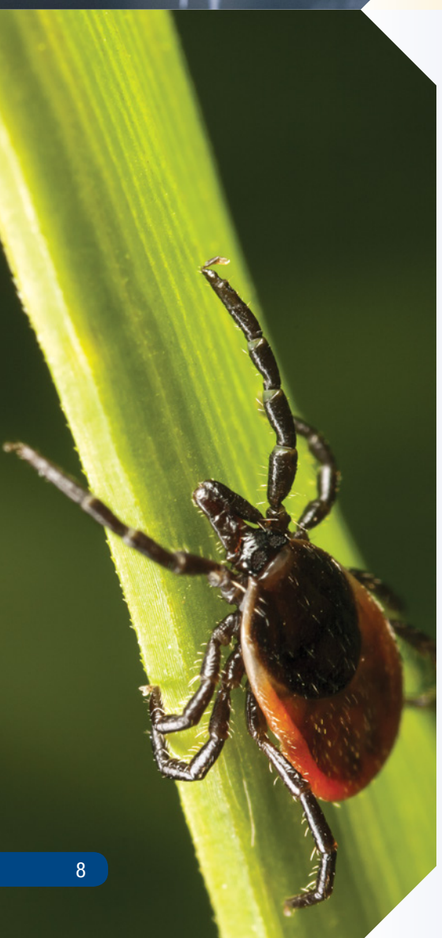
Emerging and Zoonotic Infectious Diseases

Diseases can spread across communities and borders, and CDC is ready to control, contain, and eliminate infectious disease threats whenever and wherever they arise. CDC spared no effort to respond to the world's largest Ebola outbreak in 2014. We also quickly detect and stop foodborne outbreaks, and track and eliminate dangerous infections in hospitals and clinics, including infections that are resistant to antibiotics. We investigate deadly viruses and bacteria, discover new and mutated germs, and prevent diseases from spreading from insects and animals to people. We are also committed to protecting U.S. communities from infectious diseases that spread across our borders.



Key Accomplishments 2015

- Helped solve 10 times more *Listeria* infection cases linked to foodborne illnesses through DNA sequencing than when the *Listeria* initiative first began 2 years ago.
- Promoted a coordinated approach to stop and slow antibiotic resistance through the One Health Forum on Antibiotic Stewardship. By working with facilities and health departments, an estimated 619,000 resistant and *C. diff* infections and 37,000 deaths could be avoided in the next 5 years.
- Developed two user-friendly online tools for healthy travel: 1) TravWell, a mobile app that gives vaccine and medicine recommendations, and 2) the *Yellow Book*, updated for 2016 with information on emerging threats like Ebola, chikungunya, and Middle East Respiratory Syndrome Coronavirus (MERS).
- Discovered a new tick-borne germ that sickened nearly 70 people in the Midwest, new poxviruses in New York and Alaska, and a new strain of rabies in New Mexico.
- Kept the diagnostic field laboratory in Sierra Leone operating 421 days without interruption, testing more than 27,000 samples.

CDC pathologists can examine scanned pathology slides from anywhere in the world to rapidly diagnose health threats.

ePathology Connects CDC and World's Scientists to Detect Emerging Threats Faster

We live in an interconnected world where disease outbreaks can cross borders to reach pandemic proportions quickly. The faster an outbreak can be identified, the quicker public health officials can contain the threat. Thanks to a new CDC electronic platform, ePathology, scientists around the world can be connected with CDC pathologists to help quickly analyze scanned pathology slides.

Imagine a mysterious outbreak in a remote village where the only clue is that each victim died with swelling of the brain. Local doctors theorize about the most likely cause but lack the advanced laboratory techniques or powerful microscopes to confirm their suspicions. With ePathology, all these doctors need is an Internet connection. They submit their brain scans to CDC pathologists and then view the slides together via a video conference. In this hypothetical case, the CDC pathologists' examinations reveals a viral infection has caused the brain swelling. They strongly suspect the rabies virus. With this suspicion, local officials can fan out in the area to look for rabid animals, seek out anyone who may have been bitten by a dog or animal, administer vaccines to those bitten, and educate the community about animal vaccination and steps to prevent rabies infection.

Without ePathology, the entire process could have been delayed by weeks or even months—causing many more people to be vulnerable to infection.

37,000
If we prevent infections and improve antibiotics prescribing, we could save 37,000 lives from drug-resistant infections over 5 years.

46%
Almost half of multistate foodborne outbreaks in America result in product recalls.

500,000
Infections from *Clostridium difficile* (known as *C. diff* or deadly diarrhea) cause close to half a million illnesses in the U.S. in a single year.

2015
Responded to contain and control many dangerous disease outbreaks, including chikungunya, dengue, foodborne illnesses, Ebola, healthcare-associated infections (such as *C. diff*), monkeypox, Rocky Mountain spotted fever, plague, rabies, and tularemia.