For our first version of the Shiny app, we want users to be able to adjust different intervention strategies and parameters. This will likely be in a hierarchical or stepwise fashion. First, they will need to answer these questions / specify these parameters below. The text would be something like the user sees, and in parentheses is how we would probably implement it in the code.

FRONTLINE INTERVENTION

1. When does the intervention start? (which day of the simulation this starts).

2. How strong is this original intervention? (scale of 0 – 1 for reducing β across all infected groups).

3. How long does the intervention last? (which day of the simulation this ends).

CONTINUING INTERVENTIONS

4. Should interventions continue after this frontline intervention? (TRUE/FALSE; if true these next interventions are implemented, if false, they are not and simulation runs with only frontline intervention).

5. Should the continuing interventions be implemented via general social distancing throughout the population, or by quarantining those who become symptomatic? (distancing/quarantining); I think general social distancing should be invoked similar to how the frontline intervention was by a parameter that scales between 0 -1 and reduces β across all infected groups, whereas quarantining those with symptoms would only decrease β in the Severe and Minor Infected groups. There may also be a way to have a third intervention option of contact tracing, but I am still trying to think through how we would want to implement that (i.e. which compartments should have their contact rates decreased under contact tracing?)).

6. How strong should this intervention be? (scale of 0 – 1).

7. Should the continuing intervention be constant or periodic? (constant/periodic).

* This is implemented if the user selected constant.
8. How long does the intervention last? (which day of the simulation this ends).

* This is implemented if the user selected periodic.
9. How many hospitalizations should trigger an intervention? (numeric)

10. How long should the periodic intervention last? (length of time of periodic intervention).