



## LESSON PLAN

### Nature of an Epidemic

#### OVERVIEW

In this lesson students will explore key concepts in public health, such as the definitions of “epidemic” and “intervention” and criteria for national and international emergencies. Using the film *Survivors*, students will learn about the science of the Ebola virus, including the symptoms of the disease and how it is spread. Finally, the class will examine local, national and international responses to the 2014-2016 Ebola epidemic in Sierra Leone and neighboring countries, and what those responses revealed about strengths and gaps in global public health policy.

Through the eyes of Sierra Leonean filmmaker Arthur Pratt, *Survivors* presents an intimate portrait of Sierra Leone during the Ebola outbreak, exposing the complexity of the epidemic and the sociopolitical turmoil that lies in its wake. *Survivors* reveals the bureaucratic missteps that took place during one of the most acute public health crises of the modern era, as well as remarkable stories of individual bravery and the deep humanity of those caught in the middle of this unfolding crisis.

**Note to Teachers:** The film clips from *Survivors* portray very sick and dying patients, as well as people grieving for loved ones killed by the disease. This content may be upsetting to some students.

POV offers a lending library of DVDs that you can borrow anytime during the school year—FOR FREE! Get started by joining the [POV Community Network](#). *Survivors* is a co-production of American Documentary | POV and ITVS.

#### OBJECTIVES

In this lesson, students will:

- Investigate the characteristics of the Ebola virus
- Learn about essential public health concepts and how they are applied during an epidemic like the 2014-2016 Ebola outbreak
- Analyze the national and international response to the epidemic in Sierra Leone
- Write recommendation letters to a fictional international health organization about lessons learned from the 2014-2016 epidemic

**GRADE LEVELS:** 10–12

#### SUBJECT AREAS

World History  
Geography  
Health

Biology  
Sociology  
Current Events

#### MATERIALS

- Internet access and equipment to watch film clips from *Survivors*

#### ESTIMATED TIME NEEDED

1 class period with extension activities and homework

## FILM CLIPS

Film clips provided in this lesson are from *Survivors*. Access the streaming clips for free on POV's website by visiting [www.pbs.org/pov/educators](http://www.pbs.org/pov/educators). Borrow the full film from our DVD Lending Library by joining the [POV Community Network](#).

### Clip 1: All is Not Lost for Us in Sierra Leone (5:08 min.)

The film opens with an overview of the Ebola epidemic that began in Sierra Leone in 2014. The clip introduces the voices of international news outlets, government officials and filmmaker Arthur Pratt, ending with a statement from Pratt: "I want to show the world all is not lost for us in Sierra Leone."

### Clip 2: The Limits of Sierra Leone's Health System (2:42 min.)

In this clip, some Sierra Leoneans describe their experience of learning they have been exposed to Ebola. It ends with a public service announcement that features Arthur Pratt saying, "Remember to wash your hands with chlorine or soap and water before you use the phone."

### Clip 3: A Conflict (3:11 min.)

A crowd moves to protest the firing of an ambulance driver who has risked his own life and health to transport Ebola patients. The clip ends with Pratt saying, "Nengue is our hero."

### Clip 4: A Success (1:58 min.)

A young boy has recovered from Ebola. The clip begins with the boy's father in tears, celebrating his son's survival and grieving the loss of the boy's brother. International health workers celebrate together. The clip ends with the baby's smile and certificate of discharge.

### Clip 5: The State of Emergency Ends (1:59 min.)

As the epidemic winds down, health workers move on to other positions. The president declares the state of emergency over and says a blessing for those who died: "May their souls rest in eternal peace."

## ACTIVITIES

### Step 1: What Is Ebola?

Have students locate Sierra Leone on the globe and share what they already know or believe about the country. Consider using this [basic country information](#) to fill in gaps in knowledge or address misconceptions.

Print and distribute the "[Ebola Basics](#)" infographic from the Centers for Disease Control and Prevention (CDC) to the class. Test for understanding by asking students, in their own words, to describe the symptoms of Ebola and how it is transmitted. For advanced science classes with high reading levels, consider using the [CDC Ebola Factsheet](#).

\*Though there is still no treatment or cure for Ebola, several [vaccines have been](#) developed and are being tested.

## Step 2: Watch Clips 1 and 2

As students are watching the clips, ask them to write down facts that stand out to them and questions that occur to them. Take a few moments after watching to allow students to share their reactions and to discuss or table any questions that arise.

As a class, come to a shared understanding of the following terms:  
(as needed, use the definitions from [the CDC website](#))

**Centers for Disease Control and Prevention (CDC):** A U.S. government agency charged with protecting the health of the U.S. population. The agency specializes in infectious diseases, meaning illnesses that are transmittable (as opposed to those a person is born with). The CDC conducts research and surveillance, conducts outbreak investigations and sets guidance for the entire U.S. healthcare system on prevention, care and treatment of disease. The CDC becomes involved in international health crises in connection with its perception of how and whether they may affect the U.S. population.

**Contagiousness:** The likelihood that a disease can be transmitted to another person.

**Epidemic:** Occurrence in a defined area of cases of an illness or other health-related event that goes far beyond the norm. The beginning of an epidemic may be described as an “outbreak”; an epidemic that spreads over a continent or around the globe is a “pandemic.”

**Infectious Disease:** An illness that can be transmitted from one person to another, for example through the air or through contact with bodily fluids.

**Intervention:** Action taken that is designed to have an effect on a disease and alter its course.

**Prevention:** Action taken to avoid or forestall a disease.

**Public Health:** An approach to health that takes into account systemic and societal factors that affect the health of an entire population, including surveillance, prevention and intervention efforts.

**World Health Organization (WHO):** An entity of the United Nations designed to protect the world’s health with regard to infectious and other diseases. WHO conducts research and surveillance, recommends national and international health policy guidance, conducts prevention and treatment programs and leads and coordinates international health interventions.

Discuss:

If you were a public health official in Sierra Leone, what steps would you have wanted to take as the outbreak occurred? How would you have wanted the following to be addressed?

- Education about the disease
- Care and treatment for patients from their families
- Care and treatment for patients in clinics or hospitals
  - Necessary health care for people who do not have Ebola, for example, car accident victims, pregnant women, cancer patients
- Prevention of further infection

**Step 3:** Play Clips 3 and 4 and have students use Handout One to keep track of what they see

being done in the clip to fight the Ebola epidemic. Consider showing the clips twice to give students ample opportunity to complete the chart. Who is doing the action, and what is their action intended to accomplish?

When students feel confident that their charts are complete, have them circle the actions they noticed were effective and be prepared to explain why. Have students place checkmarks next to actions they saw that caused problems, conflicts or confusion.

Discuss:

- When does a health problem become something that requires a public health response?
- Why do you think other countries got involved in fighting Ebola in Sierra Leone and the surrounding countries?

**Step 4:** Show Clip 5 of the outbreak in Sierra Leone winding down. Understanding that there is still no treatment for the Ebola virus, ask students to use their responses on Handout One to write a letter outlining what they noticed about the national and international responses that went well and what might be improved. Consider using the sentence stems in Handout Two to guide the letter writing.

## EXTENSIONS/ADAPTATIONS

### Epidemics and National Identity

**Watch Clip 6:** (Vimeo 32:00 - 34:09; 2:09 run time)

This clip demonstrates how the epidemic affects the fabric of Sierra Leonean society and threatens cultural norms. It ends with Arthur Pratt saying, "It's like everything that makes me who I am is under attack."

- Discuss as a class how the epidemic affected the identities of individuals and the nation of Sierra Leone.

**Become an Epidemiologist:** Use the [PBS NewsHour lesson plan](#) to have students use epidemiological skills to create a public health intervention to contain a future hypothetical Ebola outbreak.

### Prevention: An Ebola Vaccine

Have students read this [May 30, 2018](#) article about the use of an experimental Ebola vaccine to quell an Ebola outbreak that is currently occurring in the Democratic Republic of Congo. Ask students to write either: 1) persuasive essays in response to this article arguing for global funding for epidemic preparedness for poorly resourced countries (indicating what that might include) or 2) expository essays about the impact an Ebola vaccine may have on countries in Africa affected by Ebola.

**Advanced Epidemiological Thinking:** Teach statistical and epidemiological skills using the CDC high school lesson plan, ["Something Wicked This Way Comes: The 2014 Ebola Response"](#) to develop a national and international plan for Ebola response.

## RESOURCES

This is a list of organizations, websites and articles. that may be helpful to teachers in developing the lesson or to students as they are researching.

The Film

POV: *Survivors*

<http://www.pbs.org/pov/survivors/>

The film's official POV site includes a trailer, additional information about the films and other resources, including steps for borrowing the DVD from the POV Lending Library.

*Survivors*

[www.SurvivorsFilm.com](http://www.SurvivorsFilm.com)

The film's official website provides information on the film and extensive press coverage on the film and filmmakers, as well as information on the characters in the film and what's happened since.

POV: Media Literacy Questions for Analyzing POV Films

<http://www.pbs.org/pov/educators/media-literacy.php>

This list of questions provides a useful starting point for leading rich discussions that challenge students to think critically about documentaries.

Ebola

Centers for Disease Control and Prevention (CDC): "Ebola (Ebola Virus Disease)"

<https://www.cdc.gov/vhf/ebola/>

The agency's official website includes a page with information on the Ebola virus internationally and in the United States.

World Health Organization (WHO): "Ebola Virus Disease"

<http://www.who.int/ebola/en/>

Consult this dedicated WHO page for more information on the Ebola epidemic of 2014 and current outbreaks.

## **STANDARDS**

### **Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science and Technical Subjects**

[http://www.corestandards.org/assets/CCSSI\\_ELA%20Standards.pdf](http://www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf)

**RH.11–12.2** Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

**W.9–10.2d** Use precise language and domain-specific vocabulary to manage the complexity of the topic.

**W.11–12.2** Write informative/explanatory texts to examine and convey complex ideas, concepts and information clearly and accurately through the effective selection, organization and analysis of content.

**SL.11–12.1** Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups and teacher-led) with diverse partners on grades 11–12 topics, texts and issues, building on others' ideas and expressing their own clearly and persuasively.

**SL.11–12.2** Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

**SL.11–12.3** Evaluate a speaker’s point of view, reasoning and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis and tone used.

**Content Knowledge:** (<http://www2.mcrel.org/compendium/>) a compilation of content standards and benchmarks for K-12 curriculum by McREL (Mid-continent Research for Education and Learning).

Language Arts, Standard 1: Uses the general skills and strategies of the writing process.

Language Arts, Standard 2: Uses the stylistic and rhetorical aspects of writing.

Language Arts, Standard 8: Uses listening and speaking strategies for different purposes.

Language Arts, Standard 9: Uses viewing skills and strategies to understand and interpret visual media.

**Next Generation Science Standards** (<http://www.nextgenscience.org>)

HS-EPHS4-1. Describe a model illustrating how scientific, social, economic, environmental, cultural and political systems influence intervention performance patterns.

NGSS Key Science & Engineering Practice 2: Developing and Using Models. Develop, revise and/or use a model based on evidence to illustrate and/or predict the relationships between systems or between components of a system.

NGSS Key Crosscutting Concept 3 Cause and Effect. Changes in systems may have various causes that may not have equal effects.

## **ABOUT THE AUTHOR**

Blueshift is a team of education specialists with background in social impact work. The team recognizes and builds on the power of documentary film in reaching broad audiences to spark energy for deep and lasting social change. The team works with filmmakers, photographers and writers to develop innovative educational strategies, experiences, tools and resources that bring stories off the screen and into viewers' lives.

**Handout One**  
**What Do You See Happening to Fight Ebola?**

<b>Action</b>	<b>Who Is Doing It?</b>	<b>What Are They Trying To Do?</b>

## **Handout Two Recommendation Letter Outline**

To Whom It May Concern:

I am writing this letter to make a record of the international public health response during the 2014 Ebola epidemic in Sierra Leone. The following is a list of successes and lessons learned I would like to see addressed if another outbreak should occur and an international organization is invited into a country.

1. The most effective action I saw was...
2. A major challenge was...
3. Here are considerations for the future: