



HIV Research Success

The U.S. Military HIV Research Program (MHRP) is at the forefront of the battle against HIV to protect U.S. troops from infection and reduce the global impact of the disease.

Since its inception in 1986, MHRP has emerged as a world leader in HIV vaccine research, adjuvant development, threat assessment, epidemiology and cure research. The integration of HIV prevention, care and treatment has helped MHRP build strong and trusting relationships within the communities where research is conducted and provides an ethical framework to conduct HIV clinical studies.



Army Liposome Formulation (ALF)

MHRP scientists developed the new Army Liposome Formulation (ALF) family of adjuvants. The ALFQ formulation was awarded a patent in 2019. ALFQ is being tested in several ongoing clinical trials with vaccines for HIV, COVID-19 and malaria.

HIV Vaccine Development

MHRP led the RV144 HIV vaccine clinical trial in Thailand that, for the first and only time, demonstrated a modest ability to protect against HIV infection, showing that an HIV vaccine is possible.

Developing and Testing Next-Generation Vaccines

MHRP is engaged in advancing next-generation vaccine concepts and evaluating novel strategies such as rapid dose administration, late boosting and fractional dosing.

Our researchers are developing and testing new antigens for improved HIV prevention. We are also incorporating novel platforms, such as mRNA and the Army's ALFQ adjuvant, to generate more potent immune responses to vaccination, including stronger neutralizing antibody responses

New Vaccine Studies

MHRP began a comparative adjuvant HIV vaccine trial in 2021 in Kenya that is testing experimental vaccines combined with different adjuvants, including ALFA.

Another study in Thailand has begun testing the ALFQ adjuvant

with new HIV protein vaccines. It is also examining fractional dosing to determine if smaller doses of vaccine can elicit similar immune responses compared to full dose.

MHRP researchers are also working on a novel dose escalation strategy they call RapidVax. The approach seeks to evaluate whether exposure to HIV antigen in escalating doses administered over several days, a pattern that mimics natural acute HIV infection, increases antibody magnitude and function.

MHRP and partners recently launched a preclinical (animal) study of a messenger RNA, or mRNA, mosaic HIV vaccine in Thailand. The study will explore the potential of this novel platform for HIV vaccines.

Monoclonal Antibody Development

Investigators at MHRP are collaborating with government and academic partners to advance new concepts in monoclonal antibody design for HIV prevention.

Soldier Health. World Health.



Epidemiology and Threat Assessment

MHRP's Department of Epidemiology and Threat Assessment (DETA) conducts research on the epidemiology of HIV and other infectious diseases that threaten the readiness of U.S. and allied military forces. These studies identify opportunities for intervention and test strategies to mitigate the risk of HIV and other sexually transmitted infections (STIs).

MAGI: This multisite, multinational study is a phase II randomized, observer-blind, placebo-controlled study to assess the efficacy of meningococcal Group B vaccine rMenB+OMV NZ (Bexsero) in preventing gonococcal infection.

Knocking out Infections through Safer sex and Screening (KISS): The KISS study is a prospective trial to assess the acceptability and efficacy of a behavioral intervention to reduce the risk of HIV and other STIs in a population of Army personnel and medical beneficiaries.

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Acute HIV and Cure Research

To better understand how the immune system responds during the acute (early) stage of HIV infection and explore genetic changes in the virus, MHRP launched two innovative cohort studies in Thailand and East Africa.

MHRP is conducting functional “cure” studies on the foundation of these acute HIV infection cohorts. These small studies are evaluating strategies aimed at inducing HIV remission and seek to find an effective tool that will allow people living with HIV to be able to control the virus without the need for long term anti-retroviral treatment (ART). Interventions are wide-ranging and include therapeutic HIV vaccines and broadly neutralizing antibodies. MHRP is part of two multi-institution research teams, or “Collaboratories,” that were awarded funds from the NIH in 2021 to develop an integrated approach to finding an HIV cure.

Global Research

Since the onset of the HIV epidemic, MHRP has cultivated an international network of state-of-the-art labs and clinical trial centers in Africa and Asia. Our dedicated researchers, staff and partners are committed to halting the spread of HIV around the world. This infrastructure provides a unique and effective platform to conduct research and assess HIV interventions in endemic settings around the globe. It has also been leveraged to fight emerging infectious diseases including Ebola, Marburg and COVID-19.

President's Emergency Plan for AIDS Relief (PEPFAR)

Since 2003, the U.S. government has saved more than 20 million lives and prevented millions of HIV infections through PEPFAR. MHRP has contributed to PEPFAR by developing and implementing comprehensive HIV prevention, care and treatment programs in Kenya, Nigeria, Tanzania and Uganda—four of the 15 initial focus PEPFAR countries.

MHRP implements PEPFAR activities with both civilian and military populations. Through PEPFAR, MHRP and local partners are building sustainable systems and empowering individuals, communities and nations to battle HIV.



MHRP provides a range of life-saving services including HIV counseling and testing, provision of ART, diagnosis and treatment of opportunistic infections pre-exposure prophylaxis, voluntary medical male circumcision, prevention of mother to child transmission, early infant diagnosis, and viral load testing. MHRP's PEPFAR programs are conducted in collaboration with HJF, local partners and the Department of Defense HIV/AIDS Prevention Program (DHAPP). In 2021, MHRP's PEPFAR activities expanded to the Philippines implemented by the Armed Forces Research Institute for Medical Sciences (AFRIMS) in partnership with DHAPP.

MHRP Contributions

1980s	1990s	2000s	2010s	Today
The first to identify heterosexual transmission of HIV-1	Characterized more than half of the known HIV genetic subtypes	Led the first, and only, vaccine clinical trial that showed modest efficacy (RV144)	Pioneered international acute HIV infection cohorts to inform vaccine development	Advancing novel HIV vaccine platforms, adjuvants, and strategies for cure