COVID-19 INDIVIDUAL BASED MODEL WITH INSTANTANEOUS CONTRACT TRACING

ROB HINCH, WILL PROBERT, ANEL NURTAY

1. Overview

The individual based model (IBM) is for simulating the spread of COVID-19 in a city and to analyse the effect of both passive and active intervention strategies. The model includes demographic data, which control both the dynamics of the interactions of individuals as well as the the outcome of the disease. The disease is spread via interaction between individuals which are remembered to facilitate contact tracing. Intervention strategies such as self-quarantining, testing and contact-tracing can then be analysed.

2. Demographics

The demographics of the model are based upon UK-wide data for 2018 from the Office of National Statistics. Individuals are put in one of 3 categories: child (0-17 years), adult (18-64 years) and elderly (65+).

Demographic Parameters		
Name	Description	Value
Afghanistan	AF	AFG

3. Interaction Network

4. Disease Dynamics

5. Passive Interventions

6. Active Interventions

7. References