

First-in-man trial of MERS vaccine begins

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The Daniel K. Inouye building on the Walter Reed Army Institute of Research campus. Credit: WRAIR

The Walter Reed Army Institute of Research (WRAIR) began vaccinations today in a Phase 1 clinical trial to evaluate the safety and immune response of a vaccine candidate to prevent Middle East Respiratory Syndrome (MERS).

Though other [vaccine candidates](#) have previously been tested for use in camels, which are the suspected source of the coronavirus which causes MERS (MERS-CoV), this [vaccine](#) is the first to be tested in humans. Seventy-five participants will receive the vaccine at WRAIR's Clinical Trial Center in Silver Spring, Md. The vaccine (GLS-5300) is being co-developed by Inovio Pharmaceuticals and GeneOne Life Science Inc.

MERS is a severe respiratory disease akin to the Severe Acute Respiratory Syndrome (SARS) and was first identified in Saudi Arabia in 2012. MERS has infected more than 1,600 people and killed nearly 40% of those infected. The most common symptoms of this disease are fever, cough and shortness of breath. Older people and those with weakened immune systems are at greater risk for severe disease and death. There are currently no approved vaccines or specific treatments for

MERS.

"This study is an important advancement in the research and development of countermeasures for MERS," said Dr. Kayvon Modjarrad, a clinical researcher with the U.S. Military HIV Research Program (MHRP) at WRAIR and principal investigator of the trial. "Recent events have taught the global community that promising candidate countermeasures for emerging infectious diseases, like MERS, need to be advanced early in order to prevent or respond to the potential of a growing epidemic."

The virus has been circulating primarily in Saudi Arabia, where the majority of cases have been reported. According to the World Health Organization, cases have now been confirmed in 26 countries, but experts believe these cases were acquired in the Middle East and then exported outside the region. A 2015 outbreak in the Republic of Korea is the largest outbreak outside of the Middle East.

"MERS is a growing global concern given its high fatality rate," said MHRP Director Col. Nelson Michael. "Given global deployments to the Middle East and South Korea coupled with close living quarters in those situations, military personnel are at increased risk for exposure to MERS."

Emerging infectious diseases such as MERS pose an ongoing threat to military operations and readiness. WRAIR develops vaccines, drugs and diagnostics for these diseases of importance to military and public health. Its Clinical Trials Center conducts 13-15 clinical studies per year, and in December initiated a Phase 2 clinical trial of an Ebola vaccine following its groundbreaking first-in-human testing of the Ebola vaccine that showed efficacy in Guinea last year.

Provided by Walter Reed Army Institute of Research

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