

Epidemic Intelligence Service (EIS): A Snapshot of Public Health Achievements



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EIS is CDC's 2-year post-doctoral training program for health professionals interested in the practice of applied epidemiology.

For more information

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When events happen that threaten the public's health, disease detectives from the Centers for Disease Control and Prevention's (CDC) Epidemic Intelligence Service (EIS) provide rapid epidemiologic response to save lives and protect health. For more than 60 years, EIS officers have stepped up at a moment's notice to investigate many types of public health threats.

State, local, federal, and global partners can request short-term epidemiologic assistance, or Epi-Aids, from CDC for urgent public health problems. EIS officers interact closely with epidemiologists—many of whom are former EIS officers—in affected areas, illustrating the network and extended reach of CDC's EIS training program.

Each year, EIS officers conduct approximately 80 Epi-Aids worldwide. This timeline reflects selected examples of EIS officers' contributions to landmark public health achievements. From the threat of bioterrorism during the Korean War era in the early 1950s to the Ebola outbreak in 2014 and more, EIS officers have been called upon to help CDC protect people and save lives.

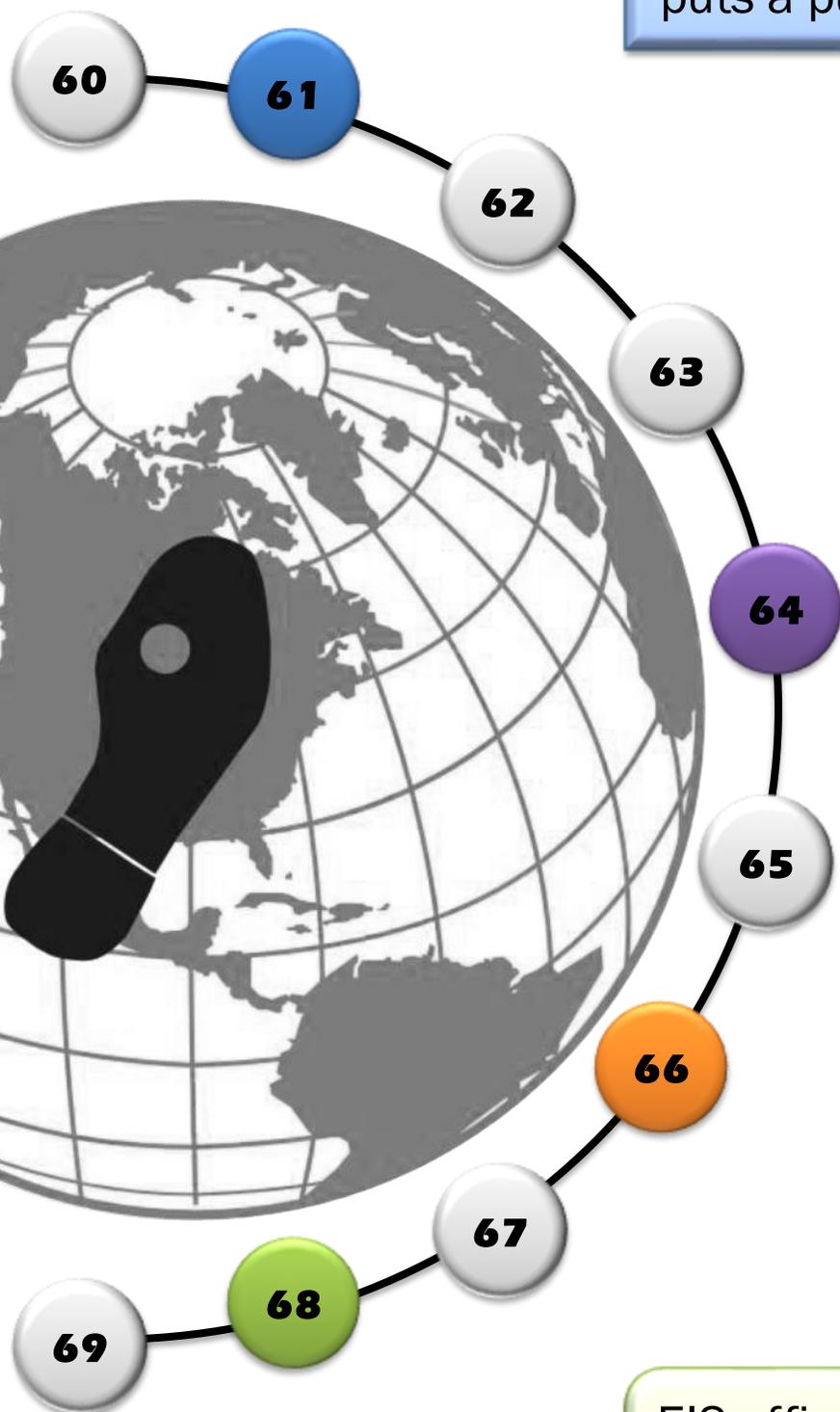
CDC establishes the EIS training program in response to the threat of biological warfare during the Korean War. EIS officers soon become known as disease detectives.

CDC's involvement in a lead paint investigation marks the first time an EIS officer specializes in a noninfectious disease.

EIS officers set up a national surveillance system and trace 260 polio cases to unsafe vaccines made by a California pharmaceutical company. As a result, safety controls are improved, public confidence in polio vaccination is restored, and polio cases decline.

EIS officers continue to demonstrate the practicality of a national surveillance system in response to the Asian flu pandemic.





CDC sends EIS officers to investigate a cancer cluster in Niles, Illinois. Discovery of a connection between leukemia and birth defects puts a public health focus on chronic diseases.

CDC assigns an EIS officer to work on family planning, expanding the agency's work to global population issues.

EIS officers are on the scene as CDC begins a worldwide smallpox eradication campaign in Africa. Thirteen years later, the world is declared smallpox-free.

EIS officers work on malnutrition and famine relief in the Nigerian-Biafran war zone, expanding CDC's work to nutrition.

EIS officers begin research into occupational health as the National Institute for Occupational Safety and Health (NIOSH) becomes part of CDC.

EIS officers join the local health department in El Paso, Texas, to investigate lead exposure associated with an ore smelter, which increased scientific understanding of lead poisoning as a public health threat. Phaseout of lead in automotive fuel begins by 1973.

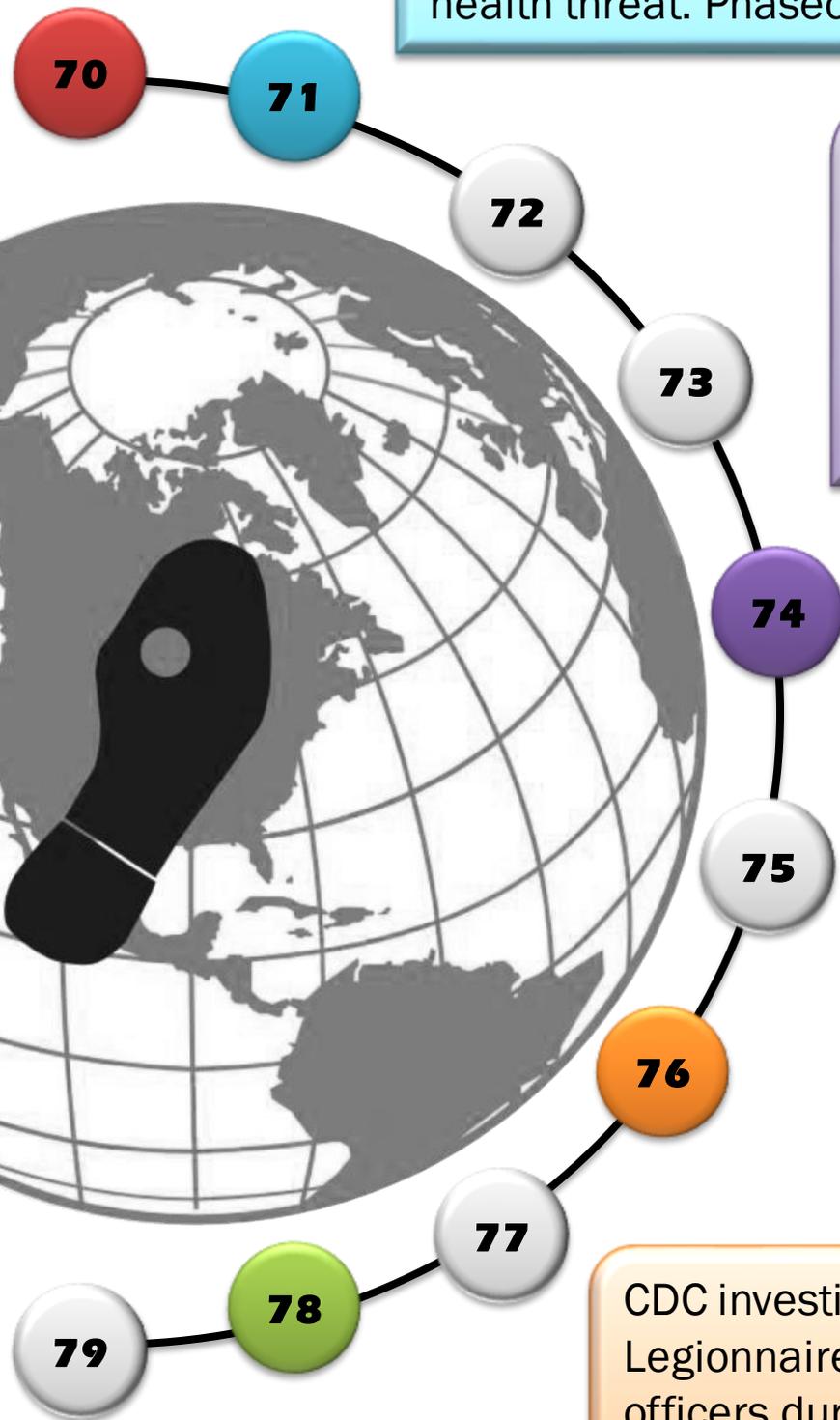
EIS officers investigate liver cancer deaths of B.F. Goodrich employees in Louisville, Kentucky. Discovery of vinyl chloride as an occupational hazard leads to exposure standards set by the Occupational Health and Safety Administration (OSHA).

EIS officers help set up a field laboratory in Sierra Leone to investigate the cause of a deadly fever found in Lassa, Nigeria, in 1969.

EIS officers in Zaire and Sudan investigate a mysterious fever that sends its victims into shock with massive external and internal hemorrhages. Of 318 people infected, 280 (90%) die. The illness is named Ebola after a nearby river.

CDC investigators discover that a bacterium causes Legionnaires' disease. Data collected by more than 20 EIS officers during two previous outbreaks (1965 & 1968) and the 1976 outbreak in Philadelphia are key to the discovery.

An EIS officer suspects a connection between aspirin use and Reye syndrome, a rare neurological disease found mainly in children. The connection is eventually proven.



EIS work expands into environmental health during a major heat wave sweeping the U.S. Midwest. The investigation identifies infants, urban dwellers, the elderly, and chronically ill persons as high-risk groups.

EIS investigators quickly find an association between toxic shock syndrome (TSS) and menstruating women. Tampons are revealed as a major cause of TSS, leading to one brand's removal from the market.

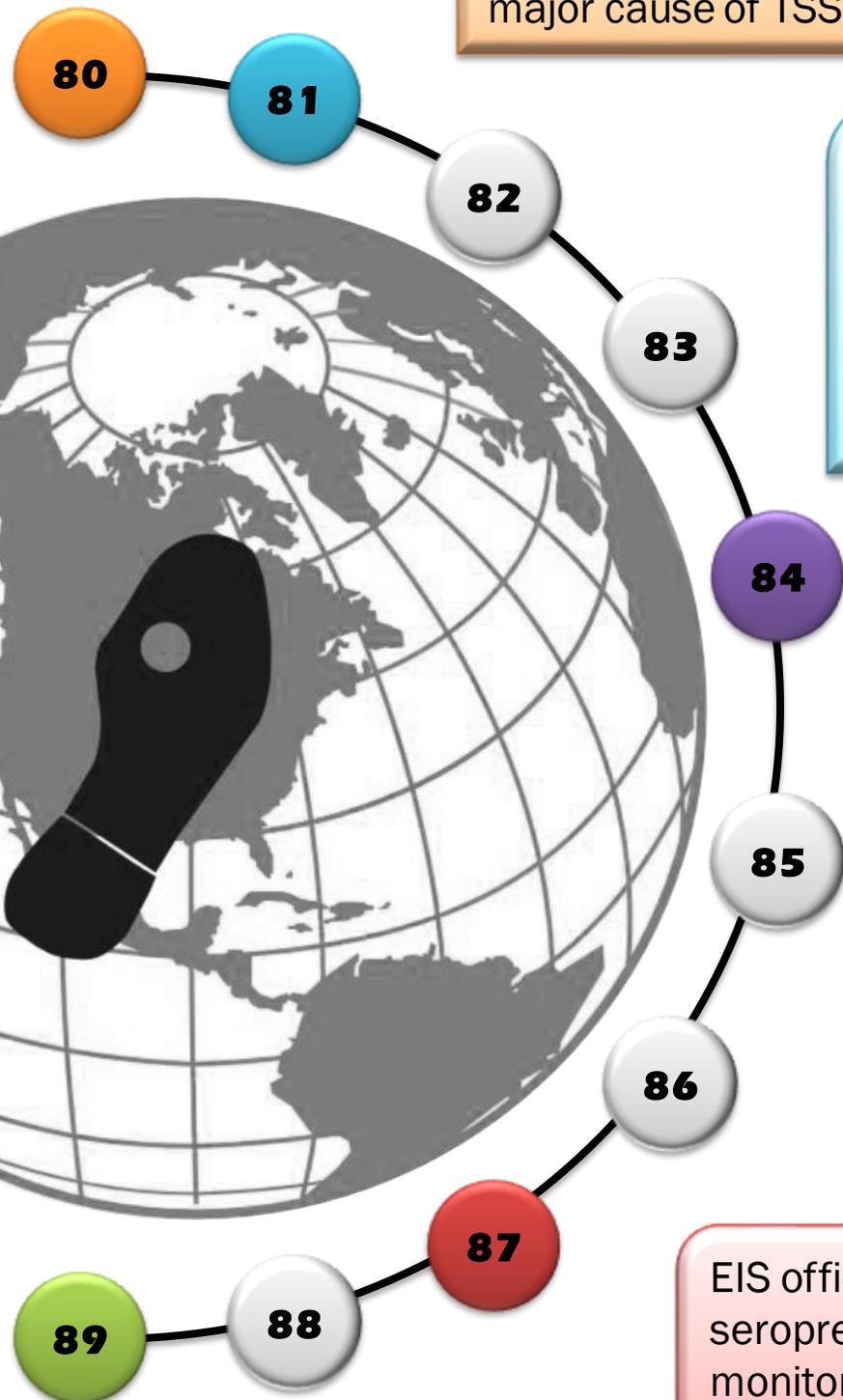
An EIS officer and a Los Angeles physician publish an MMWR article describing the occurrence of *Pneumocystis carinii* pneumonia among young, previously healthy homosexual males. It is the first major scientific article on the emerging HIV/AIDS pandemic.

EIS officers aid the Spanish government in investigating an outbreak of severe lung disease. They find a connection to the use of illegally marketed industrial oil sold door-to-door as cooking oil.

EIS officers trace an outbreak of *Salmonella* food poisoning in a small Oregon town to intentional contamination of restaurant salad bars. The incident is the first known bioterrorist event in the United States.

EIS officers assist health departments in conducting HIV seroprevalence surveys. The data help health officials monitor HIV infections in high-risk populations and prioritize, target, and evaluate HIV prevention activities.

EIS officers investigate the association between eosinophilia-myalgia syndrome and use of L-tryptophan, a supplement used for insomnia, depression, and premenstrual syndrome. The investigation leads to one of the first nationwide, noninfectious epidemic surveillance projects.



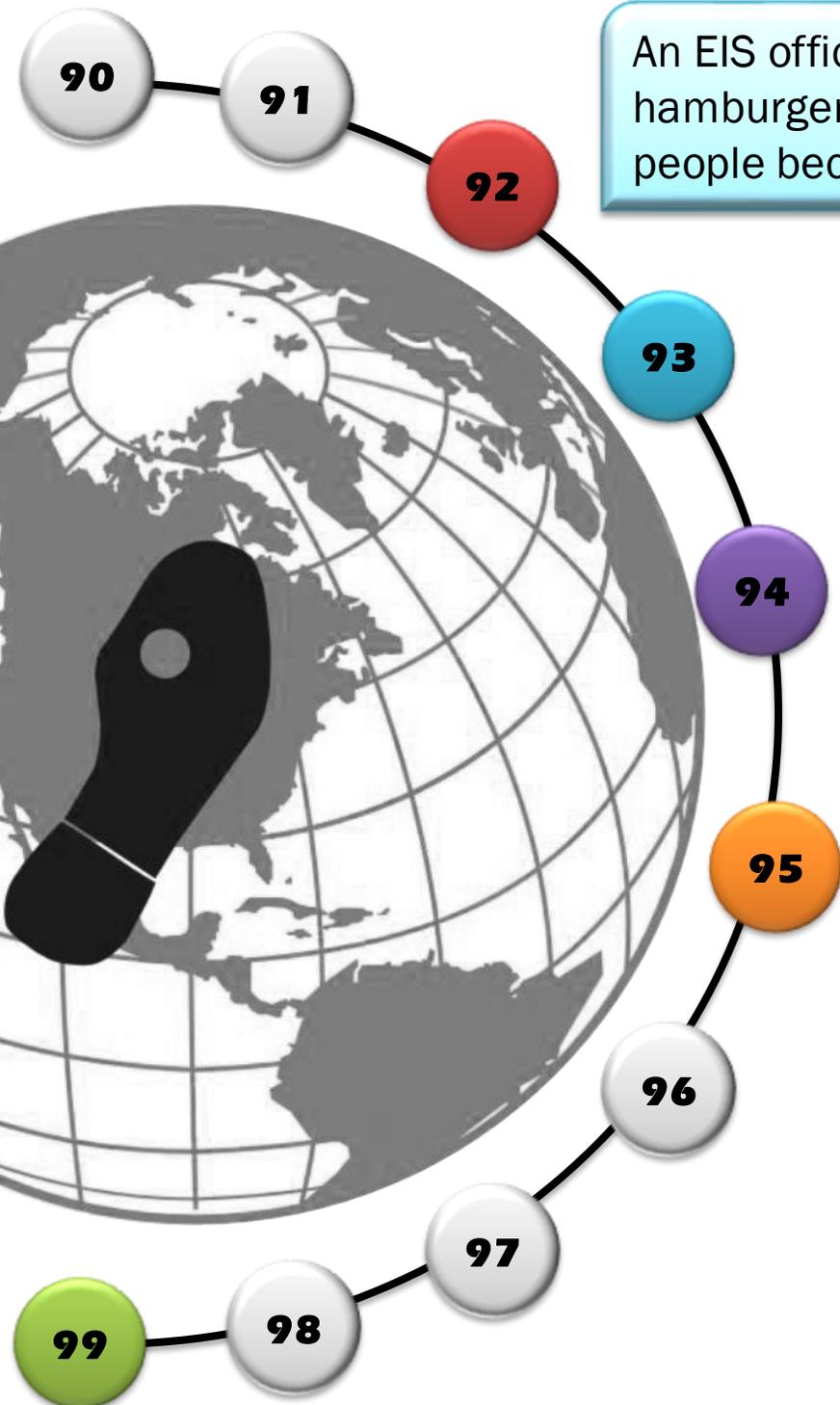
After Hurricane Andrew decimates much of southern Florida, EIS officers find an extensive need for mental health services among people affected by disasters.

An EIS officer traces an outbreak of *E. coli*-contaminated hamburgers served at a fast-food chain after hundreds of people become ill with bloody diarrhea.

EIS officers investigate an outbreak of cryptosporidiosis, which results in 403,000 drinking water-related illnesses. A federal mandate is later issued to all water utility companies to test for *Cryptosporidium* once a month.

EIS officers investigate the death of 77 children in Haiti from acute anuric renal (kidney) failure. The investigation finds that the children had consumed locally manufactured acetaminophen syrup that CDC later found contaminated with diethylene glycol. A recall and public information campaign followed.

EIS officers investigate an unusual outbreak of encephalitis in a limited area of the northeastern United States. The illness is identified as West Nile virus, and state public health departments conduct intensive mosquito and vector control activities.



CDC trains EIS officers to recognize the signs of a bioterrorism event during disease outbreaks, increasing preparedness.

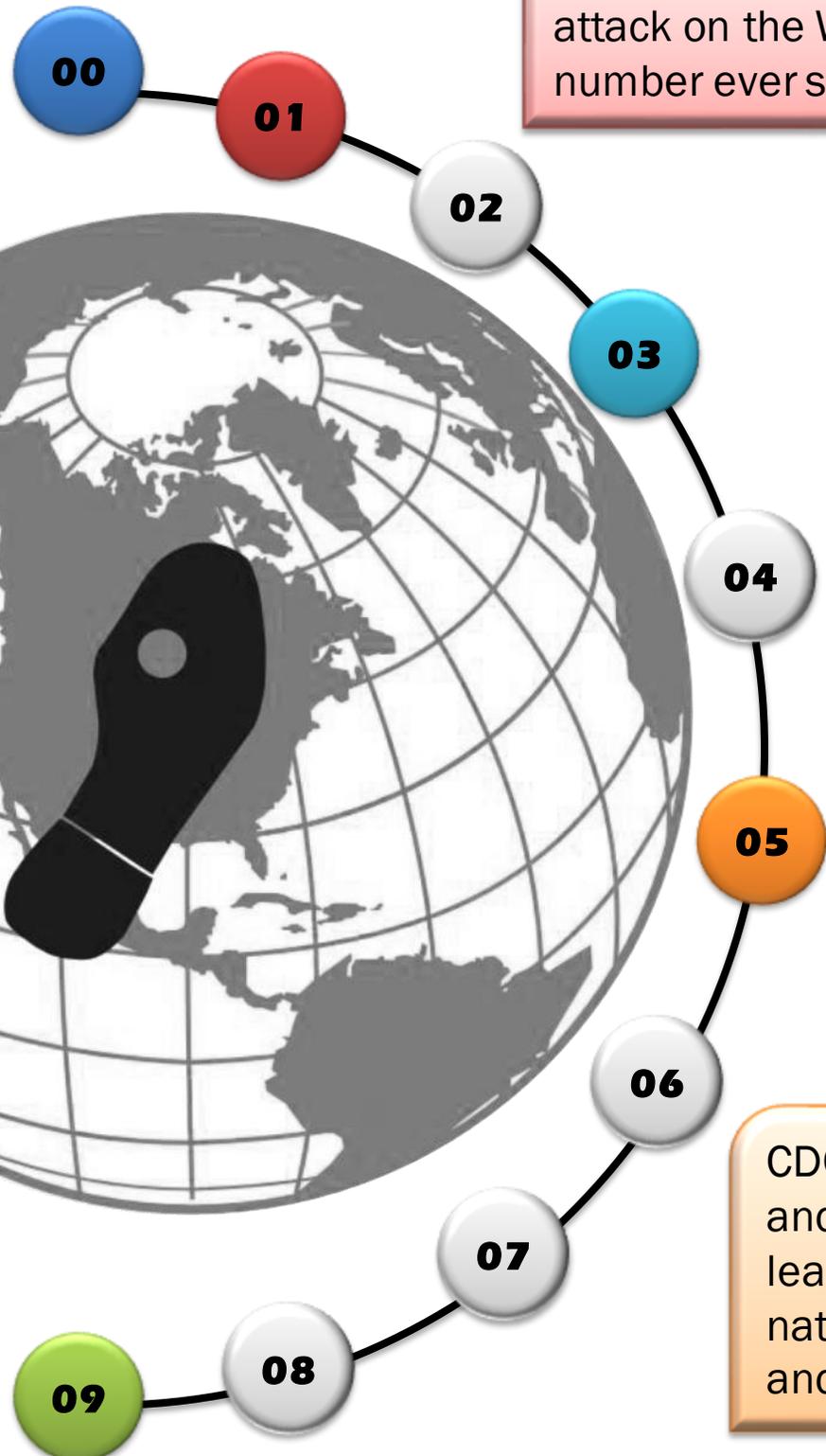
CDC sends 34 EIS officers to New York City in response to the attack on the World Trade Center. At the time, it is the largest number ever sent at one time to one location.

EIS officers investigate the first case of intentional anthrax infection in Florida. They find 22 cases in multiple locations, spotlighting the importance of identifying unusual health events early and responding quickly to prevent large-scale outbreaks.

More than 100 EIS officers are involved in investigation of the severe acute respiratory syndrome (SARS) outbreak in China. The disease spreads to 29 countries before it is contained.

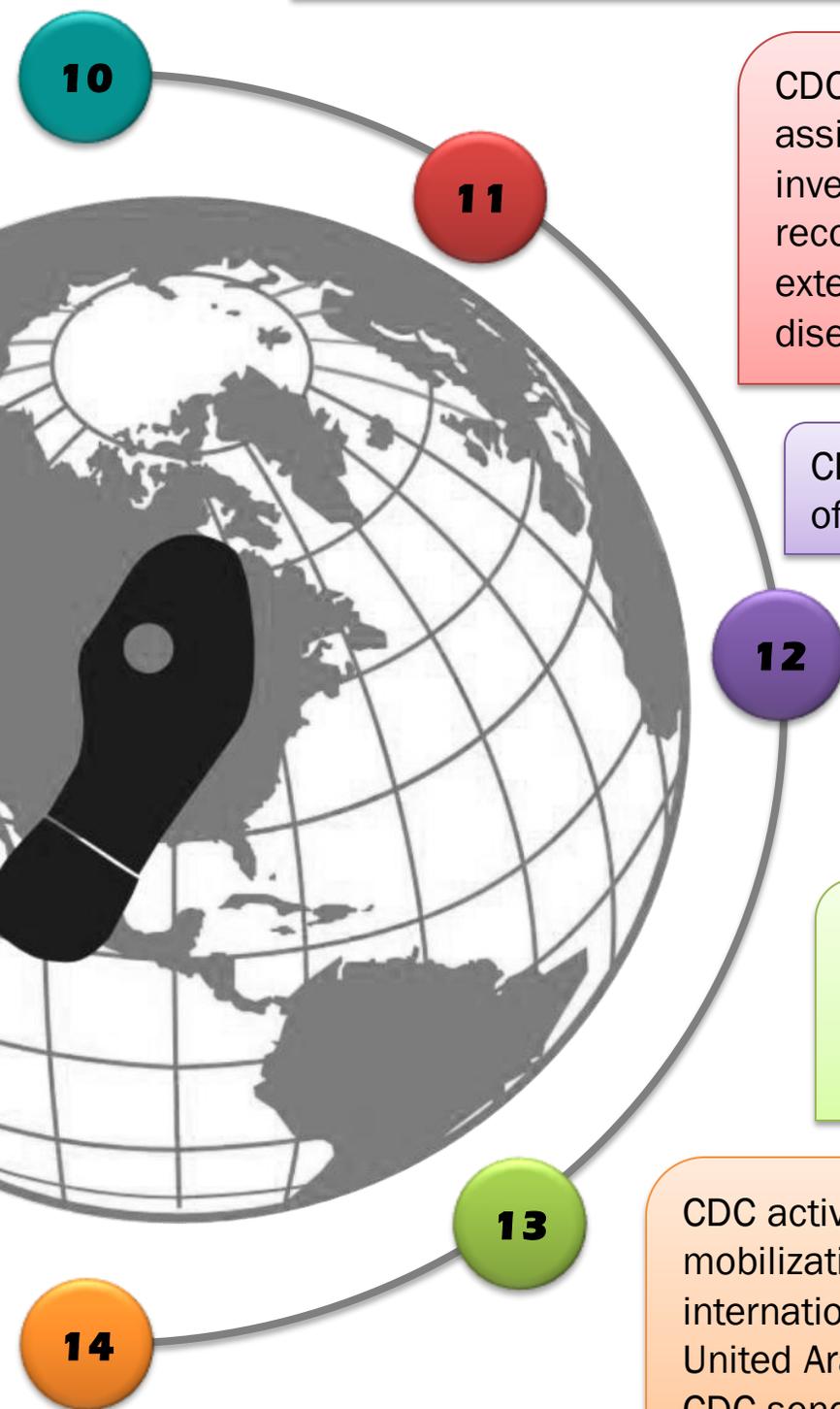
CDC sends 98 EIS officers to evacuation centers and areas affected by Hurricane Katrina. They learn the largest public health threat during natural disasters is lack of access to food, shelter, and medication for chronic illnesses.

The H1N1 pandemic influenza (swine flu) requires large-scale mobilization of current and former EIS officers. At its peak, 49 states report widespread influenza infection.



CDC sends EIS officers to Haiti in response to an earthquake followed by the best-documented cholera outbreak in modern public health. They assist with disease and injury surveillance, help increase laboratory capacity, and establish a national disease surveillance system.

EIS officers and the Nigerian Field Epidemiology and Laboratory Training Program work with partners to investigate the largest outbreak of acute fatal lead poisoning in modern history. The source is artisanal gold mining leading to an intervention that dropped the death rate almost to zero for the remainder of the year.



CDC sends EIS officers to Somalia to provide emergency assistance with disease surveillance, outbreak investigations, program evaluation, and health systems reconstruction during the 2011 famine displacement, extending CDC's research further into nutrition and disease in crisis conditions.

CDC begins the Global Polio Eradication Initiative. EIS officers begin polio surveillance as part of CDC's efforts.

CDC sends EIS officers to New Jersey to assist the American Red Cross with disease surveillance in shelters after Hurricane Sandy, furthering research in post-disaster health surveillance.

CDC activates the Emergency Operations Center (EOC) in response to multiple reports of fungal meningitis after a steroid injection. EIS officers investigate the largest healthcare-associated outbreak in U.S. history.

CDC activates the EOC and investigates MERS, which requires mobilization of EIS officers in multiple regions. CDC responds to international outbreaks by sending officers to Saudi Arabia and United Arab Emirates. In response to the first domestic case, CDC sends officers to Indiana. Officers also assist with multi-state contact tracing for the second U.S. case.

CDC sends EIS officers to West Africa in response to an Ebola outbreak and activates the Emergency Operations Center (EOC). It is the largest international outbreak response in CDC's history.

For more information about the EIS program

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