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Physics 203

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Quarantine and Isolation Project Proposal

Introduction:

The corona Virus has clearly affected many and has caused serious damage. Based on the research and models created we can clearly see in every scenario that there is peak in the curve and eventually flattens out. The world is enormous with millions of people so for us we used a simpler modified model to see results for COVID-19. Quarantine and isolation aren't the only problem but the capacity of hospitals but today we will only look at how the different types of isolation policies would improve the amount of people getting infected then either recovering or dying.

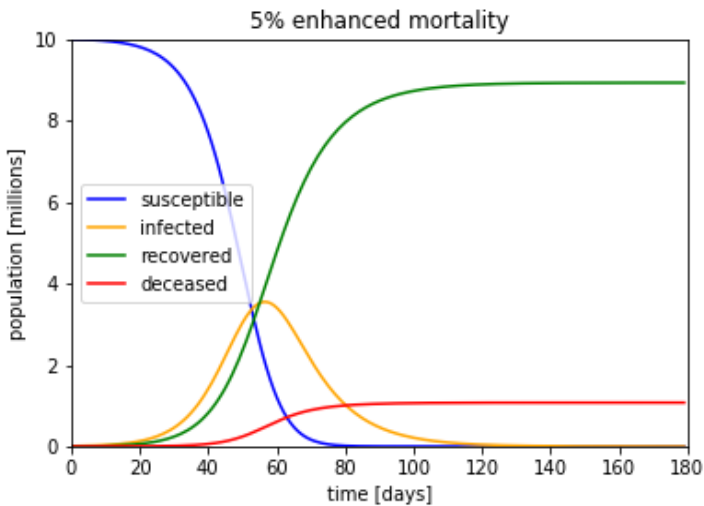
Discussion:

After many choices and ways to approach this I've decided to stick with using the different types of isolations. As in no one changed anything, people practiced social distancing, and if there was complete isolation where no one left their house. If No one changed anything and went about their day the virus would spread drastically, infecting a lot more people and killing a lot more. If everyone practiced social distancing less people are infected, and less people are dying. Even with a shelter at home policy enacted we can see a drastic decrease in people infected and people dying. Not matter what there is a peak and flat but the goal is to have the curve flatten quicker with as few people dying and becoming infected. People who

were infected and recovered we decided that they can never get the virus again as if they were immune.

Data:

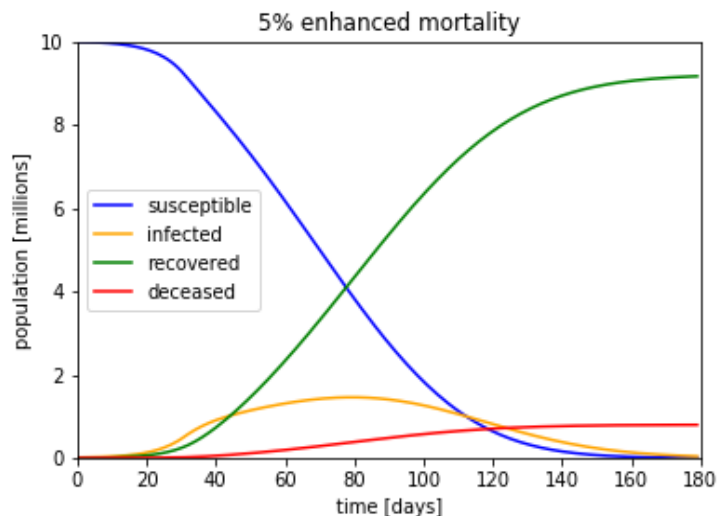
In the first graph below you can see the yellow line which is representing the people infected. The people infected is our curve that we want to flatten. This Graph is representing



that no type of policy was implemented and no one changed their ways. This would present our worst-case scenario, even though it doesn't look many people are dying the number of people total you got the virus is about 100% if looking

at the people who are susceptible. Thus, proving some type of isolation is needed to improve the death rate and how many people are infected.

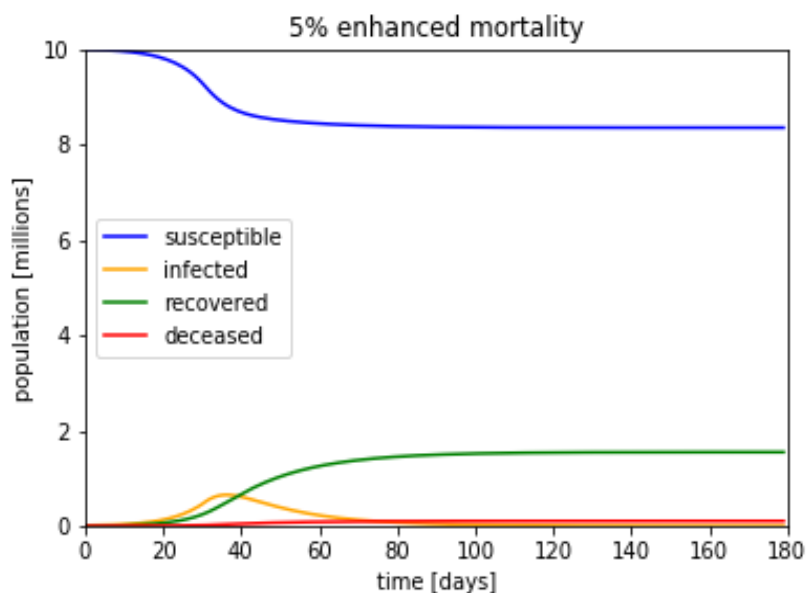
In the 2nd graph below this would represent if everyone practicing social distancing. As you know social distancing would be stay in your until needed and only essential workers can work, as well as practicing proper techniques to stay



safe. These techniques would include wearing a mask, gloves and staying 6ft apart from everyone. If everyone was to do this. We can clearly see that the death rate is much lower than the first graph even though we are still coming out of the house we can see people still have the chance to get infected.

In the 3rd graph below this would be if everyone practiced shelter at home policy.

Shelter at home policy would be no one would leave the house until the virus flattened out. If



this was to happen the death rate would practically be zero because the amount of people being infected would be very minimal. Thus, making an amount of people infected very minimal. This course would be the best-case scenario even though we would be losing a

lot of things. Everything would be temporarily be closed. Whichever course we take has some type of consequences but its which consequences we want to take for the bigger goal.

Conclusions:

In conclusion whatever choice we make something will be affected. It clearly isn't ideal for everyone to be out an about with this virus like normal being that it is so contagious. If staying with the simplified model everyone would practice social distancing exactly the same although still having people spread the virus the amount infected it would decrease, even more

so with Stay at home policy. Picking one of the isolation policies is definitely better than doing nothing although some repercussions would occur. How much longer are we going to wait around and have only half the population taken the virus seriously? Families and hearts are becoming broken because of The COVID-19. From people are their losing jobs, losing family members, etc. we need to make a physical change. How many more people need to suffer? People who even need serious hospital care are more afraid to go to the hospital to get proper care because so many people are there getting treated. The best thing we could do is stay home and practice proper techniques to keep the virus from spreading. We need to flatten the curve so everyone can recover and not just from the virus physically, emotionally too. Stay home and let's beat this virus.