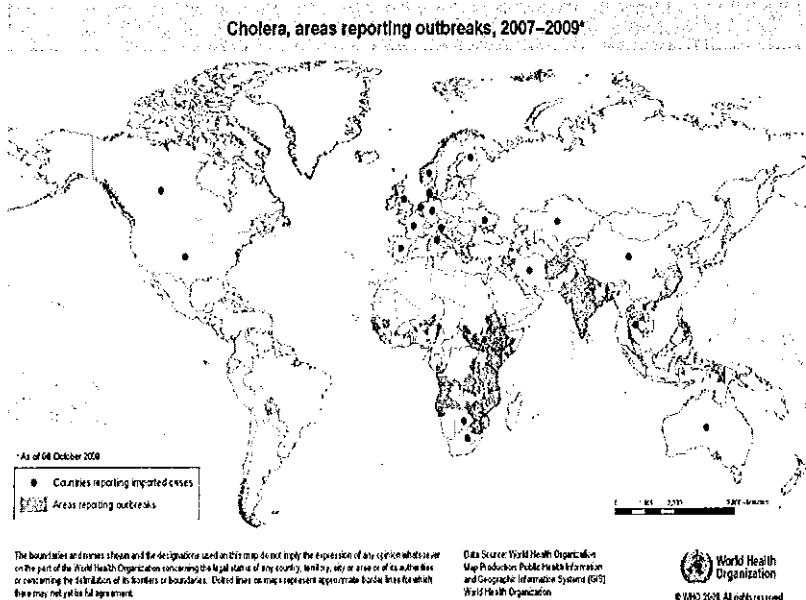


8.L.2.

# WHAT ARE OUTBREAKS, EPIDEMICS, AND PANDEMICS?

When is a disease outbreak a concern? And what is the difference between an epidemic and a pandemic? Learn the basics about the spread of serious diseases and what you can do to protect yourself, your family, and your community.

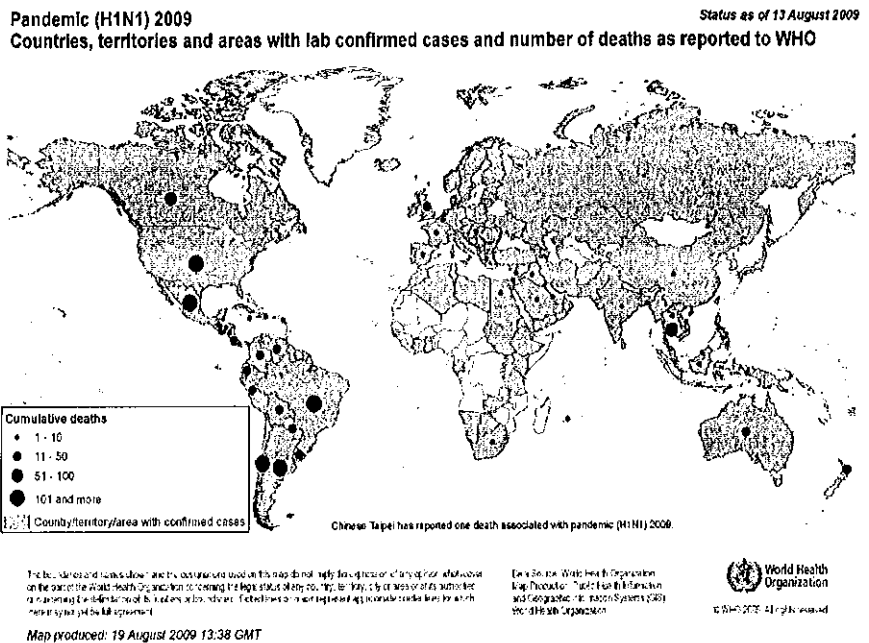


A disease outbreak happens when a disease occurs in greater numbers than expected in a community or region or during a season. An outbreak may occur in one community or even extend to several countries. It can last from days to years. Sometimes a single case of a contagious disease is considered an outbreak. This may be true if it is an unknown disease, is new to a community, or has been absent from a population for a long time. If you observe what you think might be a disease outbreak, report it right away to your health care provider or public health department.

An epidemic occurs when an infectious disease spreads rapidly to many people. In 2003, the severe acute respiratory syndrome (SARS) epidemic took the lives of nearly 800 people worldwide.

A pandemic is a global disease outbreak. HIV/AIDS is an example of one of the most destructive global pandemics in history. Influenza pandemics have occurred more than once. Spanish influenza killed 40-50 million people in 1918. Asian influenza killed 2 million people in 1957. Hong Kong influenza killed 1 million people in 1968. How many people die from a pandemic depends upon the number of people who become infected, the severity of disease caused by the virus (its virulence), the vulnerability of affected populations and the effectiveness of preventive steps.

An influenza pandemic occurs when a new subtype of virus arises. This means humans have little or no immunity to it. Everyone is at risk. The virus spreads easily from person to person, such as through sneezing or coughing. The virus begins to cause serious illness worldwide. With past flu pandemics, the virus reached all parts of the globe within six to nine months. With the speed of air travel today, public health experts believe an influenza pandemic could spread much more quickly. A pandemic can occur in waves. And all parts of the world may not be affected at the same time.



The World Health Organization (WHO) provides an influenza pandemic alert system, with a scale ranging from Phase 1 (a low risk of a flu pandemic) to Phase 6 (a full-blown pandemic):

- Phase 1: A virus in animals has caused no known infections in humans.
- Phase 2: An animal flu virus has caused infection in humans.
- Phase 3: Sporadic cases or small clusters of disease occur in humans. Human-to-human transmission, if any, is insufficient to cause community-level outbreaks.
- Phase 4: The risk for a pandemic is greatly increased but not certain.
- Phase 5: Spread of disease between humans is occurring in more than one country of one WHO region.
- Phase 6: Community-level outbreaks are in at least one additional country in a different WHO region from phase 5. A global pandemic is under way.

### Prevention: Slowing the Spread of Pandemic Disease

There is no foolproof method for preventing the spread of disease during an influenza outbreak, epidemic, or pandemic. Although a vaccine is not likely to be available at first, today it is easier to produce specific vaccines more quickly than in the past. Once a vaccine becomes available, certain individuals and groups will be vaccinated first. If mass vaccination clinics become available in your community, be prepared to provide medical information about your family.

In addition to vaccinations, you can take other prevention steps like these.

- Wash your hands often with soap and water. If these are not available, use an alcohol-based hand cleaner or gel sanitizer. If using a gel, rub your hands until they become dry.
- Avoid touching your mouth, nose, or eyes with your hands unless you've just washed your hands.
- When you cough or sneeze, cover your mouth and nose with a tissue. Then throw the tissue in the trash. Wash your hands afterward.
- Avoid crowded places as much as you can and stay home if you show signs of illness.
- Depending on the severity of the pandemic, consider wearing a face mask if you must go into a crowded area or be within 6 feet of others.
- Consider wearing a face mask if you must come into close contact with an infected person.

### Assignment.

1. Summarize each paragraph with one strong sentence (Knowledge RI 8.1).
2. Create a graphic organizer that clearly explains the differences between outbreaks, epidemics and pandemics (Analyze RI 8.3).
3. Describe how scientists alert nations that a pandemic is underway (Comprehension RI 8.2).
4. How can you, a student, *decrease* the spread of disease? Describe at least three ways. (Comprehension RI 8.1)
5. Why do you need to be concerned about disease transmission? Explain in at least 6 sentences, and use at least two pieces of evidence from this text to justify your opinion.