

VIRAL SPECIAL PATHOGENS BRANCH

Division of High Consequence Pathogens and Pathology



Protecting against deadly viruses

The **Viral Special Pathogens Branch (VSPB)** at CDC is comprised of world-class experts who work to combat deadly viral diseases at home and abroad. Whether in the most secure laboratories at CDC headquarters in the U.S. or in remote locations across the globe, VSPB prevents, detects, and responds to highly infectious threats like Ebola, Lassa fever, Marburg, Hantavirus, and Nipah.

On the forefront of scientific innovation

VSPB is made up of experts in laboratory sciences, epidemiology, clinical medicine, ecology, and communications. This broad expertise creates a uniquely well-rounded group ready to help prevent and fight disease outbreaks wherever and whenever they occur.

What do VSPB's experts do?

Identify viruses and the animals that spread them to people

VSPB scientists have discovered new and lethal viruses, including types of ebolaviruses, hantaviruses, and paramyxoviruses. They've also determined which animals harbor some of these viruses in nature, such as Marburg and Sosuga viruses in Egyptian fruit bats. They are actively working to identify the animal hosts for other viruses, like Ebola, that are still unknown.

Respond to outbreaks at home and abroad

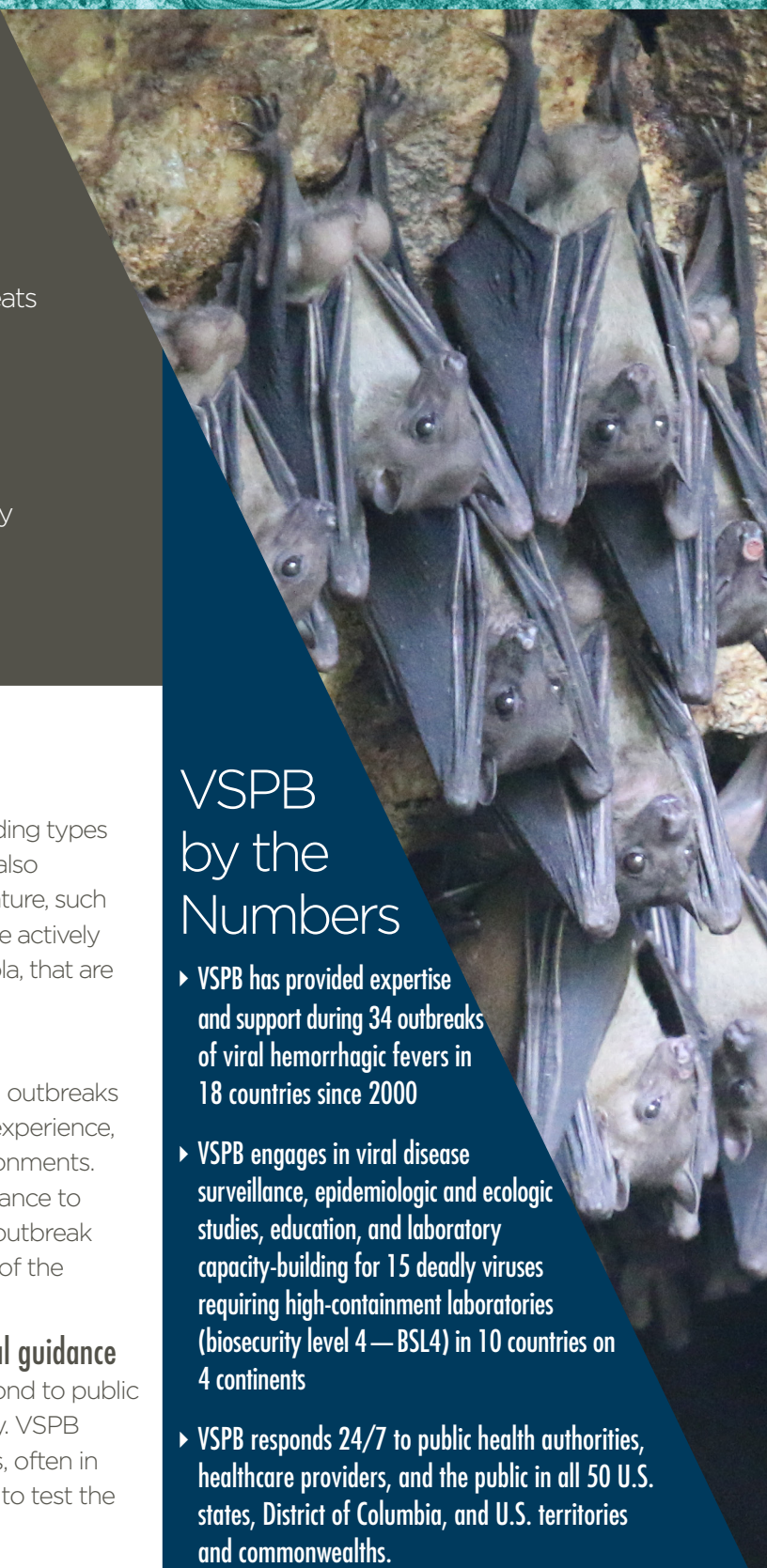
VSPB's experts are among the first at CDC to deploy during outbreaks of deadly viral diseases because of their expertise, years of experience, and readiness to work in often severe and challenging environments. For example, VSPB staff provided constant, in-person assistance to affected countries during the 2014-2016 West Africa Ebola outbreak and 2018-2021 Ebola outbreaks in the Democratic Republic of the Congo and Guinea.

Conduct advanced lab testing and provide public and medical guidance

VSPB clinical, diagnostics, and communications teams respond to public and medical provider questions on high-risk pathogens daily. VSPB scientists provide testing to diagnose and confirm infections, often in specialized biosafety level 4 labs, the most secure labs used to test the deadliest viruses.

VSPB by the Numbers

- ▶ VSPB has provided expertise and support during 34 outbreaks of viral hemorrhagic fevers in 18 countries since 2000
- ▶ VSPB engages in viral disease surveillance, epidemiologic and ecologic studies, education, and laboratory capacity-building for 15 deadly viruses requiring high-containment laboratories (biosecurity level 4 — BSL4) in 10 countries on 4 continents
- ▶ VSPB responds 24/7 to public health authorities, healthcare providers, and the public in all 50 U.S. states, District of Columbia, and U.S. territories and commonwealths.





Develop and test vaccines, treatments, and diagnostic tools

VSPB uses advanced laboratory techniques to create and evaluate vaccines, disease treatments, and tests to diagnose illnesses. These scientists have screened thousands of drugs to see how they work against a range of dangerous viruses. Their work has identified several drugs of interest that might help treat Ebola, Nipah, and other diseases caused by emerging viruses. VSPB scientists also study viruses from newly emerging outbreaks of Ebola and other deadly infections to predict how well current diagnostic tests and experimental treatments might work against them. In addition, VSPB led the development of guidelines for how healthcare providers should use approved Ebola vaccines.

Build partners' capacity to fight diseases

VSPB helps other countries improve their ability to track and test for hemorrhagic fevers within their borders. For example, in 2010, VSPB helped establish, and continues to work alongside, the Uganda Virus Research Institute to conduct viral hemorrhagic fever surveillance across Uganda, train frontline staff, and locally test samples, all of which help Uganda respond more rapidly to deadly outbreaks. This work has helped to identify outbreaks quicker, decreasing the number of people infected and reducing the time between initial report of a suspect outbreak to lab confirmation from several weeks to an average of 2.5 days.

In an increasingly interconnected world with rapidly evolving disease threats, VSPB plays a critical role in protecting the United States. The branch's cutting-edge science, disease detection, and outbreak response initiatives are shaping what we know about and how we manage some of the world's most deadly viral diseases. In all its work, VSPB is committed to continuously increasing its knowledge of these viruses—where they come from, how they spread, and how they can be prevented more efficiently. Together, these efforts help to reduce the costs associated with large outbreak response efforts and, more importantly, to save lives.