

What Is a Pandemic?

The terms **endemic**, **outbreak**, **epidemic**, and **pandemic** indicate how common a condition is at a point in time relative to how common it was at an earlier time.

The terms endemic, outbreak, epidemic, and pandemic are often used to describe infections, although conditions such as hypertension, cancer, violence, or even positive, beneficial behaviors can also be described the same way. These categories are primarily based on how many cases of a condition there are compared with the expected number of cases over a given time and how far the cases have spread geographically.

Endemic

An **endemic** condition is present at a fairly stable, predictable rate among a group of people—the observed number of cases are approximately the same as the number expected. The group of people might be all the inhabitants of a town or county, or larger areas like countries or continents. Examples include malaria in Africa, coccidioidomycosis in the southwestern United States and northern Mexico, dengue in tropical and subtropical regions, and hepatitis B worldwide, although rates are higher in Asia and Africa (high endemicity) than in Europe and North America (low endemicity).

Outbreak

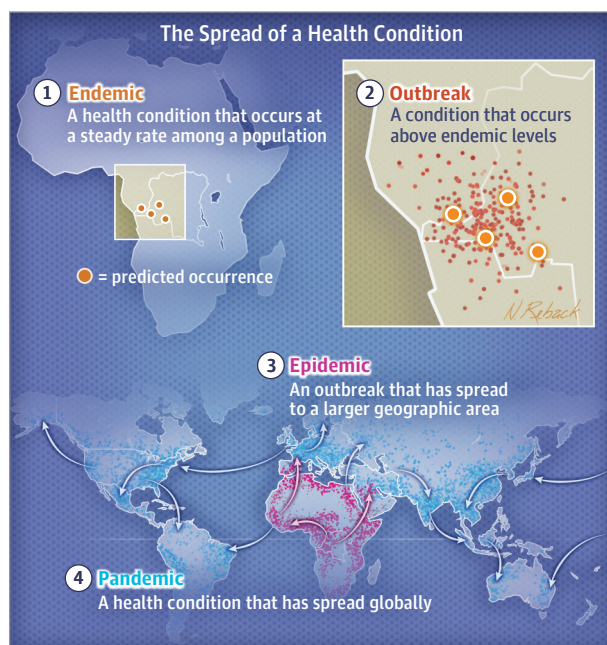
An **outbreak** is when there is a sudden increase in the number of people with a condition greater than is expected. Either there are more cases of an endemic condition than expected or the condition is found somewhere it has not been before, so a single case can be an outbreak. Outbreaks are limited to relatively small areas. Examples include cholera after the 2010 Haiti earthquake, food-borne diseases like *Escherichia coli* outbreaks associated with lettuce and ground beef, multiple Ebola outbreaks in different African countries since 1976, and measles among unvaccinated children who visited a US theme park in 2015.

Epidemic

An **epidemic** is an outbreak that spreads over a larger geographical area. Examples include Zika virus, starting in Brazil in 2014 and spreading to most of Latin America and the Caribbean; the 2014-2016 Ebola outbreak in West Africa, which was large enough to be considered an epidemic; and the US opioid crisis.

Pandemic

An epidemic that spreads globally is a **pandemic**. The 1918 Spanish influenza, which infected more than one-third of the world's population and killed approximately 50 million people, is the most famous example. There have been several influenza pandemics since 1918—in 1957 and 1968, as well as H1N1 in 2009.



Other examples include bubonic plague (the Black Death) in the 14th century, severe acute respiratory syndrome (SARS) virus in 2003, and HIV/AIDS.

Many factors influence how far a condition spreads. Two of the most important are how easily the condition is transmitted from one person to the next and the movement of people, particularly via airplane because infections can be brought to new parts of the world within hours.

These definitions may seem straightforward, but applying them in evolving, real-world situations is complicated. For example, HIV started in West Africa, was epidemic in Africa for decades, then was pandemic by the late 20th century. But 2 decades into the 21st century, it is reasonable to say HIV is now endemic in some parts of the world.

FOR MORE INFORMATION

Centers for Disease Control and Prevention

www.cdc.gov/outbreaks/

World Health Organization

www.who.int/csr/don/en/

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