

COVID-19 Scenarios

Printable report

Generated from covid19-scenarios.org on May 09 2020, 07:04 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 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: Panama (edited)

Parameters

Population

Parameter	Value
ageDistributionName	Panama
caseCountsName	Panama
Number of hospital beds	6450
icuBeds	396
Cases imported into community per day	0
Number of cases at the start of the simulation	218
Population size	4176873

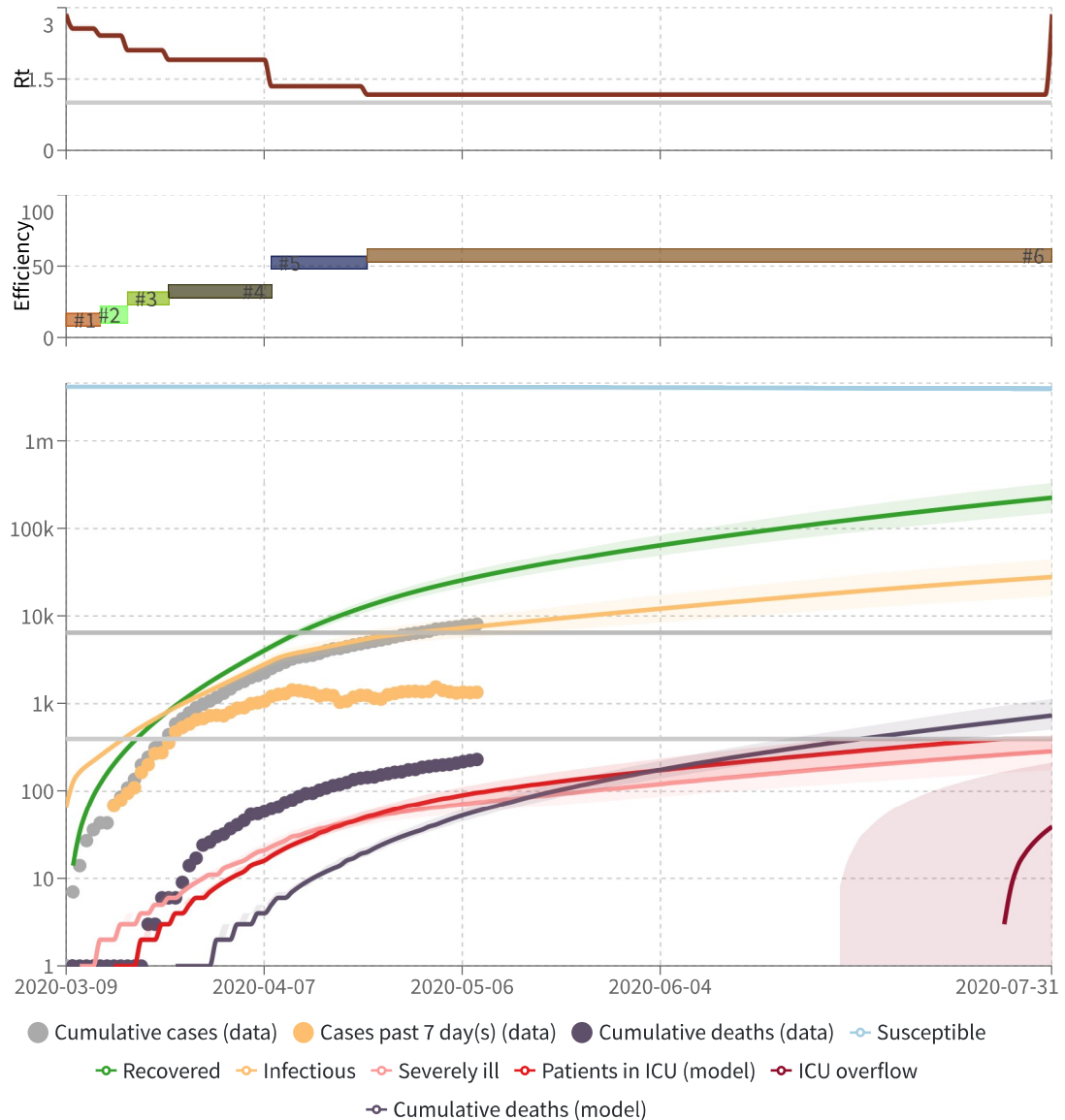
Epidemiology

Parameter	Value
hospitalStayDays	3
icuStayDays	14
infectiousPeriodDays	7
latencyDays	2
Increase in death rate when ICUs are overcrowded	2
Seasonal peak in transmissibility	January
R0 at the beginning of the outbreak	2.7 - 3
Seasonal variation in transmissibility	0

Mitigation

Intervention name	From	To	Reduction of transmission
#1	Mar 09 2020	Mar 14 2020	10% - 15%
#2	Mar 14 2020	Mar 18 2020	12% - 20%
#3	Mar 18 2020	Mar 24 2020	25% - 30%
#4	Mar 24 2020	Apr 08 2020	30% - 35%
#5	Apr 08 2020	Apr 22 2020	50% - 55%
#6	Apr 22 2020	Jul 31 2020	55% - 60%

Results



Results summary

date	hospitalized	ICU	overflow	deaths	recovered
Mar 09 2020	0	0	0	0	0
Mar 16 2020	2 - 2	1 - 1	0	0 - 0	202 - 208
Mar 23 2020	5 - 6	3 - 3	0	0 - 0	690 - 750
Mar 30 2020	10 - 11	7 - 8	0	1 - 2	1644 - 1888
Apr 06 2020	17 - 22	13 - 16	0	4 - 4	3341 - 4061
Apr 13 2020	28 - 39	25 - 32	0	8 - 10	6190 - 7961
Apr 20 2020	38 - 54	39 - 53	0	15 - 19	9914 - 13362
Apr 27 2020	47 - 71	54 - 77	0	26 - 34	14501 - 20401
May 04 2020	54 - 86	69 - 104	0	40 - 55	19667 - 28755
May 11 2020	60 - 101	83 - 130	0	57 - 82	25386 - 38487
May 18 2020	67 - 119	96 - 158	0	78 - 115	31706 - 49798
May 25 2020	74 - 138	109 - 188	0	101 - 155	38682 - 62905

date	hospitalized	ICU	overflow	deaths	recovered
Jun 01 2020	82 - 160	123 - 222	0	128 - 202	46368 - 78044
Jun 08 2020	91 - 185	137 - 259	0	158 - 257	54822 - 95467
Jun 15 2020	100 - 212	152 - 300	0	191 - 321	64103 - 115431
Jun 22 2020	110 - 242	168 - 345	0	228 - 395	74272 - 138196
Jun 29 2020	120 - 275	184 - 396	0	268 - 480	85386 - 164012
Jul 06 2020	131 - 310	202 - 396	0	313 - 584	97505 - 193106
Jul 13 2020	143 - 347	221 - 396	0	361 - 709	110682 - 225662
Jul 20 2020	155 - 384	241 - 396	0	415 - 857	124970 - 261809
Jul 27 2020	167 - 422	262 - 396	0	473 - 1026	140411 - 301597

Proportions

Outcome Population average

Mild [%]: 96.69

Severe [%]: 2.07

Critical [%]: 0.91

Fatal [%]: 0.33

Totals/Peak

Quantity Peak/total value

Total death: (507.88, **733.75**, 1.13k)

Total severe: (3.11k, **4.62k**, 6.77k)

Peak severe: (175, **286**, 443)

Peak critical: (275, **435**, 608)