Deadly Disease Detection Backed by Funding

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Researchers at Tulane University, in collaboration with Corgenix Medical Corp., a worldwide developer and marketer of diagnostic test kits, have received a grant of more than $7 million from the National Institutes of Health for continued development of detection kits for Lassa viral hemorrhagic fever, a serious disease spread by contact with infected rodents.

Robert Garry, professor of microbiology and immunology at the Tulane School of Medicine, is principal investigator of a project to develop diagnostic test kits to detect a deadly viral hemorrhagic fever. (Photo by Paula Burch-Celentano)

Tulane will conduct a five-year study designed to complete the tests for viral hemorrhagic fevers, some of which are potential bioterrorism agents due to their high fatality rate and ease of transmission from person to person.

“The products have shown to be remarkably effective in clinical settings in Africa and will have a meaningful impact on health care in that part of the world, but will also fill a critical gap in bioterrorism defense,” says Robert Garry, professor of

microbiology and immunology at the Tulane School of Medicine and principal investigator of the project.

“Now under the new NIH award, we will complete the development and move to commercialization of the Lassa fever detection products and expand our efforts across Africa.”

Viral hemorrhagic fevers are characterized by fever and bleeding disorders and can progress to high fever, shock and death. Lassa fever is estimated to infect 300,000 to 500,000 people per year across western Africa, resulting in about 5,000 deaths annually. New outbreaks of the Lassa fever have been reported recently, including in Nigeria.

“We are now seeing much broader presence of this disease in Africa,” says Dr. Daniel Bausch, director of the Tulane School of Public Health and Tropical Medicine Research and Training Program in West Africa. “Within the past year alone we have seen a significant increase in the number of cases in Nigeria, with increased fatalities. It is critical that the assays we have already developed and are using in Africa, as well as others still in our development pipeline, become fully deployed to aid in this vital effort.”

This is the second grant awarded to Tulane for Lassa virus products. Collaborating with Corgenix and Tulane in this grant are Autoimmune Technologies (New Orleans), Vybion Inc. (Ithaca, N.Y.) and various partners in Africa.

Under the original grant awarded in 2005, the group developed several viral detection products that were deployed in Africa for clinical testing. Before these detection kits were implemented, infection with this disease could be determined only through expensive and laborious testing that was not commercially available, leaving no adequate options for laboratory diagnosis of viral hemorrhagic fevers in sub-Saharan Africa, where most of these diseases are endemic.

The group intends to expand this program to address other important infectious agents such as Ebola, Marburg and other hemorrhagic fever viruses that are of concern to the public health and bioterrorism preparedness communities, according to Garry.