

**Warwick:**

- Age-structured model, based on SEIR-type equations but extended to include symptomatic and asymptomatic individuals and to account for household isolation and quarantining. Susceptibility, risk of symptoms, risk of hospitalisation and risk of death are all age-dependent and based on reported data for England.
- For the seven regions in England it is matched to number of deaths (using date of death), hospital occupancy and ICU occupancy; for England it is matched to reported deaths, as well as hospital and ICU occupancy; for Wales, Scotland & North Ireland it is only matched to reported deaths (at the moment) - this fitting procedure infers early growth and compliance in each area.

**Imperial:**

- Microsimulation model originally developed to study pandemic flu, with a sweep over a parameter grid of the basic reproduction number  $R_0$  and seeding, for three scenarios of intervention effectiveness (Good/medium/poor).
- Parameterisation of severity and hospital stays based on previous parameterisation agreed with NHSE. Model fitted using weighted maximum likelihood to hospital prevalence & incidence and deaths (to equally weight each data stream).

**LSHTM:**

- Bayesian structural time series forecasting model applied to the trajectory of the reproduction number over time.
- Changes in the reproduction number are estimated from probabilistic reconstruction of infection dates from the number of confirmed cases each day.

**PHE:**

- Complex model that combines a deterministic transmission model with a disease reporting model
- Fitted to single age death data stratified into London and Outside London regions, to give Bayesian posterior probability distributions for parameters of interest and predictive distributions for the epidemic's future trajectory.