

Ebola model in Austria

The model has been done as a SIRDH and as well as a SIRD model, meaning it included the following compartments: susceptible, infected, recovered, deceased and hospitalized (only for one model). The scenario is based on the paper by M. Juga et al.. The numbers were taken from their scenario which is based on the Ebola outbreaks in 2019 and 2020 for North Kivu und South Kivu. Some of the values have been altered to reflect the difference in the healthcare system in Austria compared to that region. Hospitalization rate was increased, death rate after hospitalization was decreased, and the general disease related deaths were decreased by a small amount. As can be seen in Figure 1, the general number of deceased through Ebola would be relatively high.

Figure 2 reflects the model adapted with hospitalization as an interventive method. Even though the number of hospitalized people is low, it decreased the number of deceased by a noticeable amount and increased the number of recovered people. However, a stronger intervention could have been done, for example the introduction of a quarantine to decrease the infection rate for this disease.

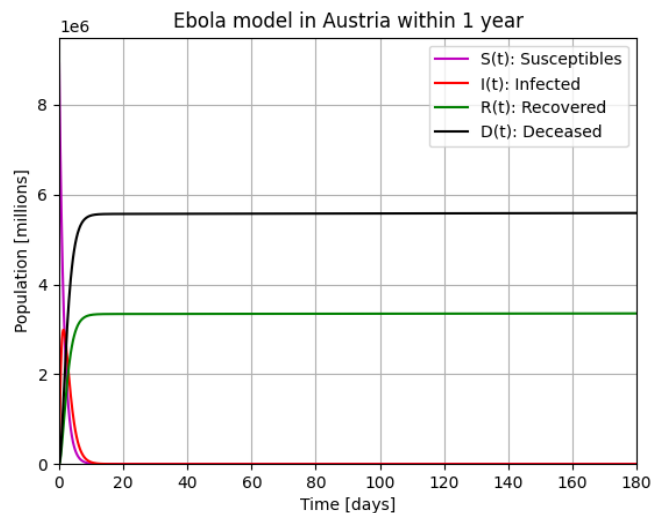


Figure 1: SIRD model for Ebola in Austria

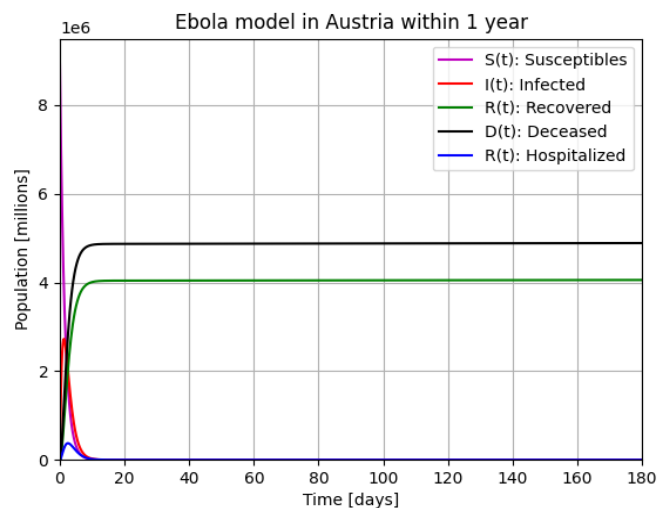


Figure 2: SIRDH model for Ebola in Austria, compared to Figure 1, this model included hospitalization as an intervention

Sources:

[1] Juga, M L et al. "An Ebola virus disease model with fear and environmental transmission dynamics." *Infectious Disease Modelling* vol. 6 545-559. 20 Mar. 2021, doi:10.1016/j.idm.2021.03.002