

# MHRP EXCHANGE



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

## MHRP Congratulates COL Jerome Kim on Top IVI Appointment

MHRP proudly announces that our Principal Deputy Director, COL Jerome Kim, will be transitioning to become the Director-General of the International Vaccine Institute (IVI), a Seoul-based organization that is committed to providing affordable vaccines for neglected diseases in developing nations.

After more than 20 years with MHRP and six years as its Principal Deputy, COL Kim will formally retire from the Army and begin to transition to his new role as IVI Director in 2015. Though we will miss Jerome's dynamic leadership, MHRP Director COL Nelson Michael said he's excited to see what the next phase of COL Kim's career has in store.

"From his initial work in molecular immunopathogenesis in the 1990s, to his stewardship of the process that led to the successful execution of the RV 144 trial and his pioneering concepts in early treatment in acute HIV infection, Jerome's scientific acumen has helped propel MHRP in the HIV research field," COL Michael said.

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*Principal Deputy Director, COL Jerome Kim*



*MHRP's Associate Director for Therapeutics Research, Dr. Jintanat Anaworanich, gave a plenary talk at the 2014 AIDS Conference in Melbourne, Australia. Dr. Anaworanich shared a video testimony of HIV-positive Thai citizens discussing how an HIV cure would impact their lives. Scan the QR Code above to watch the video.*

## RV144 Studies in Thailand Shed Light on Additional Boosts

MHRP began a small clinical study, RV305, in April 2012 in Thailand to evaluate re-boosting in volunteers who participated in the RV144 study. Through this study, MHRP researchers have determined that the most effective boost is when both ALVAC and AIDSVAX are given together, or when AIDSVAX is given alone.

Researchers have also found that the late boosts in this study, given six to eight years after initial vaccination, are also producing some surprising and promising immune responses. Studies are ongoing to characterize these responses, along with analysis of host genetic factors that may play a role.

Another clinical study, RV306, began in September 2013 using the RV144 vaccine regimen to compare additional vaccine boosts and gather more immunogenicity data in 360 new volunteers. This study will explore how timing of the boosts may impact immune responses. These studies are informing ongoing vaccine research and are helping lay the groundwork for future vaccine studies for Thailand.

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## Q&A with Dr. Merlin Robb

Since its inception, MHRP has prioritized ensuring the health of our military in both a domestic and global setting. This issue, Deputy Director of Clinical Research, Dr. Merlin Robb, discusses the unique aspects of MHRP's international and collaborative effort to combat HIV/AIDS.



**Why has MHRP focused research efforts in Thailand and Africa?**

By the 1990s, HIV/AIDS had become a global pandemic and MHRP shifted research efforts to focus on novel methods of prevention in a global setting. In the early 1990s, we began our research in Thailand because the epidemic was exploding there and we already had an established biomedical infrastructure in place. In 1998, we expanded into Africa because it afforded us an opportunity

to study the different subtypes of HIV and a chance to examine various risk groups.

**How is MHRP involved with PEPFAR?**

Though our primary focus is on developing a safe and globally effective vaccine, MHRP also provides prevention, care, and treatment services in communities where our research is conducted. This PEPFAR program originated when Dr. Deborah Bix was the director of MHRP. She was instrumental in leading the effort to provide PEPFAR-funded care and treatment to people during the course of our studies. Now that she is the US Global AIDS Ambassador, we believe operational research at PEPFAR will expand. This presents a great opportunity for MHRP, which has a long track record of conducting prevention research in Africa.

**What about public/private collaborations?**

To successfully develop and deploy a vaccine, we must collaborate and make the best use of resources and expertise within the field of HIV vaccine research. Not only do we collaborate clinically with a broad range of partners, including the NIAID-funded HIV Vaccine Trials Network, but also other researchers and industry partners.

We have a long-standing relationship with Sanofi Pasteur, who played a key role in RV144. The upcoming P5 trials would not be moving forward if not for the strong private-public collaboration behind it, especially the funders, NIAID and the Gates Foundation.

The RV144 correlates studies were a prime example of the field uniting to pursue common goals. Duke University played a critical role in that effort and continues to provide leadership in analyzing the immune responses we saw in RV144, along with partners at other academic and federal institutions. MHRP has another strong ongoing partnership with Janssen/Johnson & Johnson, Beth Israel Deaconess Medical Center, and the Brigham and Women's Hospital on the Ad26/MVA studies, which recently began in Boston. We are also working with the Government of Thailand and private industry to ensure a path forward for vaccine development there.

**This is an exciting time for HIV/AIDS vaccine and cure research. Which developments are you most excited about?**

I'm excited about a few things. First, two of the MHRP sites will be participating in upcoming P5 vaccine trials, and there are new products that we hope to move into clinical development. I'm looking forward to launching those studies and the potential impact these studies could have on informing future vaccine designs. I also think the recent discovery of broadly neutralizing antibodies is exciting, and it's intensified the search for proteins that can illicit that kind of immune response. We haven't found the sweet spot yet, but it's a worthwhile target.

Our work in acutely infected populations in Thailand and Africa is providing a wealth of data, and also a unique platform for "cure" research. We are initiating several novel therapies aimed at controlling the virus and, ideally one day, eliminating the viral reservoir.

## New Phase 1 Ad26/MVA Study Begins in Boston

A new phase 1 vaccine study recently began at the Brigham and Women's Hospital in Boston testing an Ad26 and MVA heterologous prime boost vaccine regimen. In an earlier study (IPCAVD001), volunteers were given the Ad26 vaccine, which was developed by the study sponsor Crucell Holland B.V., part of the Janssen Pharmaceutical Companies of Johnson & Johnson. Up to 25 of these volunteers will be given a late boost of a mosaic MVA vaccine developed by MHRP and the Laboratory of Viral Diseases at NIAID. Fifteen new volunteers (not previously vaccinated with Ad26 vaccine) will also receive the MVA vaccine.

This vaccine combination, aimed at global protection, provided partial protection against infection by Simian Immunodeficiency Virus (SIV) in rhesus monkeys (Baruch et al, Nature 2012). In addition, in the animals that became infected, the optimal vaccine

combinations also substantially reduced the amount of virus in the blood. These study results also pointed to a particular region, the V2 region, of the HIV surface that may play a key role in protection from HIV. These promising results provided support for advancing the Ad26/MVA prime-boost vaccine candidate into clinical development.

This phase 1 study is a collaboration among the Beth Israel Deaconess Medical Center (BIDMC); WRAIR and Crucell Holland B.V.



## Nigeria Commissions Expansion of Premier Military Reference Laboratory

This August, Nigerian officials commissioned an expansion to the Defense Reference Laboratory (DRL), one of the most advanced medical laboratories in Nigeria. The state-of-the-art facility's expansion will increase the site's capacity to manage samples from around the country and enable the laboratory to participate in international research. The expansion was supported by PEPFAR.

The expansion is a joint-effort by the US Department of Defense Walter Reed Program-Nigeria (DOD WRP-N) and Nigeria's Ministry of Defence Emergency Program Implementation Committee (MOD-EPIC). DRL currently participates in the African Cohort Study (AFRICOS), conducted throughout Nigeria, Uganda, Kenya, and Tanzania. Maria Brewer, Charge D'affaires of the US Embassy in Abuja celebrated the expansion, saying the joint program exemplifies the benefits of military-military partnerships.

"The US government and the government of Nigeria's military-to-military partnership is achieving significant shared goals, and improving the health of the military community that proudly serves this great country," she said. "It is a model for the way our militaries can work together effectively."



Walter Reed Program - Nigeria Country Director Robbie Nelson (left) celebrates the expansion of the Defense Reference Laboratory with the lab's associate director Dr. Ngom, Maria Brewer, US Charge d'affaires; Dr. Roland Oritsejafor, former Minister of State for Defence, and Maj. Gen. TO Umar, Chairman of MOD-EPIC.

## Tanzanian PEPFAR Outreach Campaign Reaches 40,000 people with HIV services

Walter Reed Program Tanzania (WRP-T) recently conducted a successful 10-day community outreach campaign, counseling and testing more than 40,000 residents in the Mbeya, Rukwa, Katavi and Ruvuma regions. The campaign sought to increase the availability, quality, and utilization of HIV/AIDS services and gender-based violence interventions in high-risk areas throughout the country.

In collaboration with the Ministry of Health and Social Welfare (MOHSW) and other implementing partners, WRP-T provides high risk populations HIV prevention, care and treatment services in the Southern Highlands, focusing outreach efforts in areas such as fishing and mining communities and along borders to address behavioral, structural and bio-medical drivers of HIV and AIDS among high risk populations.



## Building on Success of RV144: Gov't of Thailand Signs On

The Department of Disease Control, Ministry of Public Health and the Thai Center of Excellence for Life Sciences, Ministry of Science and Technology of the Government of Thailand signed an agreement earlier this year with the U.S. Army to build on the success of the landmark RV144 HIV Thai vaccine study.

Thai health officials will take a leadership role in the quest for an effective HIV vaccine by supporting clinical trials and future vaccine production in Thailand. This implementing arrangement, which is part of a formal Science and Technology Agreement between the two countries, commits the Thai government to provide capacity to manufacture the vaccine in Thailand if it is found to be efficacious in large scale clinical testing. The Thai government issued a request for proposals (RFP) for the bio production facility in August 2014.

This agreement will bolster efforts to build on the success of RV144, which provided the first evidence in humans that a safe and effective preventive HIV vaccine is possible. Although efficacy was 31.2% at the end of the study, there was a higher early effect (60%) at 12 months. Researchers hope to improve and prolong the level of protection seen in RV144 through an additional boost and an improved vaccine regimen.

A group of public and private organizations called the AIDS Vaccine Efficacy Consortium (AVEC) has been working to accelerate the development and testing of a pox-protein HIV vaccine prime-boost regimen in Thailand. AVEC seeks to build an effective public-private partnership committed to providing the resources necessary for future HIV vaccine trials in Thailand in collaboration with the P5.

## In Kenya, Evidence-Based HIV Prevention & Intervention Program Changes Lives

Charles Opil works as a Families Matter! Program (FMP) Facilitator with I Choose Life Africa. The program is supported by the US Department of Defense (DoD) Walter Reed Project-Kenya (WRP) to implement HIV prevention programs in Nandi County, Kenya. Below, Opil reflects on a meeting he had with Jelimo, \* a former sex-worker who now feels comfortable enough to talk to her children about their sexuality, thanks to the education and support she received from the DoD's PEPFAR program. FMP is an evidence-based intervention developed by the CDC.

The leafy green tea estate was perhaps not the best meeting place, but Jelimo insisted we meet there - away from the eager eyes of men and judging glares from women that follow her every step. A single, responsible mother of four by day, Jelimo transforms into a sex-worker at night to earn extra shillings she needs for her family to survive.

It's not a life she planned, but after narrowly escaping an abusive husband, Jelimo says didn't see another choice. She decided to join the Families Matter! Program to learn how to help her children avoid the same difficult decisions she's made.

FMP is an experimental five-session training for parents with children between ages of 9-12. The program aims to strengthen a parents' ability to be a health advocate for their children; teaching them about the health risks children face in early adolescence and encouraging them to take a more vocal and active role in promoting safe health behaviors.

"When I signed up for FMP, I did so not really expecting some kind of redemption for all that I'd done," she says. "But I ended up

liking the program." Jelimo said she was fascinated by the program's candor and the tools the trainers gave parents to adopt an active role in educating their children about sexuality.

The FMP program opened Jelimo's eyes to the fact that she doesn't have to be limited by her sexuality and the impact her work could have on her children. She decided to abandon her sex work and now works alongside her family to farm and sell tea at a local factory.

"I still have a long way to go. I am, however, sure of one thing. My little girl will not go down the same road."

*\* Names have been changed to protect anonymity*

"I actually found myself talking to my daughter about her sexuality, my life and all the things that had gone wrong. We became friends after a couple of daughter-mother intimate conversations."

## MHRP Spotlight



Ms. Monica Millard, MHRP Country Director, Uganda, was given the Commander's Award for Civilian Service in recognition of her superb leadership for the U.S. Government at the Makerere University Walter Reed Program (MUWRP) in Kampala.

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"This appointment is a testament to his extraordinary abilities, singular accomplishments, and his passionate commitment to global health," COL Michael said.

IVI works in cooperation with the World Health Organization (WHO) to conduct research in vaccine development and delivery. COL Kim said, "I am honored by the opportunity to join IVI, and I look forward to working with the IVI team, partners, and donors to discover, develop, and deliver safe, effective and affordable vaccines for developing nations."

Congratulations to COL Kim on his next very positive step in an already distinguished career in science, medicine, and public health.

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Please submit your questions and comments via email to [communications@hivresearch.org](mailto:communications@hivresearch.org). Editors: Lisa Reilly, Chelsea Bailey

For more information visit: [www.hivresearch.org](http://www.hivresearch.org). Connect with us on Facebook and Twitter!



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.



## See MHRP and RV144 Collaborators at HIV Research for Prevention in Cape Town

After the conference, find links to available MHRP presentations and posters on the MHRP website, [www.hivsearch.org](http://www.hivsearch.org)

Date	Title	Presenter	Time
Sunday, 26-October	Transmission Meeting: Session 3 Biology and Immunity of Early Transmission: No Selection for Env with shorter variable loops in acute HIV-1 infection	Morgane Rolland (MHRP)	Oral presentation 8:30 am
Monday, 27-October	MHRP Satellite Session: Where the Rubber Meets the Road: HIV Prevention Research in the PEPFAR Care and Treatment Setting	COL Nelson Michael, LTC Julie Ake, Fred Sawe and Lindsay Hughes (MHRP)	Pre-Conference Satellite Session 8:30 am
	Mind the Gaps: Economic, Programmatic and Human Dimensions of Access to Future AIDS Vaccines and Their Importance for Decision-Making in R&D	LTC Robert O'Connell (MHRP/AFRIMS)	Pre-Conference Satellite Session 12:00 pm
Tuesday, 28-October	Evaluation of Mucosal Tissue Explants as ex vivo Surrogates of in vivo Vaccination of Non-human Primates (NHPs) and Humans	Carolina Herrera (Imperial College)	Oral presentation 1:30 pm
	Early Initiation of ART in Acute HIV Infection (Fiebig I to III) Does Not Preclude the Development of HIV-specific Cellular Immune Responses	Alexandra Schuetz (MHRP/AFRIMS)	Oral presentation 11:45 am
	Comprehensive sieve analysis of breakthrough HIV-1 sequences in the RV144 vaccine efficacy trial	Paul Edlefsen (FHCRC)	Oral presentation 2:15 pm
Wednesday, 29-October	HIV-specific Antibody in Rectal Secretions Following Late Boosts in RV144 Participants (RV305)	Siriwat Akapirat (AFRIMS)	Oral presentation 12:00 pm
	Characterization of the Binding Affinity of Siglec-1 to gp120, gp145, and V2 loop via Sialic Acid Binding Motif	Hung Trinh (MHRP)	Poster
	The Relationship between Stigma, Disclosure, and Adherence among Participants in the African Cohort Study	Lindsey Hughes (MHRP)	Poster 10:00 am & 5:00 pm
	Immune Correlates Identified in the RV144 Vaccine Efficacy Trial Impact HIV-1 Acquisition Only in the Presence of Certain HLA Class II Genes	Rasmi Thomas (MHRP)	Oral presentation 11:30 am
	Phase 1 Trial of the Safety and Immunogenicity of PENNVAX™-G DNA Prime Administered by Biojector® 2000 or CELLECTRA® EP Device with MVA-CMDR Boost	Julie Ake (MHRP)	Poster 10:00 am & 5:00 pm
	Biology and Immunity of Early Transmission	Morgane Rolland (MHRP)	Poster 10:00 am & 5:00 pm
	Vaccine Induced Seroreactivity in RV144 Vaccine Recipients in RV305, a Placebo Controlled Assessment of Late Boosts with ALVAC-HIV and AIDSVAX B/E	Robert O'Connell (MHRP)	Poster 10:00 am & 5:00 pm
	Sex Differences in Immune Variables in the RV144 Trail	Darpun Sachdev (DPH)	Poster 10:00 am & 5:00 pm
Thursday, 30-October	Cryptic Multiple HIV-1 Infection Revealed by Early, Frequent, and Deep Sampling during Acute Infection	Gustavo Kijak (MHRP)	Oral presentation 12:15 pm
	Real Time Fitness Assay of Two CRF01_A/E HIV-1 Transmitted Founder Variants	Melanie Merbah (MHRP)	Poster 10:00 am & 5:00 pm
	RV306, an Evaluation of a 48 Week ALVAC-HIV AIDSVAX B/E Vaccination Regimen in Thailand: Participation Rates for Optional Specimen Collections	Punnee Pitisuttithum (Mahidol)	Poster 10:00 am & 5:00 pm
	Evaluation of HIV-1 Neutralizing Antibodies in Maternal-Infant Transmission in Thailand	Brittani Barrows (MHRP)	Oral presentation 11:00 am
Friday, 31-October	Cooperativity of HIV-specific cytolytic CD4 T-cells and CD8 T cells in control of HIV viremia	Susan Johnson (MHRP)	Oral presentation 9:37 am