HIV and returned 35 other individuals living with HIV to care and treatment.

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