

Listen to the episode of the *Indicator* podcast, “The Economics of Vaccines,” and answer the questions below. (This podcast is not easy, but it is short – only about 8 minutes long.)

1. Which three countries were hit hardest by the 2014 Ebola outbreak?

Sierra Leone, Guinea, and Liberia

2. How many people died during the 2014 outbreak? *More than 11,000*

3. At the time of this report, how many people had died from Ebola in the current outbreak in D.R. Congo? *12*

4. What is one reason for the decrease in the number of deaths in the current outbreak?

There has been a faster international response. Due to the 2014 outbreak, agencies were more prepared and had a better understanding of what to do. Additionally, there is now an ebola vaccine.

5. Approximately how much does it cost to develop a vaccine? *half a billion dollars (\$500 million)*

6. (Inference) The podcast reporter asks Dr. Plotkin how many vaccines he has developed. He says “Well, I hate to use the word *I...*” Why does he say this? (What does he mean?) How do you know? (What is your evidence?)

He works with a team, so he doesn't feel like these vaccines were only his developments. He says several vaccines came out of his lab. We know that a lab will consist of more than one scientist. He worked with other scientists to develop vaccines.

7. In your own words, why is it “trickier” to develop a vaccine than to develop other types of treatments or drugs.

He says it's because vaccines are used on healthy people, where drugs are used on sick people, so there are greater safety regulations.

8. What is the average amount of time that it takes to develop a vaccine? *15-20 years*

9. In your own words, explain why drug companies were more eager to develop vaccines for HPV and meningitis than for Ebola.

Drug companies can make money on the HPV vaccine because there is a market for it - they can sell it. However, the number of people getting Ebola up until 2014 was very low, so there was little demand for a vaccine. Additionally, the countries where people were getting Ebola were poor countries and couldn't spend money on vaccines.

10. The podcast reporter says that in 2014, “drug companies *sprang into action*” to develop an Ebola vaccine. What does “spring into action” mean?

to become suddenly very active and energetic

11. TRUE / FALSE The Merck Company is expected to make a very large profit from the Ebola vaccine.

12. In your own words, what is the purpose of CEPI?

Create a public-private partnership to create vaccines, to pair scientists with drug companies, find funding, and meet regulations

Match each **word or phrase** to the correct meaning. (Consider the context.) The time at which the word or phrase can be heard in the episode has also been provided for you.

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| 1. B to be around (...that vaccine and other vaccines <u>have been around</u> for more than a decade.) 1:01 | a. (adv.) approximately |
| 2. F firsthand (...he knows these costs <u>firsthand</u> .) 2:24 | b. (v.) to exist |
| 3. D trickier (Stanley says developing a vaccine is <u>trickier</u> in a lot of ways...) 2:57 | c. (adj.) capable of succeeding |
| 4. G exceedingly thorough (those tests are <u>exceedingly thorough</u>) 3:39 | d. (adj.) more difficult to do or deal with |
| 5. A something like (...had to be tested in <u>something like</u> 70,000 infants.) 3:58 | e. (n. – gerund form) getting and keeping a large supply of something for future use |
| 6. C viable (...once there's something that seems <u>viable</u> ...) 4:53 | f. (adj.) coming directly from actually experiencing or seeing something |
| 7. H to take up the baton (...no drug company <u>had taken up the baton</u> ...) 5:24 | g. (adj. phr.) extremely and completely careful and exact |
| 8. I to drop money (Merck <u>dropped</u> \$50 million...) 5:49 | h. (v. phr. idiomatic) to accept a responsibility or duty |
| 9. J to remain to be seen (That <u>remains to be seen</u> .) 6:10 | i. (v.) to spend |
| 10. E stockpiling (...governments will likely buy doses from Merck for <u>stockpiling</u> ...) 7:00 | j. (v. phr.) to be uncertain about a future result |