

MHRP EXCHANGE



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

Working Towards a Cure

The scientific community and media alike are buzzing with the word, “cure.” While a cure for HIV is not in the eminent future, researchers are gaining ground on a better understanding of what an HIV cure might look like.

MHRP researchers and collaborators are leading the way in this “cure” research with early infection studies. One such study, called RV254/SEARCH is providing knowledge about the earliest HIV events to inform therapeutic and preventive strategies.

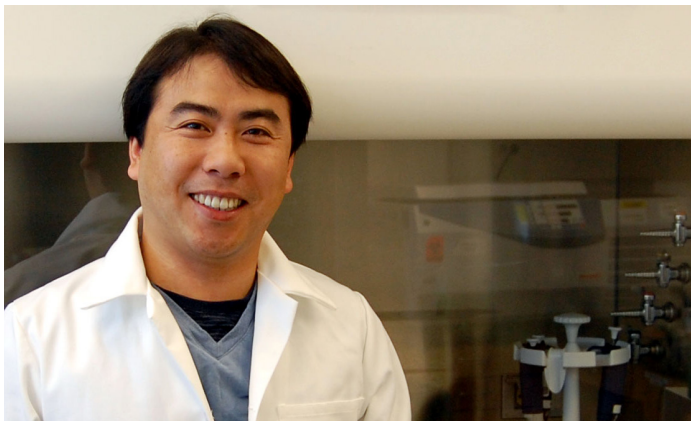
In this unprecedented study, more than 51,000 samples were collected from individuals receiving voluntary counseling and testing at two clinics in Bangkok. Eighty-nine individuals were found to be in acute stages of HIV infection, or within the first four weeks of infection—25 individuals had been infected within the previous five days. Seventy-five of these acutely infected individuals were then enrolled in a study where they immediately received Antiretroviral therapy—either HAART or MegaHAART.

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MHRP collaborator, Dr. Jintanat Ananworanich, presents promising research on acute HIV infection and the early initiation of therapy at this year's Conference on Retroviruses and Opportunistic Infections.

MHRP Researcher Awarded Robert Mapplethorpe Foundation Grant



Dr. Haitao Hu, a postdoctoral fellow at MHRP.

MHRP researcher Haitao Hu, Ph.D., was recently awarded a \$50,000 grant from the Robert Mapplethorpe Foundation to further support his HIV/AIDS research. Dr. Hu's research focuses on using cellular immunology and molecular approaches to investigate the impact of HIV infection on human memory CD4 T-cells specific to different pathogenic antigens. He aims to unravel mechanisms underlying the ordered susceptibility of AIDS patients to different opportunistic infections and to identify the protective vaccine-induced CD4 T-cell response in the context of HIV vaccination.

This grant will support his research to identify and characterize cellular parameters that regulate the susceptibility of antigen-specific CD4 T-cells to HIV infection.

The Robert Mapplethorpe Foundation was created in 1988 by the photographer Robert Mapplethorpe. The Foundation supports scientific research in the fight against HIV infection and AIDS.

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Moving Forward this HIV Vaccine Awareness Day



“It will take 10 years.” That is what researchers usually say when asked how much longer it will take to develop a safe and effective HIV vaccine.

Some of the world’s brightest minds have been on this quest for 30 years, yet we still do not have an HIV vaccine to use today. Recent clinical trials, such as the HVTN 505 study that was stopped because the vaccine was shown to be ineffective at preventing HIV, have generated new challenges to the field.

Despite these setbacks, the scientific basis for developing vaccines has never been better, and the current level of collaboration among scientists, private industry and research institutions is unprecedented. Trials that end without demonstrating efficacy should be looked at as important milestones along the road as they teach us more about the virus and the human response to it. Critically, such trials direct researchers towards protective immune responses we will need to generate with HIV vaccines that will

help the body protect itself from this destructive, complicated and deadly disease.

The RV144 Thai trial, led by Thai and Army researchers and funded by the Army and NIH, provided evidence that it is possible for a vaccine to help prevent HIV. Although the efficacy in the Thai study was not high enough to warrant the vaccine’s use as a public health tool, the results are helping scientists develop more effective HIV vaccine candidates.

The U.S. Military HIV Research Program is part of a public-private partnership working to improve the original RV144 vaccine and achieve higher levels of protection. Future efficacy studies are planned to take place in southern Africa and Thailand. There is also a rich pipeline of next generation vaccines in development, and one of them could be the vaccine that helps end the pandemic.

We will need a broad array of prevention tools—many of which are available today—to overcome HIV. An effective vaccine remains a critical component of any long-term strategy. Now is not the time to give up, but to redouble our efforts.

Working together—governments, academic institutions, non-profits, private industry, scientists, clinicians, advocates, and HIV vaccine trial participants— it is conceivable we will realize an effective vaccine in the next decade. Let us re-dedicate ourselves to this challenge.

Duke and MHRP Win Vaccine Industry Award

The research team led by the Duke Vaccine Research Center and U.S. Military HIV Research Program won the “Best Academic Research Team” award at the 6th Vaccine Industry Excellence (ViE) Awards ceremony at the World Vaccine Congress held in Washington, D.C. on April 17. Lt. Col. Robert O’Connell, Product Manager for HIV Vaccines for the U.S. Army Medical Research and Materiel Command, accepted the award on behalf of the team.

The research team won this award for their work identifying

correlates of risk in the RV144 HIV vaccine study. This unprecedented collaboration, supported by NIH and led by researchers at Duke University and MHRP, brought together investigators from around the world to study those who became infected compared to those who did not.

More than 300 vaccine stakeholders attended the event, which is the only awards ceremony for the vaccine industry.



MHRP Director Honored as “Hero of Military Medicine”

At an awards dinner held May 1, Col. Nelson Michael was presented with the “Hero of Military Medicine” award for the U.S. Army. The award honors Col. Michael’s excellence as an HIV researcher and leader in global health.

Heroes of Military Medicine is presented by the Center for Public-Private Partnerships (CP3) at the Henry M. Jackson Foundation for the Advancement of Military Medicine to honor outstanding contributions by individuals who have distinguished themselves through excellence and selfless dedication to advancing medicine and enhancing the lives and health of our nation’s wounded, ill, and injured service members, veterans, and their families.

Study Finds Low ART Treatment Costs and Good Retention at Clinics in Kenya

The annual cost of providing antiretroviral therapy (ART) to HIV-infected patients in Kenya averaged \$224, or less than \$20 per month. A paper in the *Journal of the International AIDS Society* provides the first published estimate of the cost of ART treatment programs in Kenya—which is lower than what has been reported in other studies from other low-income African countries. Results can help inform resource allocation and budget decisions at the program level.

Researchers analyzed medical records from the first 120 adults started on ART as of January 2007 at three rural clinics in Kenya's Rift Valley

province—a district hospital, a private hospital and a faith-based hospital. Researchers looked at the quantity of antiretroviral (ARV) medications, non-ARV drugs, laboratory tests, salaries of personnel providing patient care and clinic visits. They also factored in fixed costs such as supplies, equipment, insurance and buildings.

The Center of Global Health and Development at Boston University led this research, which included scientists from the Kenya Medical Research Institute/Walter Reed Project, MHRP's site in Kenya.

MHRP's Research Site in Beira, Mozambique Moves to Permanent Location

The Center for Infectious Disease Research (CIDI) has moved to its permanent location on the campus of the Catholic University of Mozambique. MHRP became a collaborator with CIDI in 2012 to complete an HIV incidence study in Beira, Mozambique. Later this year, MHRP and CIDI will initiate an HIV incidence study in collaboration with the CISPOC research center in Maputo and the Mozambican National Institute of Health.

CIDI is the only clinical research center located in the central region of Mozambique. Beira is a major port city located in Sofala province that harbors one of the highest HIV prevalence rates, 15.5%, in the country (INSIDA, 2009). The HIV epidemic in Beira, Mozambique took hold while the country was economically impoverished following 16 years of civil war.



The Center for Infectious Disease Research and MHRP research site opened its permanent location on the campus of the Catholic University of Mozambique.

New TB Lab Accredited in Tanzania

U.S. Ambassador to Tanzania Alfonso E. Lenhardt recently visited MHRP's site, Walter Reed Program-Tanzania, to inaugurate a new specialized Tuberculosis (TB) laboratory at the Mbeya Referral Hospital (MRH). This is the second laboratory in the country of this kind.

TB remains a major global health problem. Thousands of Tanzanians are affected by tuberculosis each year and it ranks as the leading cause of death from an infectious disease among People Living with HIV/AIDS (PLWHA).

In 2012, there was approximately a 38 percent TB and HIV co-infection rate reported in Tanzania. Tuberculosis diagnosis remains a challenge among HIV patients, as it often requires advanced and expensive technologies. The opening of this modern Biosafety level 3 TB culture laboratory marks the beginning of a new era in the diagnosis of TB and other critical life saving laboratory services among HIV clients in the southern highlands regions.

Earlier in the month the MRH laboratory received the highest ISO 15189 accreditation. The MRH laboratory is only the second laboratory in Tanzania to achieve this level of recognition of excellence in quality management.

Working Towards a Cure

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Researchers found the immediate initiation of therapy was associated with immune restoration and a very small or undetectable reservoir of HIV DNA. MHRP collaborator Dr. Jintanat Ananworanich recently presented results at the 2013 Conference on Retroviruses and Opportunistic Infections that showed patients treated early in acute infection showed similar characteristics to 'elite' HIV controllers. These patients may be ideal candidates for future cure studies that inform strategies for drug-free HIV remission including therapeutic vaccines. Eventually, treatment interruptions might also be considered to determine whether any of these patients is functionally cured.

PEPFAR and U.S. Army's Preventive Medicine Residency Program Leverage Expertise



CPT Cohen of WRAIR, Dr. Ismail Lawal of PEPFAR, and the TB staff at Ikeja Air Force Hospital in Lagos, Nigeria, after completing the TB cohort review that revealed areas for improvement of a strong TB control program.

Two doctors participating in the Walter Reed Army Institute of Research's Preventive Medicine Residency Program traveled to MHRP's Nigeria sites to participate in a TB Cohort Review, which is a systematic analysis of the management of patients with TB disease and their contacts. The review highlights the TB program's strengths as well as areas for improvement.

In this residency program, residents participate in a unique array of projects and experiences, including outbreak investigations, overseas research at WRAIR laboratories, and public health evaluations with the U.S. Army Public Health Command.

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Please submit your questions and comments via email to communications@hivresearch.org.

For more information visit: www.hivresearch.org.

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Circumcision Clinic on Remote Island Draws Hundreds

The Makerere University Walter Reed Project, with support from the U.S. Presidents Emergency Plan for AIDS Relief, (PEPFAR) is scaling up Safe Medical Circumcision (SMC) in multiple districts in Uganda through both stationary and mobile clinics. The mobile clinics allow practitioners to access the hardest to reach and often most vulnerable populations. Recently, MUWRP staff set up camp and held a circumcision clinic on Koome Island and the nearby island, Kiimi, in the Mukono District. Eleven MUWRP staff traveled by boat bringing all needed supplies with them and setting up two tents since there is no surgical theater.

More than 700 men turned out to be circumcised and just over 300 individuals—often those most at risk including commercial sex workers and fisherman—received counseling and testing in 10 days. Staff also distributed 8,000 condoms at two boat landing sites on the island.

MUWRP recently renovated the Koome Health Center on the island to better serve the community and to bring HIV care and treatment services closer to this fishing community. Plans are underway to bring SMC services to more fishing communities throughout these remote islands.



MUWRP staff travel by boat to remote islands in Lake Victoria with all necessary supplies to provide HIV prevention, care and treatment services.

Investigating an HIV Outbreak

MHRP's Threat Assessment and Global Epidemiology Department is assisting with an HIV outbreak investigation at Fort Bliss in El Paso, Texas. The installation has the most cases of HIV in the Army, with 13 newly diagnosed HIV infections in 2012. In a show of strong leadership, Maj. Gen. Dana Pittard publicly addressed the public health issue noting "We must work to educate our Soldiers and curb STI's."

The U.S. Military HIV Research Program (MHRP) conducts research to develop an effective preventive HIV vaccine and integrates prevention, treatment, diagnostics and monitoring as part of an international effort to protect U.S. and allied troops and reduce the impact of HIV infection worldwide. The MHRP network includes sites in Maryland, Kenya, Mozambique, Nigeria, Uganda, Tanzania, and Thailand.