

# GREAT DECISIONS

## Lesson Plan: Pandemics and Security

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### **Overview:**

In this lesson, students will examine the preparations being made worldwide for the next pandemic. This lesson takes approximately one - two class periods to complete. It is especially relevant in government or international relations classes but may be used in any class in which current events are discussed.

### **Objectives:**

At the conclusion of this lesson, students will be able to:

1. Define “pandemic” and explain why health and government officials are concerned about the outbreak of an avian influenza pandemic.
2. Analyze preparations being made worldwide and in the United States to prepare for and respond to the next pandemic.

### **Resources / Materials Needed:**

Students will need printed copies of the PANDEMIC HANDOUT, access to computers with internet access or printed copies of relevant sources, large paper such as newsprint, and markers.

### **Activities / Procedures:**

#### **1. Background / Introduction / Warm-up:**

Begin this lesson by reading your students the following quote from experts at the CDC:

*“While previous influenza pandemics were naturally occurring events, an influenza pandemic could be started with an intentional release of a deliberately altered influenza strain. Even if a deliberately altered strain is not released, an influenza pandemic originating from natural origins will inevitably occur and will likely cause substantial illness, death, social disruption, and widespread panic. Globally, the 1918 pandemic killed at least 20 million people. This figure is approximately double the number killed on the battlefields of Europe during World War I. In the United States alone, the next pandemic could cause an estimated 89,000–207,000 deaths, 314,000–734,000 hospitalizations, 18–42 million outpatient visits, and 20–47 million additional illnesses. These predictions equal or surpass many published casualty estimates for a bioterrorism event. In addition to the potential for a large number of*

*casualties, a bioterrorism incident and an influenza pandemic have similarities that allow public health planners to simultaneously plan and prepare for both types of emergencies.”*

- Gensheimer KF, Meltzer MI, Postema AS, Strikas RA. Influenza pandemic preparedness.
- Available from: URL: <http://www.cdc.gov/ncidod/EID/vol9no12/03-0289.htm>

Give your students the opportunity to respond and ask questions. Ask them what they already know about the so-called “bird flu” and the likelihood of another flu pandemic.

Next, have your students think about another worldwide epidemic with which they may be more familiar, HIV/AIDS. Read the following.

*According to UNAIDS/WHO, there are 40.3 million people living with HIV, the virus that causes AIDS. Two-thirds of these live in Sub-Saharan Africa, the hardest hit region. In addition, 25 million have died of AIDS since the disease was recognized in 1981.*

- AIDS Epidemic Update, December 2005. Available from: URL: [http://www.unaids.org/Epi2005/doc/report\\_pdf.html](http://www.unaids.org/Epi2005/doc/report_pdf.html)

What do your students know about the impact of HIV/AIDS on the world – especially on the developing world? Why is therefore important for governments to work together to prepare for and respond to epidemic diseases?

Tell your students that they will now learn more about pandemics and what officials are doing worldwide to prepare.

## **2. Web Quest / Handout:**

Provide your students with copies of the PANDEMICS HANDOUT and computers with internet access. (Alternatively, if your students do not have internet access, print and copy articles from the internet sources given below.) Have your students work alone, in pairs, or in small groups to complete the handout, depending on the time and number of computers available to you. Students should begin their research with the resources listed below. Once students have completed their handouts, discuss their findings.

## **3. Group Activity / Role-play:**

Now that your students are familiar with the threat posed by pandemics and with how governments and agencies prepare for them, have your students imagine they are government officials tasked with pandemic readiness and response. Break your students into small groups and tell them they are local officials that must create a plan to prepare for a possible avian flu pandemic outbreak in their area. Students may consider their research thus far and consult internet resources, as needed. Student

groups should write an outline of their plan on large paper or newsprint in order to present their plans to the class. After each group has presented orally, discuss. Were there things all the groups found it important to do? Were there important differences in the plans? Why? What challenges do your students now think government officials face when planning for a possible pandemic? How are these challenges like those faced by officials planning for possible terrorist attacks? How do they differ?

#### **4. Homework / Follow-up:**

You may wish to conclude this activity by having your students write letters to their local, state, or federal officials with their thoughts and recommendations regarding pandemic preparations. What do your students think should be done regarding quarantines, treatment priorities (who gets treated first), stockpiling antivirals, and the development and production of vaccines, for example? What should government priorities be? Where should government resources go? Are current plans adequate? Students should support their views of what government officials should be doing to prepare with research and specifics whenever possible.

#### **Extension Activities**

1. Have your students research and report on a past outbreak of bubonic plague, cholera, typhus, smallpox, or influenza. What was the toll on society? On families and communities? What role did health and government leaders or officials play before, during, and after the outbreak? What was the lasting impact of this pandemic?
2. Ask your students to read Albert Camus' *The Plague*.

#### **Resources**

##### **Websites:**

Centers for Disease Control and Prevention (CDC): Pandemic Influenza  
<http://www.cdc.gov/flu/pandemic/>

Pandemic News  
<http://www4.wave.co.nz/~jollyroger/pandemic/pandemic.htm>

USAID Health: Avian Influenza Response  
[http://www.usaid.gov/our\\_work/global\\_health/home/News/news\\_items/avian\\_influenza.html](http://www.usaid.gov/our_work/global_health/home/News/news_items/avian_influenza.html)

U.S. Government: Pandemic Flu  
<http://www.pandemicflu.gov/>

World Health Organization: Epidemic and Pandemic Alert and Response (EPR)  
<http://www.who.int/csr/en/>

## **Articles:**

BBC News: Past Pandemics that Ravaged Europe

<http://news.bbc.co.uk/2/hi/health/4381924.stm>

The Economist: Preparing for a Pandemic

[http://www.economist.com/science/displayStory.cfm?story\\_id=4423927&no\\_na\\_tran=1](http://www.economist.com/science/displayStory.cfm?story_id=4423927&no_na_tran=1)

Scientific American: Preparing for a Pandemic

<http://www.sciam.com/article.cfm?chanID=sa006&articleID=000DCB5A-9CC7-134E-9CC783414B7F0000>

State Department: U.S. Launches International Partnership on Avian and Pandemic Influenza

<http://www.state.gov/r/pa/prs/ps/2005/53865.htm>

## **National Standards**

### **National Council for the Social Studies Thematic Strands:**

People, Places, and Environment  
Power, Authority, and Governance  
Science, Technology, and Society  
Global Connections

PANDEMICS HANDOUT:

Name: \_\_\_\_\_

**Worldwide Pandemics: History and Current Preparations**

1. What is a pandemic? How does it differ from other diseases that kill large numbers of people?
2. Describe three pandemics from history, including the 1918 influenza pandemic, by completing the following chart.

	name of pandemic:	name of pandemic:	Spanish flu
disease	_____	_____	
when			
where			
transmission/ spread			
treatment/ response			
those most affected			
numbers killed			

3. Name three diseases that health and security experts are currently concerned about becoming pandemics, including avian influenza (H5N1). Explain why experts are worried about each and especially concerned about “bird flu.”

4. How is the international community organized to respond to pandemics? What organizations exist to help governments detect, respond to, and contain outbreaks? What role do international agencies such as the World Health Organization play?
5. What actions has the WHO recommended nations take before and during the possible outbreak of an avian flu pandemic?
6. What preparations are being made in the United States for avian flu?

PANDEMICS HANDOUT TEACHER KEY:

**Worldwide Pandemics: History and Current Preparations**

1. What is a pandemic? How does it differ from other diseases that kill large numbers of people?

*A pandemic is an infectious disease that spreads worldwide (or throughout a wide geographic area) and affects a high percentage of the population.*

2. Describe three pandemics from history, including the 1918 influenza pandemic, by completing the following chart.

	name of pandemic: _____	name of pandemic: _____	Spanish flu
disease			<i>influenza</i>
when			<i>1918-1919</i>
where			<i>worldwide</i>
transmission/ spread			<i>respiratory fluids (cough, sneeze)</i>
treatment/ response			<i>no public gatherings gauze masks, quarantines</i>
those most affected			<i>young, healthy adults</i>
numbers killed			<i>at least 25 million</i>

*Answers for the first two pandemics will vary. Examples include Antonine Plague, Black Death, cholera, Asiatic flu, camp fever, English Sweat, measles, and smallpox.*

3. Name three diseases that health and security experts are currently concerned about becoming pandemics, including avian influenza (H5N1). Explain why experts are worried about each and especially concerned about “bird flu.”

*Answers will vary. Examples include Lassa fever, Rift Valley fever, Dengue fever, SARS, Marburg virus, and Ebola virus.*

*Officials are concerned that the new H5N1 strain of influenza will mutate so that it can be transmitted from human to human. Once that happens, worldwide spread is inevitable given today's mass transportation systems. Since most people will have no immunity to this new strain, infection and illness rates would be high. As supplies of antivirals and vaccines would be inadequate, death rates would also be high.*

4. How is the international community organized to respond to pandemics? What organizations exist to help governments detect, respond to, and contain outbreaks? What role do international agencies such as the World Health Organization play?

*The World Health Organization plays a key role in coordinating international disease response efforts. Cholera epidemics in Europe in the 1800s prompted international cooperation and led to what are now called the International Health Regulations (IHR) that apply to cholera, plague, and yellow fever. Recent revisions – IHR(2005) – broaden the scope of the IHR and provide a framework for WHO member states to work together and respond to existing, new, and re-emerging diseases. IHR(2005) is supposed to go into force in 2007 – member states are currently working on implementation. The Global Outbreak and Alert and Response Network (GOARN) is a network of institutions that pool and coordinate their resources in order to respond to disease outbreaks. WHO coordinates such responses using the resources of this network.*

5. What actions has the WHO recommended nations take before and during the possible outbreak of an avian flu pandemic?

*WHO recommends that before the outbreak of a pandemic, nations reduce opportunities for human infection by controlling the disease in poultry and strengthen the currently weak early warning system. Once a pandemic emerges, WHO recommends the containment and delay of the spread of the disease with antivirals. When the disease is spreading internationally, WHO recommends nations take measures to reduce morbidity, mortality, and social disruption given that antiviral and vaccine supplies will be inadequate and that research be conducted to guide the response efforts.*

6. What preparations are being made in the United States for avian flu?

*The White House has developed a national strategy that includes three pillars:*

1. *Preparedness and Communication of all levels of government, segments of society, and individuals, including stockpiling of antivirals and vaccines.*
2. *Surveillance and Detection to ensure early warning*
3. *Response and Containment in order to limit the spread of the outbreak and to mitigate its effects*



*Congress has appropriated funds to begin the implementation of this strategy and states have developed pandemic response plans.*

*In addition, President Bush launched the International Partnership on Avian and Pandemic Influenza in a speech at the United Nations.*