

Extra Life: A Short History of Living Longer

Episode 1 - Vaccines

Mass Vaccination



In the first episode of *Extra Life*, science author Steven Johnson and historian David Olusoga discuss how vaccines have been a powerful tool in extending human lifespans across the globe. The episode chronicles the history of vaccination, exploring how human beings have defeated devastating illnesses like smallpox through experimentation and collaboration.

Warm-up:

The pandemic has changed lives around the globe. Now that a vaccine has been developed, we are all at different stages in the vaccination process. Think about your experience around the COVID-19 vaccine and share your thoughts on the following questions:

1. How do you feel about the COVID-19 vaccine?
2. What have you noticed about the vaccination process? Who is getting vaccinated first? Who still needs to be vaccinated?
3. How do you think local and federal governments are keeping track of who gets vaccinated and who doesn't? How is your own state or city keeping track of vaccinations?
4. What do you know about vaccines? How will the COVID-19 vaccine protect communities from COVID-19?

The vaccine was a medical innovation originally developed to combat smallpox. You can read more about smallpox on the Centers for Disease and Control website [here](#).

Review the images from the first episode of *Extra Life: A Short History of Living Longer* in the [Image Gallery Warm-up Activity](#). These images capture the experience of smallpox in the late 1900s. Answer the following questions:

1. What do you see in this photograph?
2. What do you think is happening in this photo? What do you think might happen next?
3. What does this photo make you wonder?

Key Vocabulary:

Vaccine program

Cold War

Smallpox

Variola major

Lesions

Scabs

Eradicate

Innovative / innovation

Freeze dry

Reconstitute

Manufacture

Microbiologist

Virologist

Epidemiologist

Ring vaccination

Leslie Collier

Benjamin Rubin

Introducing the Video: [Extra Life | Episode 1: Mass Vaccination](#)

In this clip, Steven Johnson talks to Larry Brilliant, an epidemiologist who was part of a team commissioned by the World Health Organization to eradicate smallpox across the globe in a mission that lasted over two decades (1950s to 1975). Johnson and Brilliant discuss the challenges the team faced, the medical innovations that made eradication possible, and the significance of global collaboration and community outreach in ensuring that every human being on the globe was vaccinated against smallpox.

Watch the clip (9 minutes and 52 seconds) and answer the comprehension questions below.

Comprehension Questions:

What were the most serious roadblocks in eradicating smallpox in the late 1950s?	
What two innovations made smallpox eradication possible?	
What challenge did Bill Feige face in Nigeria in the late 1960s? What question did this challenge inspire?	
What is ring vaccination and how does it work?	
Explain why administering the smallpox vaccine to Rahima Bhanoo was an important moment in history.	
To what extent has the eradication of smallpox affected life expectancy in low-income countries?	

Why does Johnson claim that the eradication of smallpox was a story of global collaboration?	

Discussion Questions:

1. In what ways is the fight to end COVID-19 similar to the historic endeavor to end smallpox? What differences do you notice?
2. The eradication of smallpox meant a significant increase in the life expectancy of people living in low-income countries. What inference can you make about why smallpox disproportionately affected low-income countries? In what ways is COVID-19 affecting low-income countries? How is COVID-19 affecting under-resourced communities in other countries? What similarities and/or differences do you notice between the reasons that low-income communities and/or countries are being disproportionately affected by COVID-19?

Extension Activity:

At the end of this clip, Larry Brilliant says, “The difficulty attracted some of the most amazing people in the world. People from 200 different countries, 20 nations...all working together...The Russians and the Americans bur[ied] the hatchet to come together and collaborate in the middle of a moment in time...when we had 20,000 nuclear weapons poised, facing each other. We still managed to work together to eradicate smallpox. I think people forget what human beings can do when we are unencumbered by divisiveness and hate and we stand up to the moment in time.”

Craft an essay or a presentation that highlights an international, national, or local story of collaboration in the face of COVID-19. Consider incorporating responses to the following questions:

- What was the specific challenge? (Examples might include vaccine distribution, collecting data about who has gotten COVID-19, convincing people to wear masks, etc).
- How has the challenge inspired teamwork?

- How is this effort uniting people with different skill sets?
- How did the challenge unite people who perhaps normally would not work together?
- How is the challenge inspiring breakthroughs or innovations?