**Virology and Global Health Infectious Diseases Research (GHIDR) Component**

The Virology/GHIDR component is a collaborative effort between the University of South Florida (USF), Center for Biological Defense (CBD) and the Department of Global Health at the College of Public Health. Research focuses on Virology and Emerging Infections. Current activities of the Virology core include the development of new molecular and immunological diagnostics, drug screening, sample preparation, and vaccine development. Renowned international researchers work together targeting detection, prevention and treatment of bioterrorism and emerging infections, including influenza, dengue, malaria, filariasis and arboviruses (such as West Nile Virus).

The areas of research in the Virology core include the screening of natural and synthetic compounds as a collaborative effort with researchers at the Chemistry Department at USF. We are currently screening for influenza virus and Herpes simplex virus 1. In addition, we evaluate products and devices from private companies for their effectiveness in reducing the burden of viral load. Other projects include vaccine development using the viral vectors adenovirus and baculovirus, in an attempt to develop an oral vaccine to protect against viral infections. In the area of sample preparation and diagnostics, we are developing immunoassays for influenza A with potential to discriminate the vaccinated and unvaccinated general public for rapid diagnosis and improved vaccine development. Phage display is also being used to identify peptides that specifically bind to influenza and dengue viruses for diagnostics. Finally, new methods for clinical sampling are being developed to make the process of transporting samples from remote areas safer, less labor intensive, and cheaper, while also allowing for ease of analysis by the clinical diagnostics lab receiving the sample.

The Virology/GHIDR unit has the expertise and facilities in Virology that may assist other entities in the evaluation and improvement of compounds, methods, protocols or technologies, provided that these projects are in keeping with the mission of the GHIDR, the CBD and the Department of Defense.