

ANATOMY OF AN OUTBREAK



A Disease Threat Anywhere is a Threat Everywhere.

Today's world is more connected than ever. In as little as 36 hours¹, a pathogen from a remote village can spread to all major cities in six continents. That is why it is critical to detect, report and respond to outbreaks in a timely manner.

1. Incident Occurs

A new or existing pathogen is introduced to a community and starts to spread.

Humans or animals start to feel ill or even die with similar symptoms.



CDC performs 24/7 global disease monitoring to identify potential incidents.

2. Outbreak Suspected

An outbreak is suspected. There are several ways to detect and verify a disease through reported cases or from event information.

Local clinics and hospitals see more people with symptoms such as fever, persistent diarrhea, cough and unexplained bleeding.



Laboratory confirms cases of disease found at local clinic.

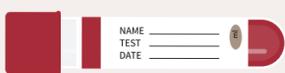
Disease detective and surveillance teams capture and organize information about events that are a potential risk.



Teams monitor official and unofficial reports of potential disease events from a wide variety of sources including media, rumors, blogs, community members, etc.

CDC works with partners and Ministries of Health to find potential outbreaks through routine reporting of symptoms, lab test results and official and unofficial reports.

3. Investigation Started



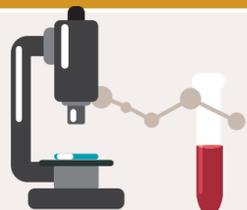
Countries conduct lab tests or send specimens for testing.



Disease detectives investigate to determine the source and size of the outbreak.

CDC trains countries how to test, handle and safeguard samples.

CDC trains disease detectives around the world to stop the outbreak at the source.



Lab results confirm if patients test positive or negative for illness. Health authorities are alerted.



4. Reporting

Authorities report disease outbreak to appropriate national and international organizations in accordance with the International Health Regulations.



5. Global Response Initiated

CDC's global rapid responders are deployed when a country requests additional support to:



Implement infection prevention and control measures and distribute medical countermeasures



Conduct public health communication and education



Enhance local surveillance systems to track outbreaks



Improve local lab testing for faster diagnosis

CDC is at the frontline of disease detection and response, working 24/7 to protect the health, safety, and security of American people. CDC's work ensures that outbreaks are contained before they can spread and reach the U.S.



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

1. Jonas, Olga B.. 2013. Pandemic Risk. World Bank, Washington, DC. © World Bank. <https://openknowledge.worldbank.org/handle/10986/16343> License: CC BY 3.0 IGO.

This is a snapshot of an outbreak investigation and does not reflect all the steps that may occur. Information presented in this example depicts a prompt outbreak identification. Several factors affect the investigation and can prolong the timing and results. Delays in response activities can lead to outbreaks spreading quickly and spillover to other communities.