HIV Research Success

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.

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.

Monoclonal Antibody Development

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

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