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COVID-19 Scenarios

Printable report
Generated from $covid19-scenarios.org on Jan 10 2021, 03:32 PM

Important information

COVID-19 Scenarios is a tool that allows to explore the dynamics of a COVID-19 outbreak in a given community and to assess the associated burden on the healthcare system. COVID-19 Scenarios, as every other model, it has parameters whose values are not known with certainty, which might differ between places and change with time. The values of some of these these parameters have a major effect on the results.

The results are particularly sensitive to parameters that determine how rapidly the disease spreads or how effective counter-measures are: some values will result in a small limited outbreak, others in a massive outbreak with many fatalities. Furthermore, when extrapolating the outbreak into the future, the results will critically depend on assumptions of **future** policy and the degree to which infection control measures are adhered to. It is therefore important to interpret the model output with care and to assess the plausibility of the parameter values and model assumptions.

COVID-19 Scenarios uses an age-structured generalized SEIR model. For details, please consult the documentation on covid19-scenarios.org/about. Default parameter choices are informed by the available evidence at the time, but might need adjustment for a particular community or as more information on the outbreak is available.

This tool is not a medical predictor, and should be used for informational and research purposes only. Please carefully consider the parameters you choose. Interpret and use the simulated results responsibly. Authors are not liable for any direct or indirect consequences of this usage.

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Scenario: United Kingdom of Great Britain and Northern Ireland (edited)

Parameters

Population

Parameter	Value
Age distribution for[1]	United Kingdom of Great Britain and Northern Ireland
Case counts for[2]	United Kingdom of Great Britain and Northern Ireland
Number of hospital beds[3]	139647
Number of available ICU beds[4]	4114
Cases imported into community per day	0.1
Number of cases at the start of the simulation	765920
Population size	66488991
Seroprevalence [%]	15.16

Epidemiology

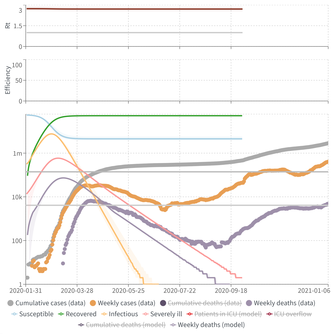
Parameter	Value
Average time in regular ward [days]	11
Average time in ICU ward [days]	7
Infectious period [days]	3.5
Latency [days][5]	3.5
Increase in death rate when ICUs are overcrowded	2
Seasonal peak in transmissibility	January
R0 at the beginning of the outbreak	2.9 - 3.5
Seasonal variation in transmissibility	0

Mitigation

Intervention name	From	To	Reduction of transmission

[1]Country to determine the age distribution in the population
[2]Region for which to plot confirmed case and death counts.
[3]Number of hospital beds available. The default values are rough estimates indicating total capacity. Number of beds available for COVID-19 treatment is likely much lower.
[4]Number of available beds in Intensive Care Units (ICUs). The default values are rough estimates indicating total capacity. Number of ICU/ICMUs available for COVID-19 treatment is likely much lower.
[5]Time from infection to onset of symptoms (here onset of infectiousness)

Results



Results summary

Date	Severe	Critical	ICU Overflow	Deaths	Recovered
Feb 01 2020	0	0	0	0	0
Feb 08 2020	12k - 13k	334 - 375	0	189 - 214	1m
Feb 15 2020	71k - 87k	4k	0 - 398	3k - 4k	4m
Feb 22 2020	203k - 268k	4k	9k - 12k	16k - 20k	10m - 13m
Feb 29 2020	403k - 1m	4k	25k - 33k	48k - 62k	22m - 28m
Mar 07 2020	1m	4k	43k - 53k	104k - 132k	35m - 41m
Mar 14 2020	1m	4k	51k - 55k	173k - 207k	44m - 48m
Mar 21 2020	357k - 395k	4k	45k - 46k	237k - 270k	48m - 51m
Mar 28 2020	228k - 269k	4k	31k - 34k	285k - 314k	50m - 52m
Apr 04 2020	141k - 172k	4k	19k - 23k	319k - 343k	50m - 52m
Apr 11 2020	86k - 107k	4k	11k - 14k	340k - 360k	50m - 52m
Apr 18 2020	52k - 66k	4k	6k - 8k	353k - 371k	50m - 52m
Apr 25 2020	32k - 40k	4k	2k - 4k	361k - 377k	51m - 52m
May 02 2020	19k - 25k	4k	251 - 1k	365k - 380k	51m - 52m
May 09 2020	12k - 15k	3k - 4k	0	368k - 382k	51m - 52m
May 16 2020	8k - 10k	2k	0	369k - 383k	51m - 52m
May 23 2020	5k - 6k	1k - 2k	0	370k - 384k	51m - 52m
May 30 2020	3k - 4k	1k	0	371k - 384k	51m - 52m
Jun 06 2020	2k	1k	0	371k - 385k	51m - 52m
Jun 13 2020	1k - 2k	358 - 442	0	371k - 385k	51m - 52m
Jun 20 2020	1k	231 - 286	0	372k - 385k	51m - 52m
Jun 27 2020	1k	150 - 185	0	372k - 385k	51m - 52m
Jul 04 2020	344 - 426	97 - 120	0	372k - 385k	51m - 52m
Jul 11 2020	222 - 275	63 - 78	0	372k - 385k	51m - 52m
Jul 18 2020	144 - 178	41 - 50	0	372k - 385k	51m - 52m
Jul 25 2020	93 - 115	27 - 33	0	372k - 385k	51m - 52m
Aug 01 2020	60 - 74	17 - 21	0	372k - 385k	51m - 52m
Aug 08 2020	39 - 48	11 - 14	0	372k - 385k	51m - 52m
Aug 15 2020	25 - 31	7 - 9	0	372k - 385k	51m - 52m
Aug 22 2020	17 - 20	5 - 6	0	372k - 385k	51m - 52m
Aug 29 2020	11 - 13	3 - 4	0	372k - 385k	51m - 52m
Sep 05 2020	7 - 9	2 - 3	0	372k - 385k	51m - 52m
Sep 12 2020	5 - 6	1 - 2	0	372k - 385k	51m - 52m
Sep 19 2020	3 - 4	1	0	372k - 385k	51m - 52m
Sep 26 2020	2	1	0	372k - 385k	51m - 52m

Proportions

Totals/Peak

Quantity	Peak/total value
Total death:	(371.92k, **388.16k**, 385.25k)
Total severe:	(1.59m, **1.65m**, 1.65m)
Peak severe:	(0.55m, **0.59m**, 0.61m)
Peak critical:	(54.95k, **58.25k**, 60.45k)