

Merck

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The Ebola virus received extensive media coverage last year. In 2014 alone there was an outbreak of approximately 27,000 cases of Ebola, concentrated in Sub-Saharan Africa, making it the largest case of the hemorrhagic fever that the world has ever seen. It has not only had disastrous effects on the African population, but has caused mass hysteria on a global scale. Between 1976 and 2015, there were approximately 120,000 cases recorded. With total fatality rates from 25-90%, it is imperative that there is a solution to eradicate this lethal disease. The pharmaceutical company Merck has the opportunity to invest in an Ebola vaccine in order to combat its harmful effects. We chose to analyze the Ebola epidemic because of the ample amount data available, interesting subject matter, and urgency of the situation. Even though this was one of the most challenging options out of the three, it was also the most rewarding because it has the potential to save thousands of lives.

The key features of our research process included identification of the geographical area affected, identification of the scope of impact, and analysis of a realistic and financially practical solution. In order to leverage the data to tell a story, we examined how Ebola is comparable to that of Polio, and its similarities were striking. In order to demonstrate the realistic implications of an Ebola vaccine, we demonstrated the effective utilization of a vaccine to eradicate Polio. Because the Polio vaccine successfully eradicated the disease in only 25 years, it reveals that vaccines of this nature are not only possible but highly necessary.

Our graphic also addresses the business and patient risks that Merck will face in order to implement this vaccine. The business risk for the company is that the income-level for people living in Sub-Sahara Africa is extremely low. The average Sub-Saharan African has a net income of \$5,000 compared to the average American who earns around \$45,000. This considerable difference shows that American consumers have a clear advantage when accessing appropriate health care. Furthermore, there is a patient risk because transportation and infrastructure is limited in rural African regions, so accessibility to medical care is limited. The ratio of the number of doctors per capita (per 1000 people) is a dismal 0.5 doctors per capita in Sub-Saharan Africa compared to 2.5 doctor per capita in the United States. Analysts have suggested to employ government aid in order to fund the initiative; however, African countries do not have government funding in place to subsidize companies to produce drugs for the vaccine. Because of limited accessibility to health care, low disposable income, and lack of government aid in rural African regions, there needs to be an external party financing the treatment.

We identified a three-step solution to implement the Ebola vaccine which includes distribution locations, additional doctors, and a donation program. The distribution locations will be positioned in Central Africa and Central-West Africa in accordance with the geographic location of recorded outbreaks. In order to distribute the vaccines in a timely manner, more doctors are needed to administer them. Finally, a donation program needs to be implemented. According to our solution, people in well-developed countries, such as the United States specifically, will pay for the vaccine at a premium price that includes their vaccine in addition to a vaccine for low-income African patients. This is similar to the business model of Tom's shoes. The American pricing model of the vaccine will also include the cost of research, production, and distribution.

Our infographic not only answers the question "Will an Ebola vaccine change world health?" but it provides Merck with a visually captivating message that calls the company to action about the overall benefit to world health.

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