

# Sepsis: A Public Health Emergency

## *What makes sepsis a public health emergency?*



### Abstract

Students will establish criteria for identifying a public health emergency and discuss sepsis as an example. Throughout the lesson, students will complete summative tasks that demonstrate their understanding.

### Grade Level

6-8

### Subject Area

Health

### Time

40 minutes

*Suggestion: Follow this lesson with "Sepsis Prevention Strategies."*

### Setting

Classroom

### Skills

Evaluate, choose and defend a position; analyze issues; influence; persuade.

### Standards Addressed

#### New York State Health Education Standards

- **DM.1.3** – Compiles and assesses available information to enhance health.
- **DM.1.5** – Applies a decision making model to real-life health-related situations.
- **PG.1.8** – Assesses, reflects on and adjusts the plan to maintain and enhance personal health and safety, as needed.
- **AD.1.2** – Analyzes data to determine a priority health or safety issue in need of advocacy.
- **AD.1.3** – Researches the health or safety issue.
- **ORH.1.3** – Individuals assess the validity of claims made by the media and promoters of healthcare information, products and services.

#### National Health Education Standards

- **1.8.1** – Students will comprehend concepts related to health promotion and disease prevention to enhance health.
- **1.8.5** – Describe ways to reduce or prevent injuries and other adolescent health problems.
- **1.8.6** – Explain how appropriate healthcare can promote personal health.
- **4.8.4** – Demonstrate how to ask for assistance to enhance the health of self and others.
- **7.8.2** – Demonstrate healthy practices and behaviors that will maintain or improve the health of self and others.
- **7.8.3** – Demonstrate behaviors to avoid or reduce health risks to self and others.

#### National Consortium for Health Science Education

- **9.12** – Describe strategies for prevention of disease.

#### Common Core State Standards

- **RI.7.3** – Analyze the interactions between individuals, events and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).
- **W.7.1** – Write arguments to support claims with clear reasons and relevant evidence.
- **W.7.2** – Write informative/explanatory texts to examine a topic and convey ideas, concepts and information through the selection, organization and analysis of relevant content.



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- **W.7.6** – Use technology, including the internet, to produce and publish writing and link to and cite sources as well as interact and collaborate with others, including linking to and citing sources.

## Materials

Have individual devices with internet access for each student, such as computers or iPads; instructor should have computer and projector (or smart board) with internet access to screen videos.

## Directions

1. Students will read a news source about a current public health emergency.
2. Instructor will lead a discussion on what constitutes a public health emergency, recording students' ideas about criteria for declaring something an emergency.
3. Students will learn about sepsis through two short videos and discuss whether this health challenge is a public health emergency. Students will write two paragraphs, one explaining sepsis and the other explaining why sepsis is a public health emergency.

## Public health emergencies

1. Instructors will assign students to read a news article on a public health emergency, or, encourage students to search news websites to read about a public health emergency of their choice.
2. Students will turn and talk to a partner about their news article.
3. Instructor will lead a discussion on the question: What makes something a public health emergency? If this question is too challenging, students might start with answering: What seems to make a public health issue worthy of media attention? (Record student answers.)

Possible criteria: A public health emergency—

- Impacts many people (e.g., opioid addiction, depression);
- Represents a pattern of missed prevention opportunities (e.g., influenza, measles);
- Has dramatic health consequences (e.g., HIV, Zika virus);
- Progresses rapidly (e.g., Ebola virus);
- Seems mysterious, possibly even to experts (e.g., increasing diagnoses of food allergy, dementia); and
- Is inequitably distributed among the population (e.g., domestic violence, childhood lead exposure)

It is important to note that no single public health emergency will necessarily fulfill all of the students' criteria.

## Discussion

Is sepsis a public health emergency?

1. Watch "What Is Sepsis?" from YouTube user "SepsisFonden" (1:26) <https://www.youtube.com/watch?v=6NdLnHbLZMU>
2. Instructors should ask students each question. Clarify any missing or incorrect details with the information that follows the question.

*What is sepsis?*

Sepsis is a complication caused by the body's overwhelming and life-threatening response to an infection, which can lead to tissue damage, organ failure and death.

*What causes sepsis?*

Generally, an infection occurs when harmful germs, such as bacteria, enter a person's body and multiply. Infection causes illness, organ and tissue damage or disease. When a person has a bacterial infection and the bacteria spread (or their toxins spread) to the bloodstream, it causes sepsis.

Sepsis is often associated with infections of the lungs (e.g., pneumonia), urinary tract (e.g., kidney), skin and gut. *Staphylococcus aureus* (staph), *Escherichia coli* (*E. coli*) and some types of *Streptococcus* (*strep*) are common bacteria that can cause sepsis.

*Note: Instructors may reference the following helpful sources to learn more about sepsis. The sources below may also be provided to students to assist with the following summative task.*

- Centers for Disease Control and Prevention- Sepsis
- National Institutes of Health- Sepsis
- Rory Staunton Foundation for Sepsis Prevention
- WebMD-Bacterial and Viral Infections
- OnHealth-Viral Infections
- OnHealth-Bacterial Infections

3. Summative task: Students will write a brief informational paragraph explaining sepsis using at least five of the following terms:
- |               |              |           |        |
|---------------|--------------|-----------|--------|
| bacteria      | infection    | oxygen    | spread |
| blood         | inflammation | pneumonia | toxins |
| immune system | overreaction | sepsis    |        |
4. With an understanding of sepsis, the class will examine the condition to determine whether or not it constitutes a public health emergency.
- Watch “Every Four Seconds” YouTube user “RoryStauntonFoundation” is 1:57: [https://youtu.be/7f\\_FxKGEk4E](https://youtu.be/7f_FxKGEk4E)
  - Students will discuss this question with a partner: Is sepsis a public health emergency?
  - Instructors will lead a debrief of both videos for the entire class. Refer to the criteria the class developed.
5. Throughout the discussion or at its conclusion, reinforce the following key ideas:  
Sepsis is a national public health emergency! It impacts hundreds of thousands of people in the United States alone every year. As the video reported, every *four seconds*, sepsis causes a death in the world. Sepsis is completely preventable, so it’s unfortunate that it has killed even *one* person. As a fast-moving and potentially lethal condition, sepsis has a dramatic impact on multiple body systems through the blood stream. This also qualifies sepsis to be considered a public health emergency.
6. Summative task: Students will write a persuasive paragraph explaining *why* sepsis is a public health emergency.

After students have completed their paragraph, instructors will show “Sepsis – A Hidden Crisis Exposed.” Video from YouTube user “RoryStauntonFoundation” is 7:55: <https://www.youtube.com/watch?v=t4FQrRRTUnY>. Compare and contrast the strong points made in the video with the ones that students selected.