

Supplementary Materials

Modeling the Novel Coronavirus (SARS-CoV-2) outbreak in Sicily, Italy

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Figure S1. Summary of data collection, model formulation and fitting

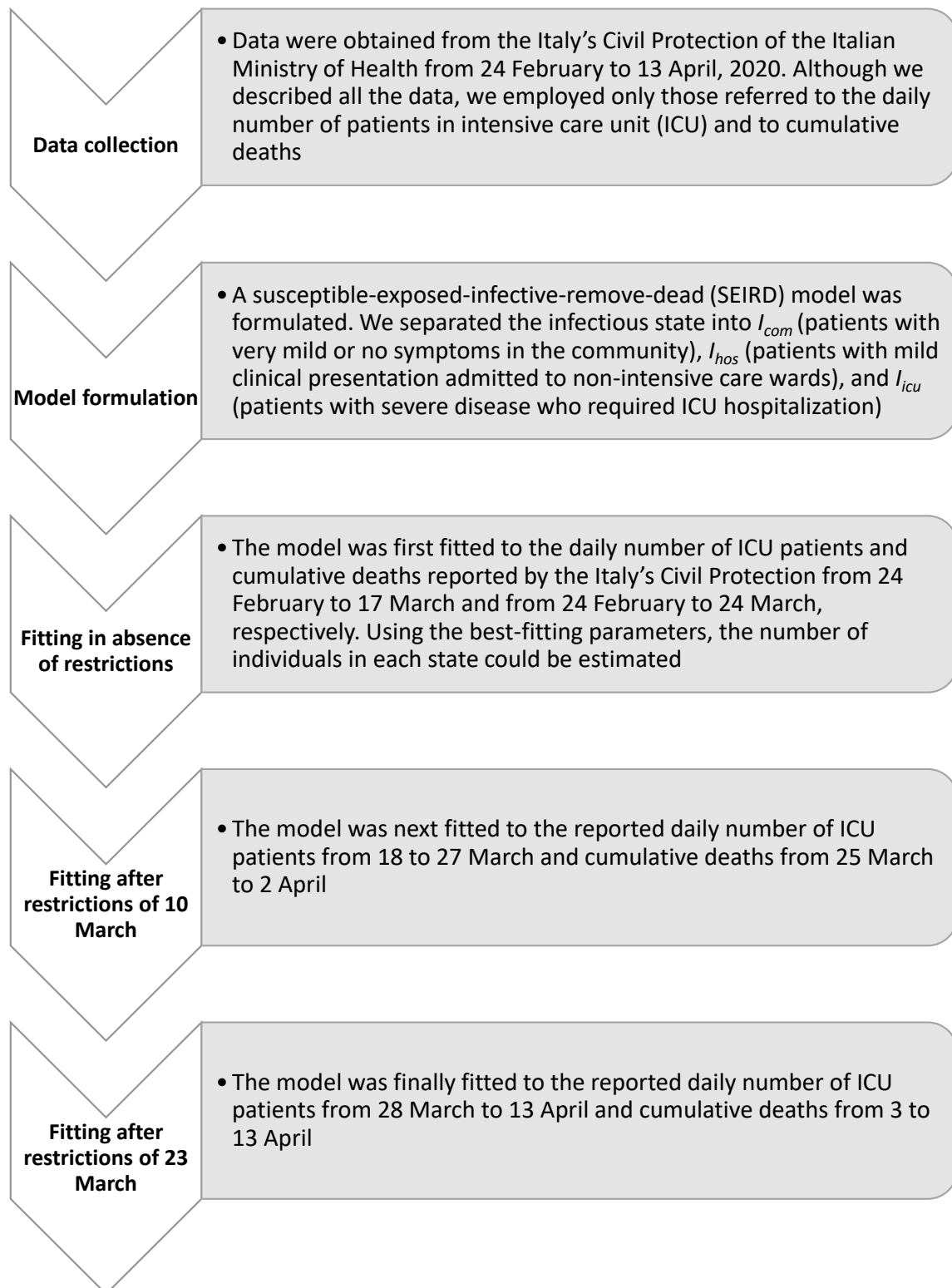


Table S1. Extract of data on SARS-CoV-2 cases in Sicily (Italy), reported by the Italy's Civil Protection from 24 February to 13 April, 2020

Date	Hospitalized in non-intensive care wards ^a	Hospitalized in Intensive Care Unit ^{a,b}	Total hospitalized patients ^a	Non-hospitalized patients ^a	Recovered ^a	Deaths ^{a,b}	Total cases ^a
24-Feb-20	0	0	0	0	0	0	0
25-Feb-20	1	0	1	2	0	0	3
26-Feb-20	1	0	1	2	0	0	3
27-Feb-20	1	0	1	1	2	0	4
28-Feb-20	1	0	1	1	2	0	4
29-Feb-20	1	0	1	1	2	0	4
1-Mar-20	1	0	1	6	2	0	9
2-Mar-20	2	0	2	3	2	0	7
3-Mar-20	2	0	2	3	2	0	7
4-Mar-20	5	0	5	11	2	0	18
5-Mar-20	5	0	5	11	2	0	18
6-Mar-20	7	0	7	15	2	0	24
7-Mar-20	8	0	8	25	2	0	35
8-Mar-20	18	0	18	33	2	0	53
9-Mar-20	19	0	19	33	2	0	54
10-Mar-20	17	2	19	41	2	0	62
11-Mar-20	23	1	24	57	2	0	83
12-Mar-20	28	5	33	78	2	2	115
13-Mar-20	37	7	44	82	2	2	130
14-Mar-20	42	11	53	97	4	2	156
15-Mar-20	56	15	71	108	7	2	188
16-Mar-20	75	20	95	108	8	2	213
17-Mar-20	86	28	114	112	8	3	237
18-Mar-20	100	29	129	138	12	3	282
19-Mar-20	143	36	179	142	15	4	340
20-Mar-20	168	42	210	169	25	4	408
21-Mar-20	206	48	254	204	26	6	490
22-Mar-20	220	55	275	321	26	8	630
23-Mar-20	250	60	310	371	27	13	721
24-Mar-20	250	60	310	489	27	20	846
25-Mar-20	259	80	339	597	33	25	994
26-Mar-20	346	68	414	681	36	33	1164
27-Mar-20	425	75	500	658	53	39	1250
28-Mar-20	441	71	512	730	60	57	1359
29-Mar-20	451	71	522	808	65	65	1460
30-Mar-20	484	75	559	849	71	76	1555
31-Mar-20	503	72	575	917	74	81	1647

1-Apr-20	496	72	568	976	86	88	1718
2-Apr-20	503	73	576	1030	92	93	1791
3-Apr-20	535	73	608	1056	94	101	1859
4-Apr-20	553	74	627	1099	95	111	1932
5-Apr-20	556	76	632	1142	104	116	1994
6-Apr-20	563	74	637	1178	108	123	2046
7-Apr-20	562	73	635	1224	113	125	2097
8-Apr-20	563	65	628	1265	133	133	2159
9-Apr-20	566	63	629	1313	152	138	2232
10-Apr-20	568	62	630	1337	187	148	2302
11-Apr-20	562	58	620	1381	209	154	2364
12-Apr-20	552	53	605	1425	223	163	2416
13-Apr-20	554	51	605	1445	237	171	2458

^a These data are described in Figure 2 reported in the main text

^b These data are used to fit the Susceptible-Exposed-Infectious-Recovered-Dead (SEIRD) model

Table S2. Best-fitting parameters in the sensitivity analysis.

Modeling period	SEIRD Parameters	Estimated values (95%CI)
In absence of control measures	β_{com}	0.99 (0.96 – 1.04)
	β_{hos}	0.37 (0.32 – 0.43)
	β_{icu}	0.28 (0.24 – 0.33)
	ν_{com}	0.76 (0.70– 0.82)
	ν_{hos}	0.19 (0.15 – 0.23)
	ν_{icu}	0.05 (0.03 – 0.07)
	μ_{com}	0.01 (0.00 – 0.02)
	μ_{hos}	0.07 (0.04 – 0.10)
	μ_{icu}	0.26 (0.20 – 0.30)
	After restrictions adopted on 10 March, 2020	β_{com}
β_{hos}		0.34 (0.33 – 0.35)
β_{icu}		0.25 (0.23 – 0.27)
After restrictions adopted on 23 March, 2020	β_{com}	0.20 (0.11– 0.30)
	β_{hos}	0.28 (0.25 – 0.31)
	β_{icu}	0.22 (0.20 – 0.25)