

Interims

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Problem Definition:

Our project is about bacteria and vaccines. We chose this problem mainly because most people don't think about vaccines in everyday life. There are many other reasons why we chose this problem. First of all, many people do not get vaccinated. If they do not get vaccinated, they have a higher chance of getting all kinds of diseases. Those who get sick will like pass it to someone else. Secondly, many countries do not provide proper vaccines for everyone or some people can't afford to get vaccinated, which will increase the rate of disease. Third of all, there is a higher chance of death if you don't properly get vaccinated. Viruses and bacteria can lead to death and multiple life risks. It would be better if it can be prevented. We want to show how important it is to get vaccinated and how vaccines affect the world.

Problem Solution:

We plan to solve this project computationally. We have decided to use Netlogo to code a virtual graph on different types of diseases and vaccines. The graph will contain sliders and buttons so you can change the population, disease, contagiancy rate, the risk of death, death count, lifespan average, and percentage vaccinated. It will also compare and contrast these information on people that got vaccinated and people who didn't. This would visually show a change and it would be more interesting to look at. Based on our research, we will add in the contagiancy rate, percentage vaccinated, etc. This way, users can find different results with different ideas.

Our Progress:

We have already done all of our research on diseases. Based on the research, we made a google forms with the death count of 3 viruses: Measles, Flu, and DTap. We also included a bar graph to virtually show the increase/ decrease of death count of these diseases. From there, there will be the code. Based on the information from the google forms, we will convert it into the virtual Netlogo code. Right now, we have not started on our Netlogo code yet, but we have downloaded it and learned how to use it. We have tried some simple codes just to get more used to it.

Expected Results:

We are expecting a high decrease in diseases because of vaccines. If there is a large amount of change, people would see that vaccines are extremely important for them. From there, some people would tell their family and friends about this. If everyone can see the change vaccines have made, maybe they would change their minds and get vaccinated. If we, however, don't find too great of a change in our graph, we still encourage people to get vaccinated. If you get vaccinated, you will be more immune to that disease. So in the future, if you get the disease, your

body will become more immune to it and fight it off more easily. Vaccines might not only save your life, they can together make the world a better and healthier place for everyone. .

Here are some of the citations we used to find this information:

https://www.cdc.gov/flu/about/disease/us_flu-related_deaths.htm

<http://www.who.int/mediacentre/factsheets/fs286/en/>

<https://www.cdc.gov/vaccines/parents/diseases/child/pertussis.html>

<https://www.vaccines.gov/basics/types/index.html>

www.immunize.org/importance-of-vaccines/