Instructions for GUI

**Starting-up the GUI**

1. GUI does not work when just double clicking the icon. For best performance, open MATLAB, type ‘appdesigner’ into the command box, and then load the GUI. After the GUI finishes loading up, click RUN.

**Agent-based Model Tab**

1. Before running the simulation, input all the values you want. Those include MODEL DIMENSIONS, INPUT PARAMETERS, and EFFECTIVE POPULATION. Effective population is the scale you want to apply to your model such that the number of agents can be compared to actual data.
2. Record the FINAL CONDITIONS, as they are the initial conditions for the compartmental model. You may want to run the model with the same parameters multiple times and average it out because of stochasticity.

**Compartmental Model Tab**

1. After obtaining the FINAL CONDITIONS from the agent-based model, input them to the INITIAL CONDITIONS. Note that the agent-based model does not output the number of exposed, so you will need to assume a number for that.
2. Change all the parameters you want, e.g. INPUT PARAMETERS, MODEL type, and the MODEL-SPECIFIC PARAMETERS.
3. After running the model, you have the choice of changing the simulation duration. To do this, move the dial for TIME to the desired end date and then click START. If you want to see the whole range for the simulation, click FINISH.

**Validation (Agent-based/Compartmental Mode)**

1. The validation tab for both models works the same way. As before, input all the parameters you want first and the click START.
2. Once you click START, you will be prompted to select a data file to load. For the agent-based model, go to the *InputData* folder and then into the *AgentBasedModel* folder. Within the folder, select the file you want to load. Similarly, instead of going into the *AgentBasedModel* foler, go to the *CompartmentalModel* folder instead for the compartmental model.
   1. Note that only 2014-2016 datasets were included for the compartmental model.

**Hybrid Model**

1. This tab works the exact same way as the **Validation** tabs, except we will be running both models back-to-back.
2. After clicking START, you will be prompted to load a dataset twice. The first one will be for the agent-based model and the second one will be for the compartmental model.