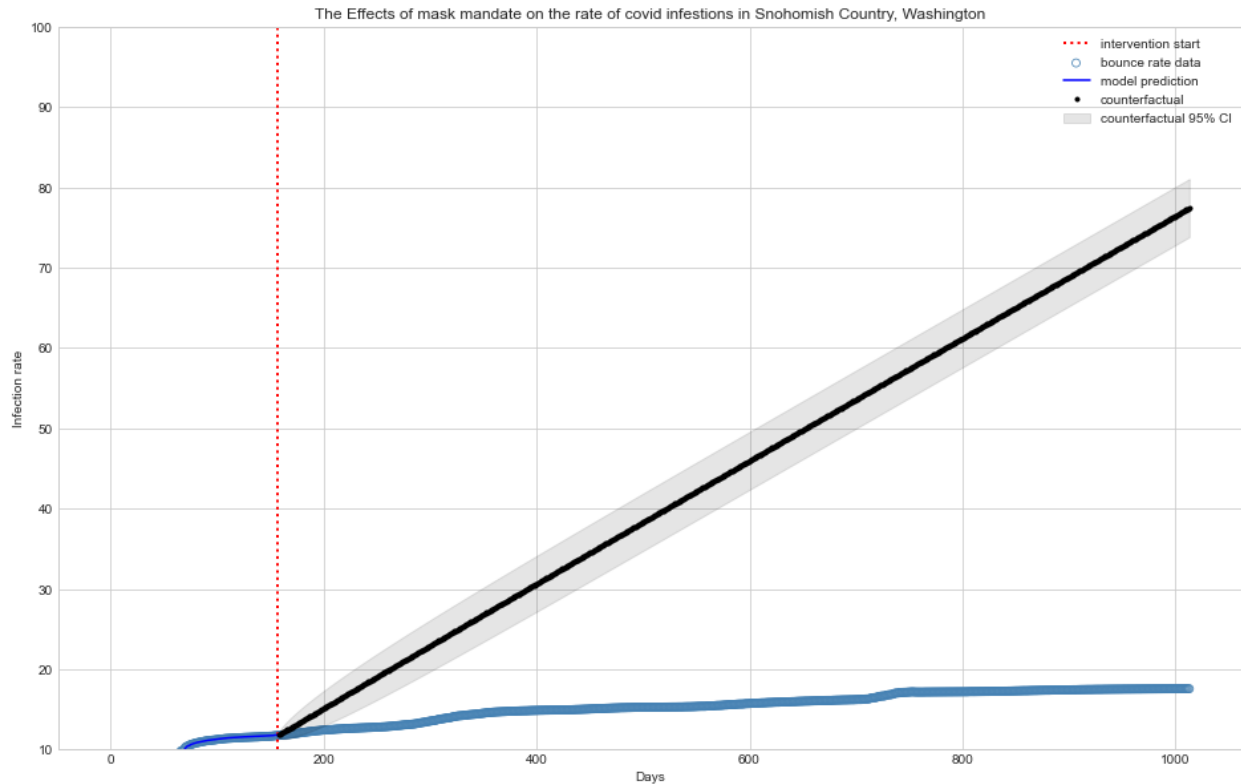


## Explanation of the Visualization.



The above figure shows the model fits before and after the intervention (mask mandate) and how it projects a counterfactual would be. On the y-axis, we have the log transformed the number of infections and on the x-axis, we have the number of days the mask policy was in place. The data for this analysis was obtained by merging the mask mandate data with the number of infections data and involved data cleansing and manipulation mentioned in the notebook with this assignment.

The dotted red line at 157 is the day on which the mask mandate was brought in place.

The solid blue line shows the trend for the number of infections with time. As we can see from the above graph that as the number of days increases there is an increase in the number of cases with slight variations in between.

The black line represents the counterfactual line. This is the outcome that would have observed absent the mask wearing policy. The problem here is that, we cannot observe what

would have happened without the necessary interventions. This solution is an estimate. This estimate could have been affected by some major threats to validity like history ( an event occurring between pre and post recording of the daily infections that is not the intervention of interest. There could also be the issue of maturation- where people are able to adopt more to the changing behaviors of the COVID-19 virus.

A change in instrumentation and testing could have also affected the internal validity of our assumptions.

The line in black is the counterfactual shows that the cases would have increased linearly with time but as we see in the graph (solid blue), by implementing the mask mandate, we are flattening the curve that would have grown linearly.