

Accelerating the Development of Vaccines and New Technologies to Combat the AIDS Epidemic (ADVANCE)

The new and transformative Africa-centered model of global partnership to Accelerate the Development of Vaccines and New Technologies to Combat the AIDS Epidemic ([ADVANCE](#)) aligns the latest scientific, technological and collaborative innovations to expedite the translation of scientific advancements into life-saving vaccines and other new prevention products to support achievement of the Joint United Nations Programme on HIV/AIDS's ambitious [90–90–90 global goals](#) by 2020.

“PEPFAR’s efforts continue to be pivotal in ensuring successful access to treatment for all HIV-infected people and effective prevention services and technologies for all people at risk of HIV infection. USAID’s support of an effective HIV vaccine is an essential complement to all other treatment and prevention innovations if we are to end the AIDS pandemic.”

– Mark Feinberg, MD, PhD, CEO, IAVI

Designing Better HIV Vaccines and Prevention Products in Africa

Successful HIV prevention requires increased contribution to the research efforts by those countries and regions that are hardest hit by the epidemic. Sub-Saharan Africa



remains the region most severely affected, with 25 million adults and children living with HIV and AIDS. The need for an Africa-centric vaccine and prevention product design is further substantiated in sub-Saharan Africa, where researchers find the most genetically diverse HIV subtype infections in the world. An eventual vaccine must be effective for the most vulnerable people of Africa, particularly young women, who face the greatest disease burden.

Through 2021, project ADVANCE, supported by the U.S. Agency for International Development’s (USAID) through the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR), and designed by [the International AIDS Vaccine Initiative \(IAVI\)](#) in collaboration with African and Indian clinical research center partners, will move the world closer to a safe and globally-effective HIV vaccine. ADVANCE aims to ensure African scientists fully participate in a product development pathway that reflects African realities and considers key regional priorities. USAID, a key implementing agency of PEPFAR, and its partners are committed to reducing the spread of HIV. An HIV vaccine promises to save millions of lives while reducing billions of dollars in care and treatment costs.

Building on IAVI’s long-term [partnership with USAID](#), ADVANCE partners include a network of African clinical research centers and the Human Immunology Laboratory at the Imperial College London. This network drives regional collaboration, capacity building and research to test promising HIV vaccine candidates, while seeking a clearer

ADVANCE Partners

International AIDS Vaccine Initiative (IAVI)
 Aurum Institute (**South Africa**)
Kenya AIDS Vaccine Initiative-Institute for Clinical Research
Kenya Medical Research Institute-Wellcome Trust Research Programme
 Medical Research Council-**Uganda**
 Projet San Francisco (**Rwanda**)
Uganda Virus Research Institute-IAVI
 Univ. Kwa-Zulu Natal, HIV Pathogenesis Programme (**South Africa**)
Zambia-Emory HIV Research Project
 Imperial College London (**United Kingdom**)

understanding of the epidemic in Africa and at-risk communities. ADVANCE links African and Indian researchers with global collaborators and innovative technologies throughout all stages of HIV vaccine discovery, design and development – including access to key populations; community engagement; laboratory, manufacturing, pharmacy, data management, regulatory, quality assurance and training functions; and vital efficacy trial experience to test whether a vaccine demonstrates a health benefit over a placebo or other intervention.

ADVANCE 2021 Outcomes

To achieve ambitious goals, ADVANCE will implement an integrated framework of project activities to increase African clinical trial and research capabilities to bridge the current challenging gaps in HIV vaccine research and development to achieve significant strides towards a safe, globally-effective HIV vaccine.

Create a better understanding of the unique African HIV epidemic characteristics

by creating African-led, multi-stakeholder platforms to build necessary capacity, [investigate the interplay of virus and immune responses](#) in high-risk populations and engage communities to understand end-user preferences and target product profiles for HIV prevention technologies.

Translate knowledge of the epidemic to improve and inform vaccine design, discovery and development

by leveraging its unique position in the field and innovative partnership strategy to access leading vaccine candidates that are both effective and suitable for use among populations most in need, as well as a robust pipeline of experimental immunogens, for early-stage testing and prioritizing.

Test Innovative Vaccines in Clinical Trials

by developing new preclinical and clinical models that facilitate the rapid prioritization of candidates, and conducting state-of-the-art human clinical trials of those candidates while also defining systems and metrics to ensure timely decision-making.

Develop sustainable African leadership in key areas of HIV vaccine design and development

by expanding the scope of the pioneering [Vaccine Immunology Science and Technology for Africa \(VISTA\)](#) program, pairing leading global institutions with clinical research centers to transfer next-generation technologies to Africa, including sequencing-based antibody repertoire analyses, impact of microbiome on host immune responses and bioinformatics technologies.



Photo Credit: Sokomoto Photography, IAVI

“ADVANCE leverages the expertise of African and Indian AIDS vaccine researchers and, through strategic partnerships with key global HIV researchers, helps expedite the translation of scientific advances into vaccines and other new prevention products that will help control, and hopefully, one day eliminate HIV and AIDS.”
– Anatoli Kamali, MD, PhD, MSc, Regional Director for Africa at IAVI