

# THE 9 DEADLIEST VIRUSES

The human body, as strong as it is in its ability to endure illness and assault, is also vulnerable. And in our hyperconnected modern world, some of the diseases most likely to bring us to our knees are the ones we get from one another. Some infectious diseases are rampant and mostly benign. Others are rare and excruciatingly dangerous. Others still, thanks to the labors of science, can be prevented or wiped out altogether. These viruses run the gamut. But the common thread is they not only spread between humans—they also take human lives

By *Andréa Ford*



## 1. SMALLPOX

ESTIMATED DEATHS:

**300 million\***

*throughout the 20th century*

**SYMPTOMS:** Fever, rash, aches

**HOW IT'S TRANSMITTED:** Direct contact with saliva from an infected person or contaminated objects

**VACCINE STATUS:** Yes

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### DID YOU KNOW?

*It was wiped out in 1979, according to WHO. In 2014, vials of the virus from the 1950s were found in an FDA storage room in Maryland.*

*\*All figures are global*



**2.**  
**INFLUENZA**

ESTIMATED DEATHS:

**57 million**

*in pandemics since 1918;  
250,000 from seasonal flu a year*

**SYMPTOMS:** Fever, cough, aches, fatigue

**HOW IT'S TRANSMITTED:** Respiratory droplets emitted through coughing, sneezing or talking

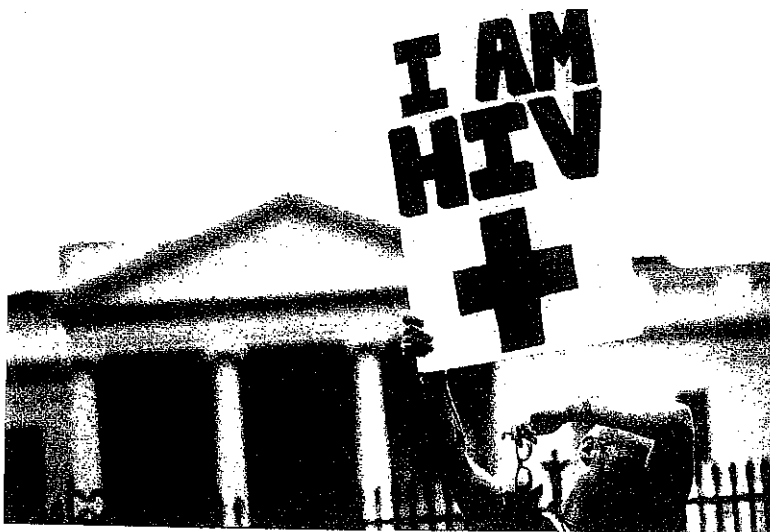
**VACCINE:** Yes

**DID YOU KNOW?**

*During the 1918 Spanish flu pandemic, as much as 40% of the world's population was infected.*

**3.**

**HUMAN IMMUNODEFICIENCY VIRUS**



ESTIMATED DEATHS:

**39 million**

*since 1981*

**SYMPTOMS:** Flu-like symptoms; other infections like tuberculosis; severe diarrhea, muscle pain, headaches

**HOW IT'S TRANSMITTED:** Exposure to infected bodily fluids from sex, needles, mother-to-child

**VACCINE:** None

**DID YOU KNOW?**

*Of the 35.3 million people living with HIV today, more than half are unaware they have it.*

4.

## ROTOVIRUSES

ESTIMATED DEATHS:

450,000

*annually, mostly children*

**SYMPTOMS:** Severe diarrhea, dehydration

**HOW IT'S TRANSMITTED:** Oral exposure to infected feces

**VACCINE:**

There have been several. The first was approved in 1998.

**DID YOU KNOW?**

*Only 70 countries include vaccines in national immunization programs.*



5.

## MEASLES

ESTIMATED DEATHS:

122,000

*annually in the 21st century, mostly children*

**SYMPTOMS:** Fever, cough, conjunctivitis, rash

**HOW IT'S TRANSMITTED:** Infected droplets emitted through coughing, sneezing or talking

**VACCINE:** Yes

**DID YOU KNOW?**

*In 2014 the largest U.S. measles outbreak since 1996 occurred in a rural Ohio community after Amish missionaries traveled to the Philippines.*



6  
YELLOW FEVER

122,000

annually in the 21st  
century, mostly in Africa

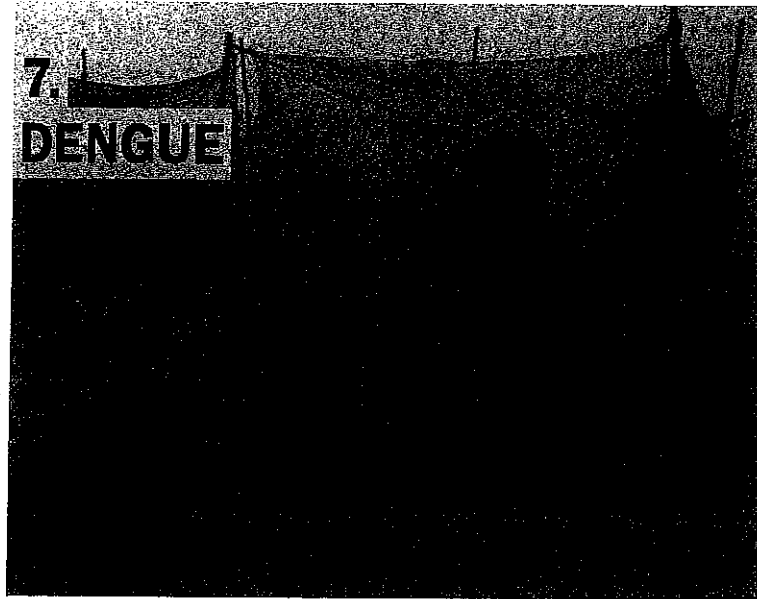
Severe cases involve  
fever, hemorrhaging, jaundice

Mosquitoes

Yes

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*In 1793 George Washington  
and Thomas Jefferson fled  
Philadelphia to escape a  
yellow fever epidemic.*



**ESTIMATED DEATHS:**

**22,000**

*annually, mostly children*

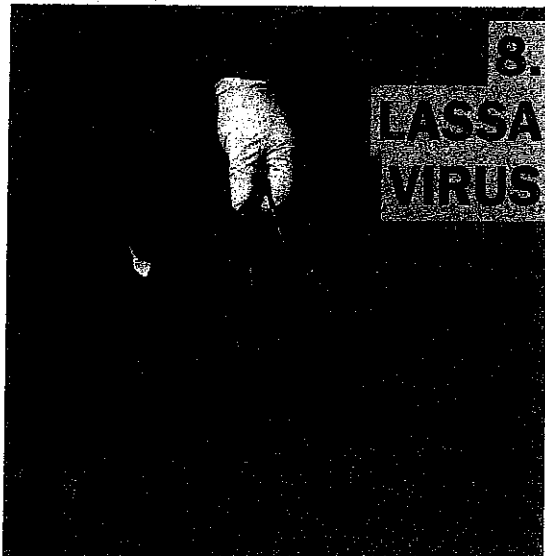
**SYMPTOMS:** Sometimes no illness; severe cases involve fever, hemorrhaging, vomiting, difficulty breathing, dehydration

**TRANSMISSION:**  
Mosquitoes

**VACCINE:** No

**DID YOU KNOW?**

*About 40% of the world's population is at risk for contracting dengue, which is found in tropical and subtropical climates.*



**ESTIMATED DEATHS:**

**5,000**

*annually, in West Africa*

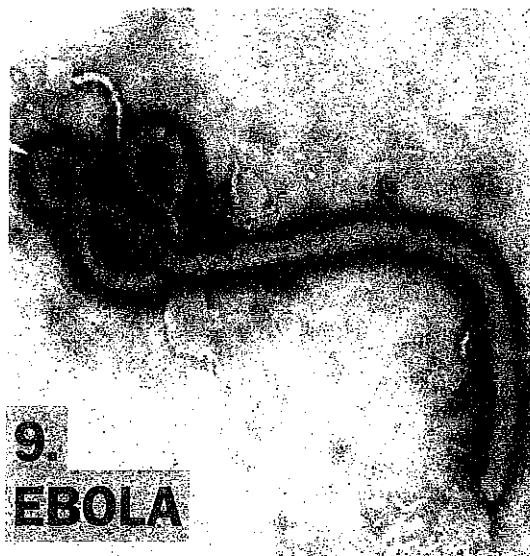
**SYMPTOMS:** Fever, hemorrhaging, respiratory distress, deafness

**HOW IT'S TRANSMITTED:** Animal-to-human through fecal contamination of water, food and objects; human-to-human through direct contact with bodily fluids

**VACCINE:** No

**DID YOU KNOW?**

*Lassa's host, the multimammate rat, reproduces frequently and often colonizes people's homes.*



**ESTIMATED DEATHS:**

**7,056** *since 1976,*

*78% of which occurred in 2014*

**SYMPTOMS:** Fever, hemorrhaging, vomiting, diarrhea

**HOW IT'S TRANSMITTED:** Animal-to-human and human-to-human through direct contact with bodily fluids

**VACCINE:** No

**DID YOU KNOW?**

*The virus was named for the Ebola River in what is now the Democratic Republic of the Congo.*

**YOU BE THE EPIDEMIOLOGIST!** *part 1*

Refer to your sheet on the 9 deadliest viruses and fill in the blanks:

DISEASE NAME	PATHOGEN/ CONTAGION (bacteria, virus, protist, fungi, other)	TRANSMISSION: VECTOR-BORNE, WATER-BORNE, AIR-BORNE, DIRECT or INDIRECT CONTACT	VACCINE AVAILABLE?	<u>RANK EACH INFECTIOUS DISEASE</u> from 1 (MOST serious) to 9 (least serious) <u>JUSTIFY</u> your answer in the space below.
SMALLPOX	virus			
INFLUENZA				
HIV	virus			
ROTOVIRUS	virus			
MEASLES	virus			
YELLOW FEVER	virus			
DENGUE	virus			
LASSA	virus			
EBOLA	virus			