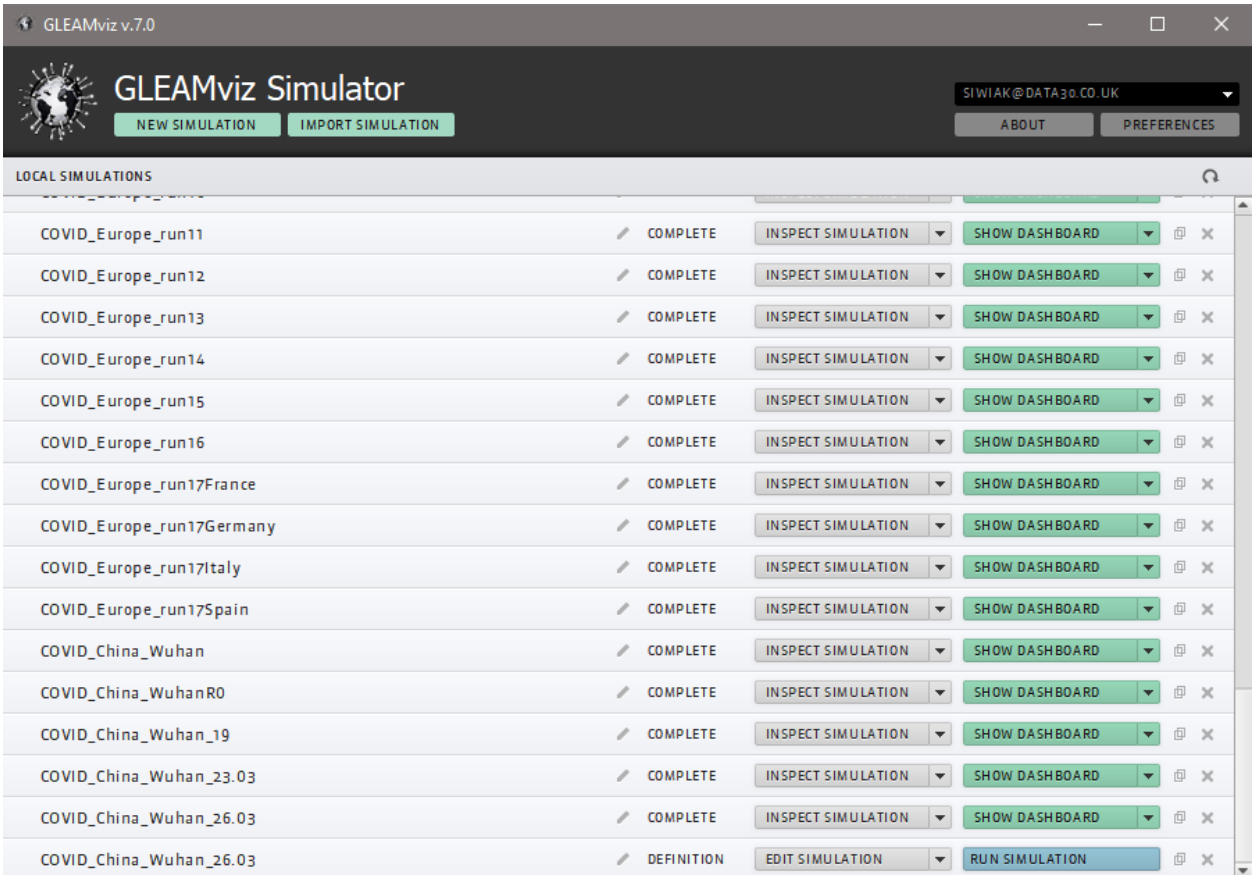
COVID-19 pandemic modelling

using GLEaMviz v7

Contents

1. Running global model starting from a single host

1.1. Open GLEaMviz v7

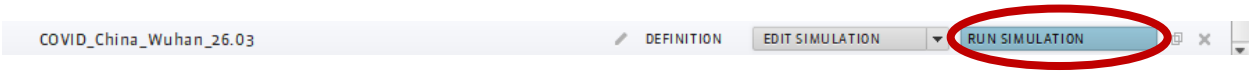


1.2. On the main screen click “IMPORT SIMULATION”

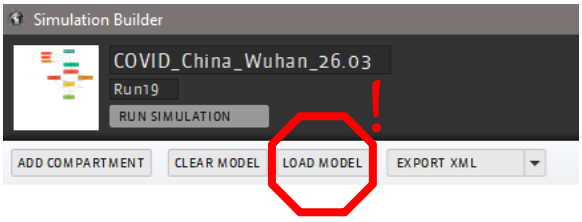
1.3. Select the simulation file downloaded from:

https://github.com/freesci/covid19/blob/master/Siwiak_COVID19_Global_Model.xml

1.4. To run a simulation ***with original simulation settings***, press the “RUN SIMULATION” button



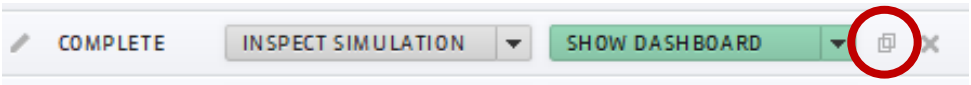
WARNING: Global simulation parameters are not imported properly if new simulation was started and the “LOAD MODEL” button was used in the MODEL tab.



2. Modifying simulation

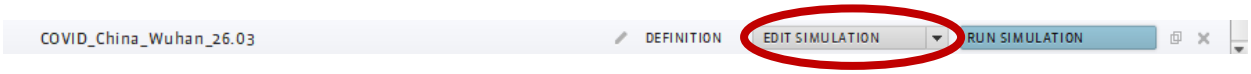
2.1. To modify settings, one needs to either:

a. create a copy of a simulation run in step 1.4.



b. go back to step 0 and import new simulation.

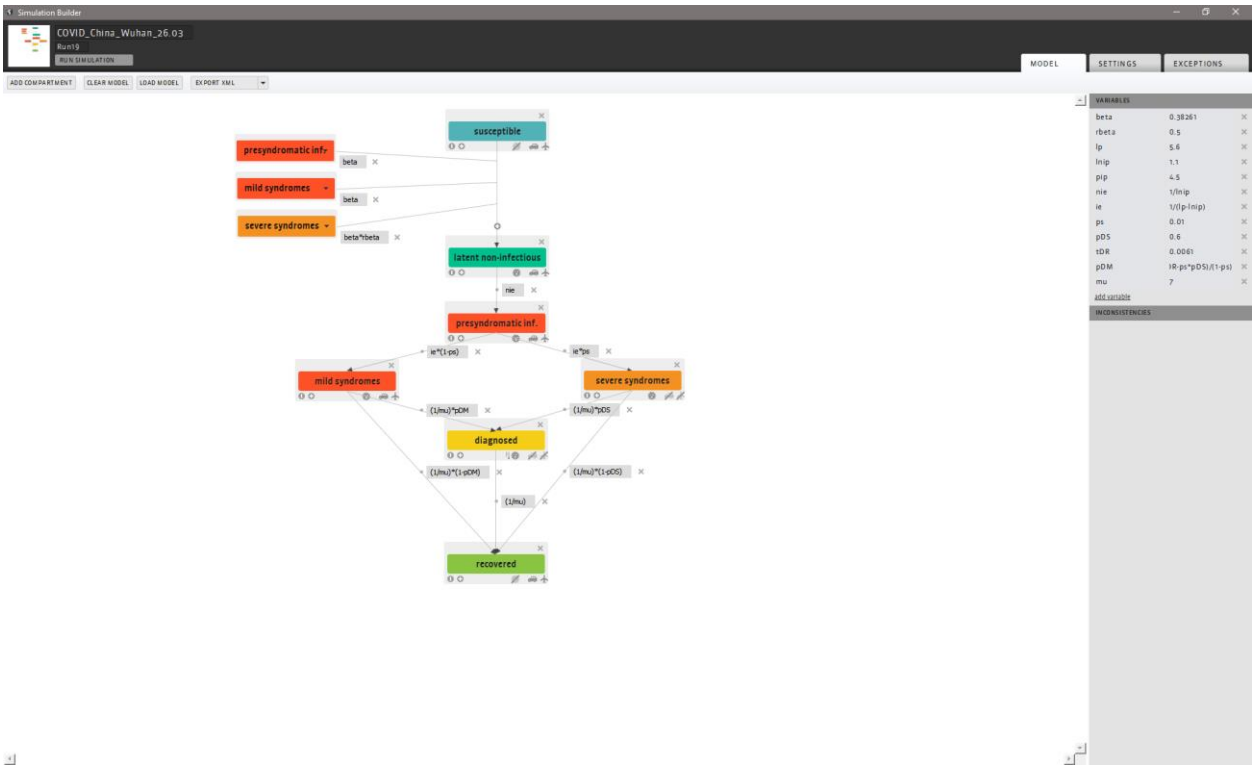
2.2. To ***change simulations settings***, click the "EDIT SIMULATION" button



There are three sets of settings, available in three tabs: MODEL, SETTINGS, and EXCEPTIONS.

2.2.1. MODEL (global parameters)

The MODEL tab allows for a permanent modification of model parameters responsible for subpopulation compartment properties and interactions between them.

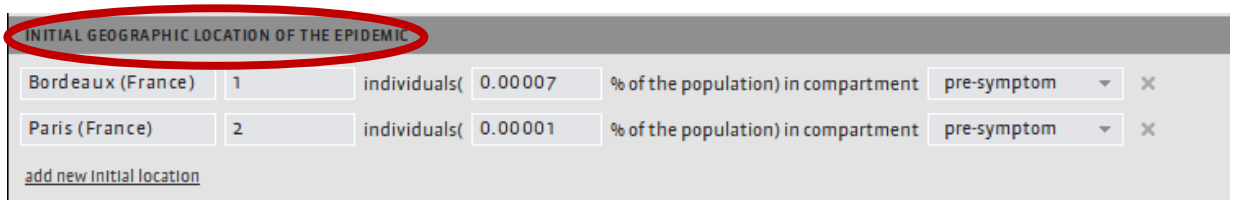


2.2.2. SETTINGS (simulation parameters and starting point definition)

The SETTINGS tab allows changing simulation parameters, including highlighted initial distribution of subpopulations at global and local levels.

2.2.2.1. Country-level details

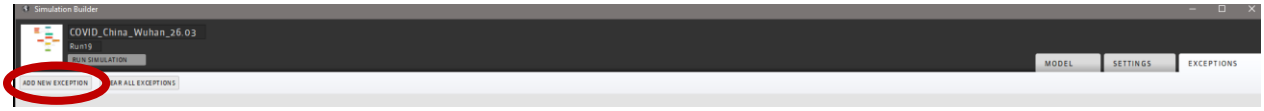
To model single country spread **(under the assumption of no influx of infected population from the outside world)** provide data about disease state at the time of introducing isolation in the INITIAL GEOGRAPHIC LOCATION OF THE EPIDEMIC sub-tab.



To model a single country spread under the assumption of an influx of infected population from the outside world, detailed definition of the status of infected populations in tessellated world areas shall be provided.

2.2.3. EXCEPTIONS (time-dependent changes in parameters)

Exceptions tab allows introducing changes in parameters at global, national, and local area levels at selected points of time.

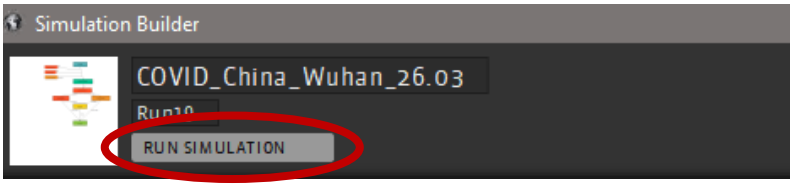


Adding exception requires providing change parameters:

2.2.3.1. Time-range and location of the introduced change

2.2.3.2. Modified parameter and its value

2.3. Run the simulation from any tab:



3. Accessing simulation results

The results of performed simulation are available from the GLEaMviz screen. To access them click the “SHOW DASHBOARD” button.