The United States is increasingly vulnerable to vector-borne disease threats occurring within and outside our borders. Vector-borne diseases transmitted by ticks, mosquitoes, fleas, and other insects, account for 17 percent of the estimated global burden of all infectious diseases.

CDC’s vector-borne diseases program is the focal point of our nation’s capacity to detect, control, and prevent bacterial, rickettsial, and viral pathogens transmitted by ticks and insects.

Why We’re Here

The United States has seen an increase in the number and spread of vector-borne diseases. In the United States, the most common vector-borne diseases causing regular outbreaks include mosquito-borne West Nile and dengue viruses; tick-borne Lyme disease and Rocky Mountain spotted fever; and flea-borne plague. More vector-borne diseases continue to be discovered; in the last decade alone, CDC has discovered five new tick-borne pathogens in the United States.

Detecting and Preventing Vector-Borne Diseases

To address existing and new vector-borne disease threats such as Zika Virus, CDC will continue to build comprehensive vector programs to:

- Develop of a skilled vector workforce that can respond to the full variety of pathogens and the vectors that transmit them
- Support selected states to expand expertise in laboratory, case and outbreak investigation, and vector control

CDC will work to advance innovation and discovery in vector control and management and specifically in Zika Virus to:

- Develop priority cutting edge diagnostic tools for fast and accurate detection of vector-borne infections
- Identify new and emerging vector-borne diseases and increase understanding of the magnitude of existing vector-borne threats
- Conduct priority research and development by government, universities, and industry to develop ways to monitor and prevent insecticide resistance and foster new vector control technologies

In FY 2018, CDC will provide enhanced support for up to 9 states at the greatest risk for vector-borne disease outbreaks. Each vector program would include increasing state entomological expertise, as well as support for:

- Laboratory activities, including the ability to test for current and past vector-borne disease infections in people and the ability to test for vector-borne disease in mosquitoes and animals
- Case and outbreak investigation activities, including the ability of healthcare providers to recognize symptoms and the ability of the state to investigate and surveil vector-borne diseases
- Vector control and management activities, including the ability to conduct surveillance and insecticide resistance testing, to collect and use data to make vector control decisions, and to conduct and evaluate routine vector control through an integrated pest management approach

CDC experts work with and support state and local health departments directly during outbreak investigations to identify, improve, and deploy diagnostic tools and tests.