

DEFINING DISEASE:

EBOLA

The Merck Challenge

The Ebola Virus is a disease that has received a lot of media attention recently, with the largest ever epidemic of the hemorrhagic fever just this past year. With fatality rates spanning anywhere from 25%-90% and potential threats to international well being through transit, it's time we take action.

Our proposed solution would provide access to the vaccine for those in Sub-Saharan Africa, the area where most of the outbreaks over the past 25 years have been. With a shortage of doctors and a Gross National Income too low to provide the appropriate amount of care, the area would receive free care that would be paid for by American citizens purchasing their own vaccines.

Here's How.

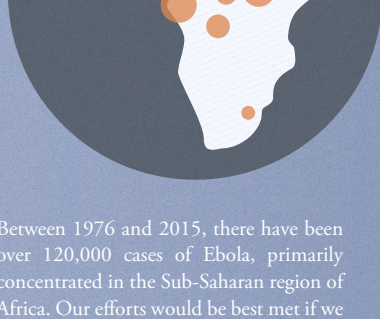


WHERE SHOULD WE FOCUS OUR EFFORTS?

Cases
120,651

Deaths
30,676

FATALITY RATE:
ABOUT 25%

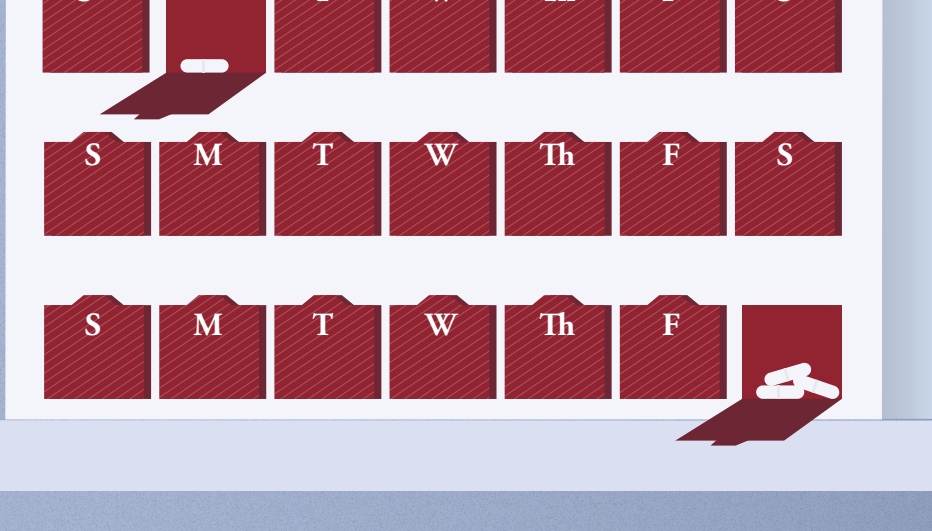


Between 1976 and 2015, there have been over 120,000 cases of Ebola, primarily concentrated in the Sub-Saharan region of Africa. Our efforts would be best met if we focused on vaccination efforts in this area.

HOW DOES IT SPREAD?

Human-to-human contact with blood or other bodily fluids while a person is showing symptoms is the only way to transmit the disease. It is not spread by air.

Symptoms take between 2 and 21 days to begin



WILL IT EVEN WORK?

Listed Below are similarities between the Polio and Ebola Viruses, proving the necessary connection between the severity of a vaccinated virus and one that is not vaccinated but in need of it.

Polio

Spread through sneezing, coughing, and blood

More than 20,000 cases

No symptoms during the long incubation period

EFFECTIVELY VACCINATED AGAINST

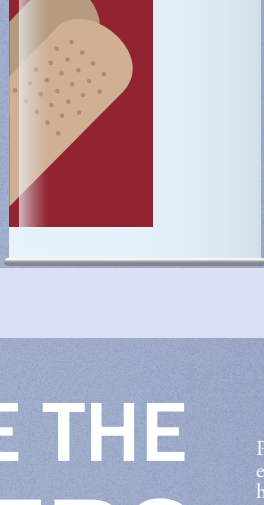
Ebola

Spread through sneezing, coughing, and blood

More than 20,000 cases

No symptoms during the long incubation period

IN NEED OF VACCINATION

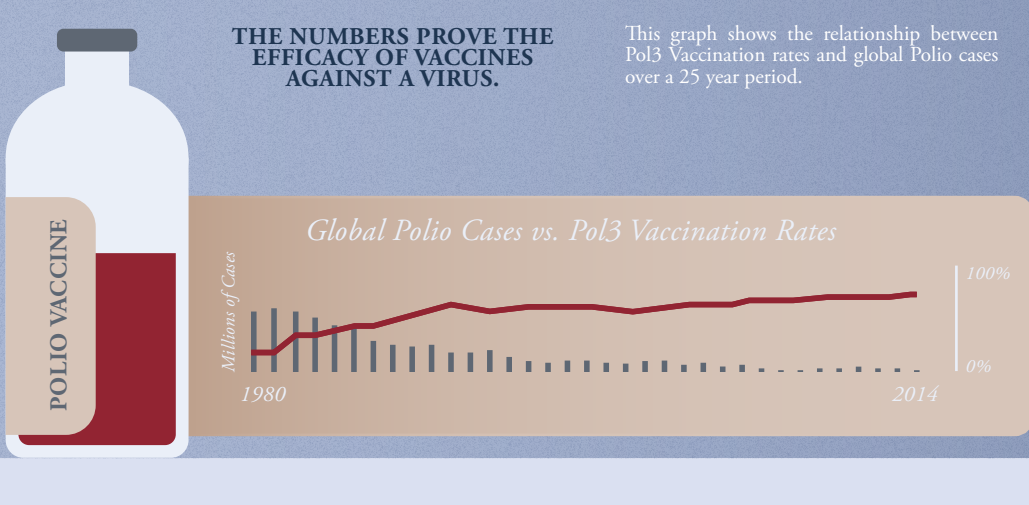


SHOW ME THE NUMBERS

Polio is a strong example of a vaccine's eradication of a virus. Both Ebola and Polio have qualities that make a powerful vaccine possible and probable.

THE NUMBERS PROVE THE EFFICACY OF VACCINES AGAINST A VIRUS.

This graph shows the relationship between Pol3 Vaccination rates and global Polio cases over a 25 year period.

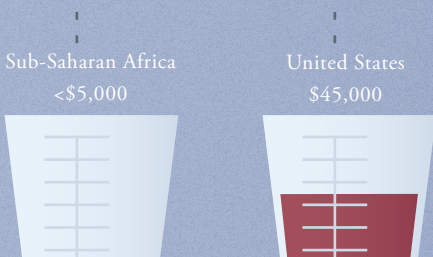


ARE THERE RISKS?

One of the potential risks we saw was patients' ability to pay for the vaccine. To confront this issue, we proposed that American consumers of the vaccine would subsidize the cost of African vaccination efforts.

Business Risks

GROSS NATIONAL INCOMES PER CAPITA



Patients in Sub-Saharan African areas were used to making an average of below \$5,000 a year, as compared to the average American worker, who statistically sees around \$45,000. This considerable difference means that American consumers have a clear advantage in access to appropriate care.

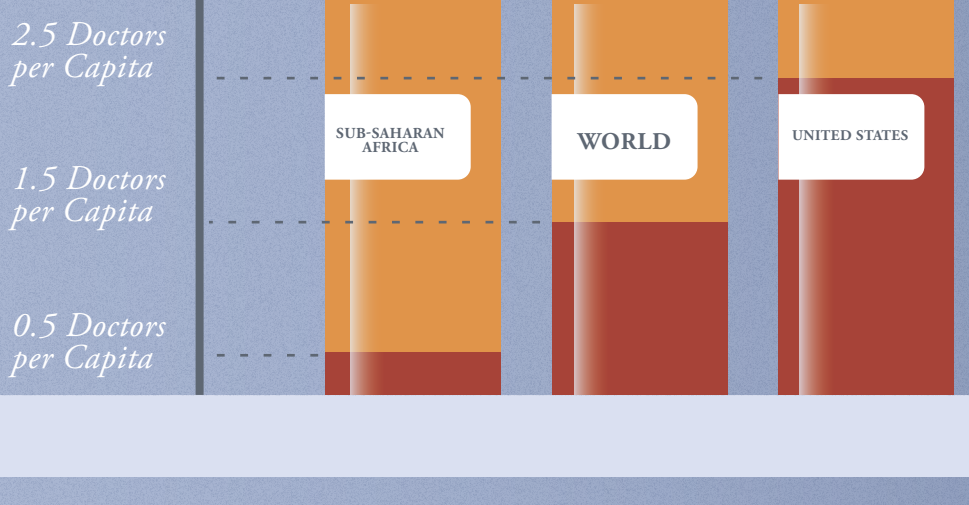
It's in our hands now.

EVEN MORE RISKS?

Another potential risk for patients is the ability to physically get to a doctor. Sub-Saharan African countries have only 0.5 doctors per capita, which is five times less than the American average. Multiply your doctor's office commute by five.

Patient Risks

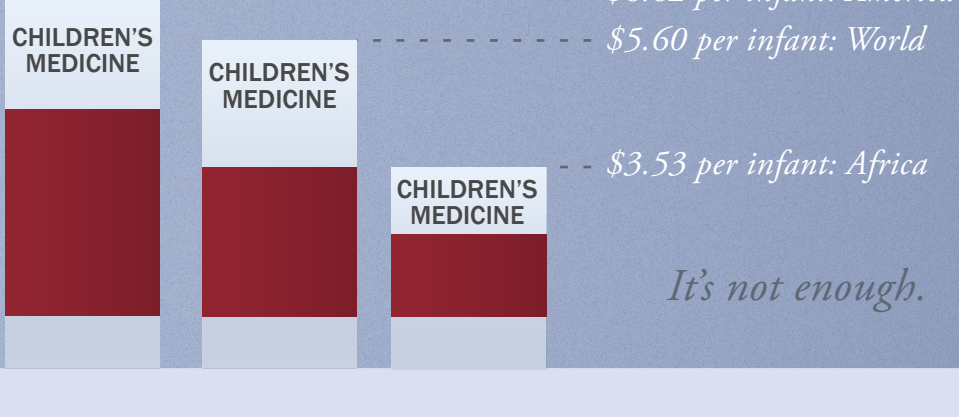
DOCTORS PER CAPITA (PER 1,000 PEOPLE)



WHAT ARE WE DOING?

There is no such thing as a free lunch, and all of this money for vaccination efforts is a cost that the area simply can't bear on its own. Luckily, American consumers have the ability to offset the cost of care for those who otherwise would not have access.

Governments around the world are *already* giving towards this cause, with African governments spending an average of \$3.53 on each infant. This is contrasted with World and US averages, which measure \$5.60 and \$6.62, successively.



It's not enough.

WHAT CAN WE DO?

Distribution Locations: Vaccinations for Africa's should be distributed in Central Africa and Central-West Africa to prevent Ebola outbreaks from occurring.

Additional Doctors: Additional doctors will need to be deployed to Sub-Sahara Africa in order to distribute the vaccines. More doctors will ensure the vaccine is administered quickly and effectively.

Donation Program: Vaccine recipients in developed countries have the option to donate a vaccination dosage when they receive the vaccine. This program will offset the cost for low-income patients to receive the vaccine.

It's time we take a stand and define Ebola.



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WHO: <http://www.who.int/en/>
World Bank: <http://www.worldbank.org/>
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