UCLH bed needs modelling

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Contents

1 Model input

- Forecasted COVID19 hospital admissions, taking Pietro/Richard forecasts for 0% (base) / 20% / 40% / 50% / 60% / 70% / 80% reduction in contact rates (Figure 1)
- Patient pathways
    1) intubated (mechanical ventilation) – mean LoS assumption: 14 days in ICU (with 50% mortality), 7 days HDU, 14 days ward bed, then discharge
    2) not intubated (non-invasive ventilation/CPAP) – mean LoS assumption: 7 days HDU (with 50% mortality), 10 days ward, then discharge
- Proportion of admissions going in each pathway:
    1) 18%
    2) 7.5%
- Note: 74.5% of COVID19 admissions are not critical care, and go on another pathway straight to ward beds. This is not yet accounted for in the model.
- Mortality:
    1) 50% in ICU, for those admitted straight to ICU. Otherwise they survive to discharge at end of pathway
    2) 50% in HDU, for those admitted straight to HDU. Otherwise they survive to discharge at end of pathway

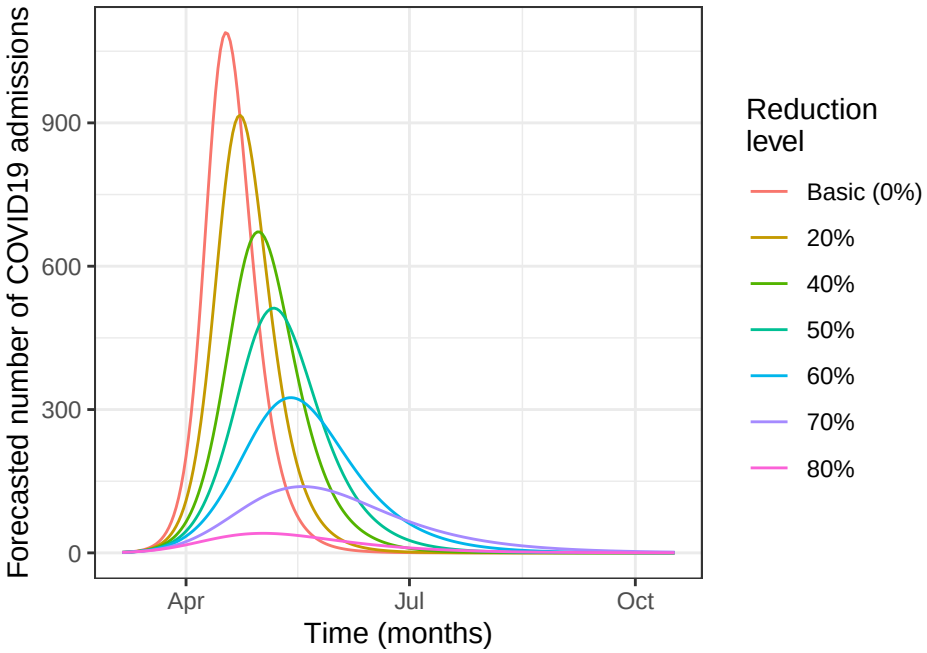

Figure 1: Forecasted daily COVID19 hospital admissions. Scenarios are: basic, 20%, 40%, 50%, 60%, 70% and 80% reduction in contact rates.

2 Model principle

This model simulates the next few weeks of the epidemic. Every day, we assume a fixed 25.5% of forecasted COVID19 admissions require critical care. For each admission, we randomly draw the pathway (50-50). The model then simulates the length of stay for each step in the pathway for each patient.

For example, if a patient is admitted on day 1 and goes through pathway 1, we first establish whether that patient dies, based on the mortality in ICU (here, 50%). If the patient dies, we then sample the date of death based from a Poisson distribution with mean 10, and record that a death has occured at that time, and that an ICU bed will be needed up to that time. If the patient does not die, we randomly draw the length of stay in the ICU bed from a Poisson distribution with mean 14 days. After this duration, the patient moves on to the next step of the pathway.

We repeat the process to draw a length of stay for each remaining step (type of bed occupancy) in turn on the pathway, systematically recording the time interval when a bed will be needed. This allows us to account for the fact that beds are only needed for a limited period of time, and will eventually become available again for other patients.

3 Model output

The model outputs the number of beds that would be needed each day to accommodate all of the admitted critical care COVID19 patients. The model can be run multiple times to provide us a mean and error range for these outputs. The uncertainty presented arises from the stochastic model sampling from distributions in length of stays in each bed type, and from proportions to assign the pathways to each patient.

Results from 500 model runs for each of the 7 scenarios (base, 20%/40%/50%/60%/70%/80% reduction) are presented below in summary Figures 2, 3 and 4, and summary Table 1. More details for each scenario are given in Figures 5, 6, 7, 8, 9, 10 and 11, and Tables 2, 3, 4, 5, 6, 7 and 8.

3.1 Summary

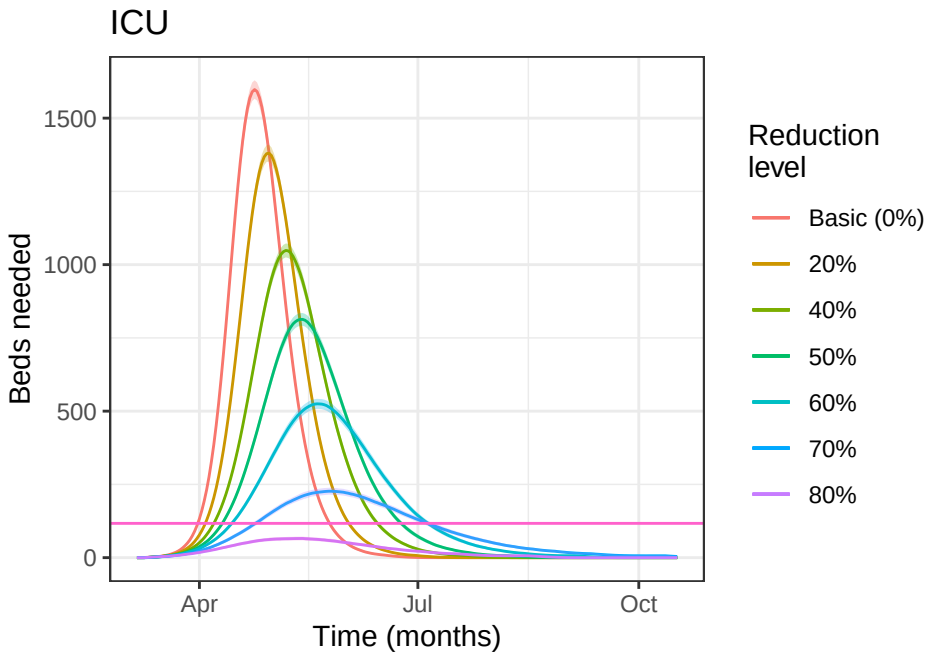

Figure 2: Output ICU bed demand from 500 model runs for the 20%, 40%, 50%, 60%, 70% and 80% reduction in contact rates. The horizontal lines represent the current maximum bed capacity. Lines are average daily requirements, shaded area represents average +/- standard deviation.

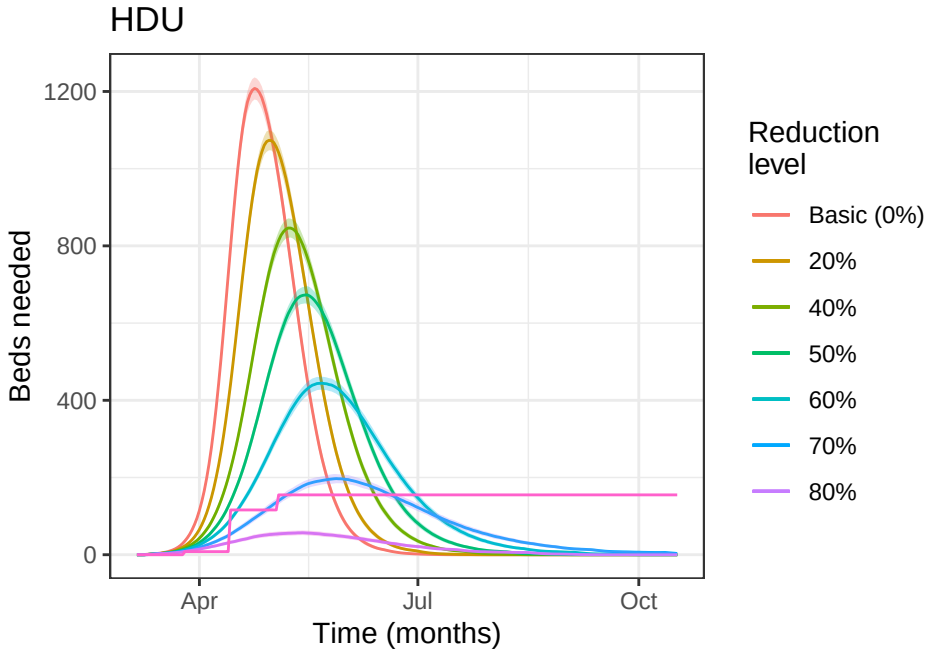

Figure 3: Output HDU bed demand from 500 model runs for the 20%, 40%, 50%, 60%, 70% and 80% reduction in contact rates. The horizontal lines represent the current maximum bed capacity. Lines are average requirements, shaded area represents average +/- standard deviation.

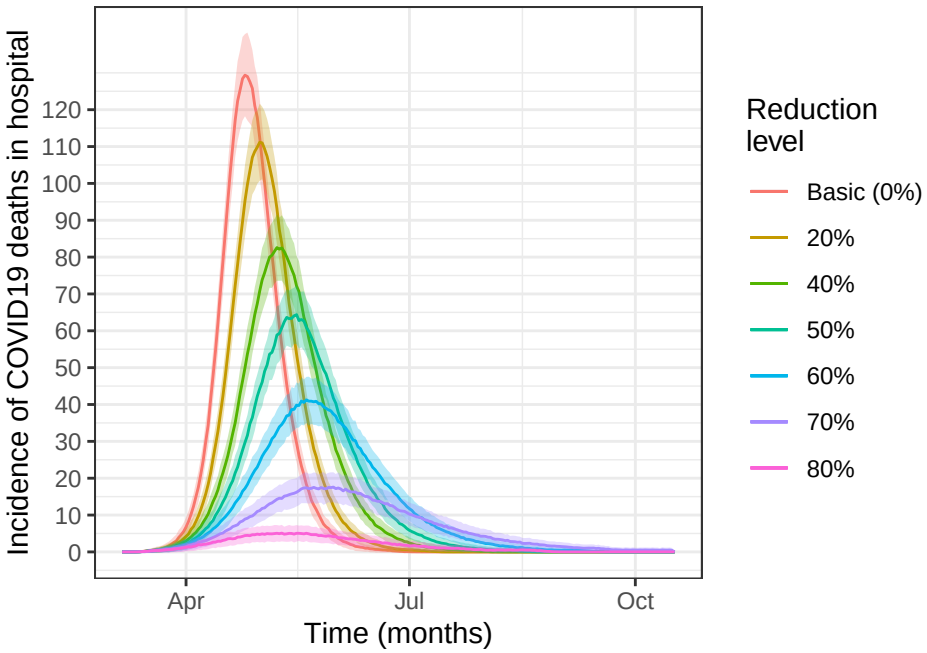

Figure 4: Estimated incidence of mortality in COVID19 hospitalised patients from 500 model runs. Scenarios are: 0% reduction in contact rate (base), 20%, 40%, 50%, 60%, 70% and 80% reduction in contact rates. Lines are average daily incidence, shaded area represents average +/- standard deviation.

Table 1: Summary model output from 500 model runs for all scenarios. Scenarios are: 0% reduction in contact rate (base), 20%, 40%, 50%, 60%, 70% and 80% reduction in contact rates SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU peak bed needs			HDU peak bed needs			Ward peak bed needs			Cumulative deaths	
Scenario	Peak time	Mean beds	SD	Peak time	Mean beds	SD	Peak time	Mean beds	SD	Mean deaths	SD
Base (0%)	2020-04-24	1598	32	2020-04-24	1208	29	2020-05-10	1185	30	3510	462
20% reduction	2020-04-30	1380	29	2020-04-30	1073	26	2020-05-15	1077	30	3412	482
40% reduction	2020-05-07	1048	24	2020-05-08	846	25	2020-05-23	882	27	3157	517
50% reduction	2020-05-14	813	22	2020-05-16	673	23	2020-05-29	715	24	2895	535
60% reduction	2020-05-20	525	17	2020-05-22	444	17	2020-06-05	484	18	2386	541
70% reduction	2020-05-25	227	12	2020-05-28	197	12	2020-06-11	218	13	1419	475
80% reduction	2020-05-14	65	6	2020-05-14	57	6	2020-05-25	63	7	380	229

3.2 Model Limitations

- Uncertainty in inputs: using a Poisson distribution for length of stay based on single mean values
- Simple pathways: patients can only follow one of two pathways with fixed length of stay
- Mortality is assumed to be randomly assigned and to occur at the end of the length of stay (may overestimate beds needed?)
- Unlimited bed capacity: this is a prediction of bed need and does not include any competition for beds
- Uncertainty presented reflects only uncertainty in length of stay
- The population is split only by the two pathways - age / co-morbidities are not included
- Simple ward beds are only included for critical care patients, NOT for total COVID19 admissions, since we do not have an estimate of length of stay for patients admitted straight to ward beds

3.3 Individual scenario plots and tables

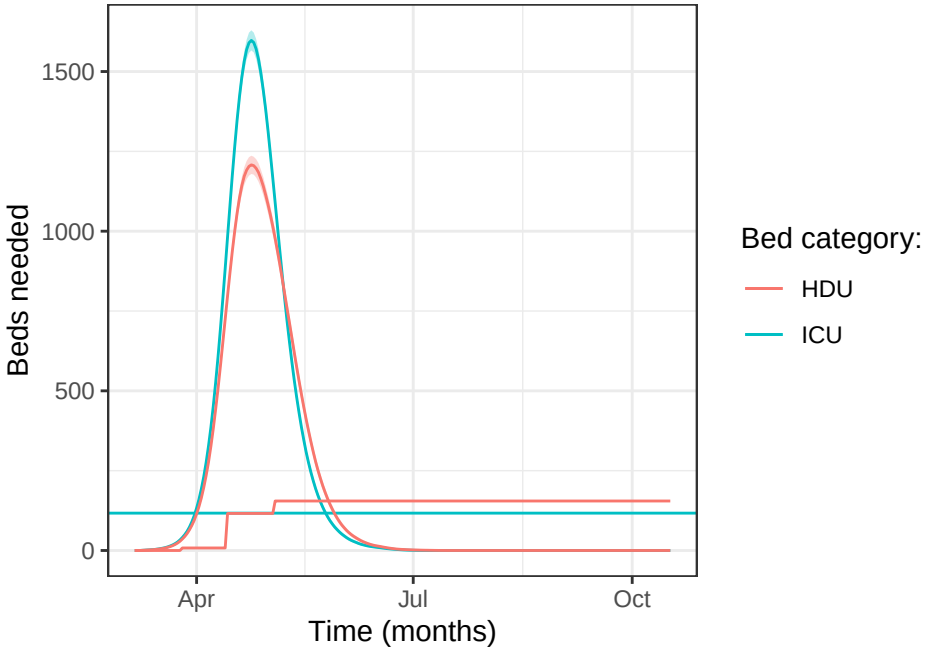

Figure 5: Output from 500 model runs for the base scenario. The horizontal lines represent the current maximum bed capacity for the different units.Lines are average daily incidence, shaded area represents average +/- standard deviation.

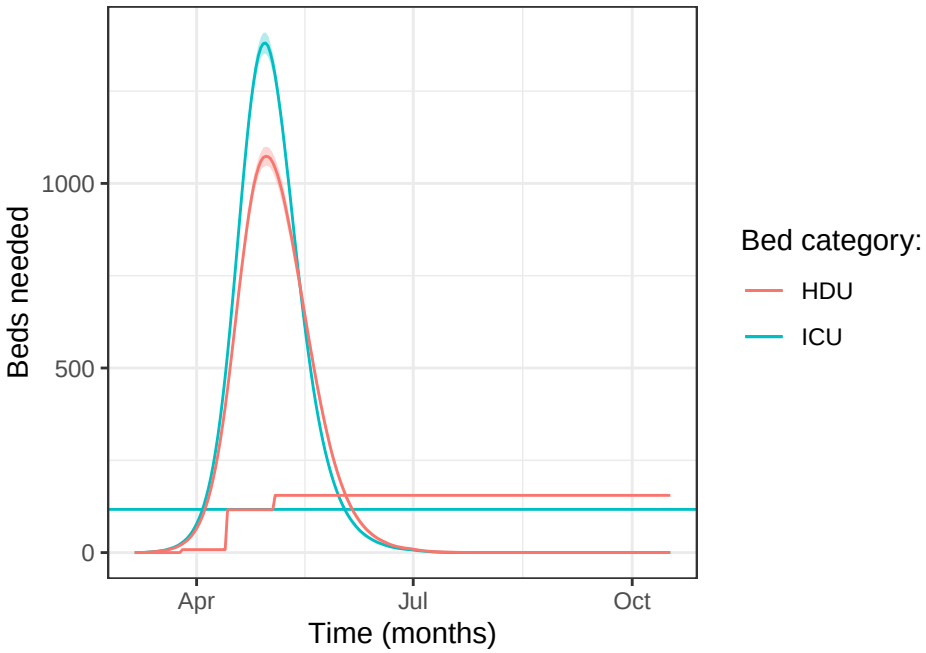

Figure 6: Output from 500 model runs for the 20% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.

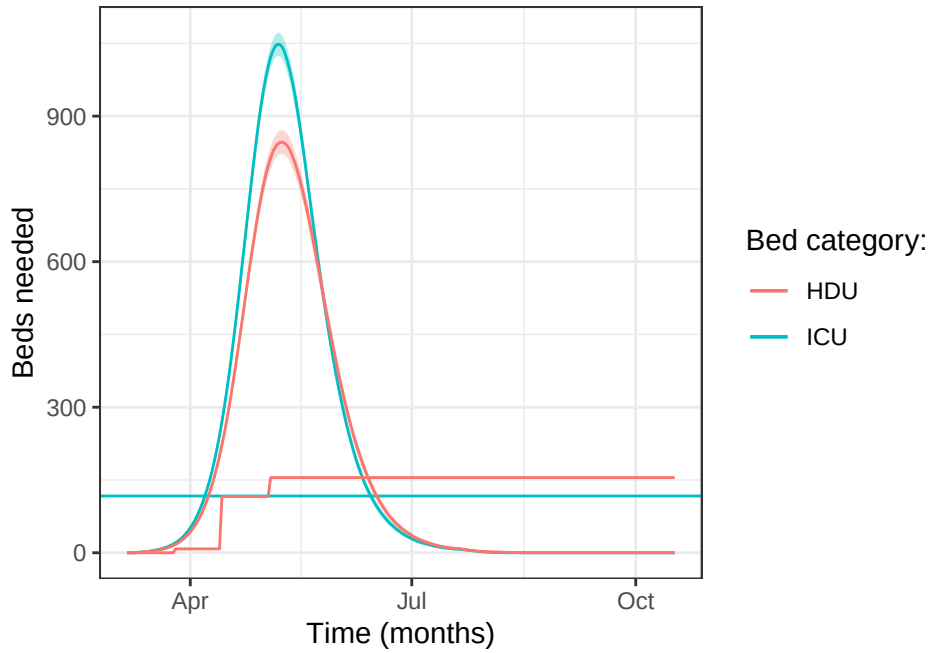

Figure 7: Output from 500 model runs for the 40% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.

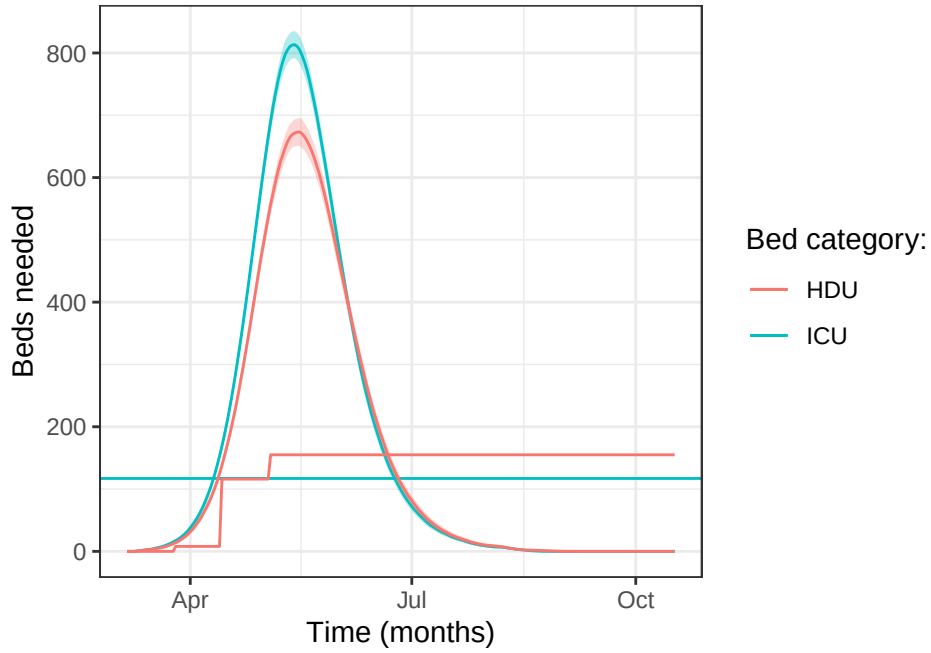

Figure 8: Output from 500 model runs for the 50% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.

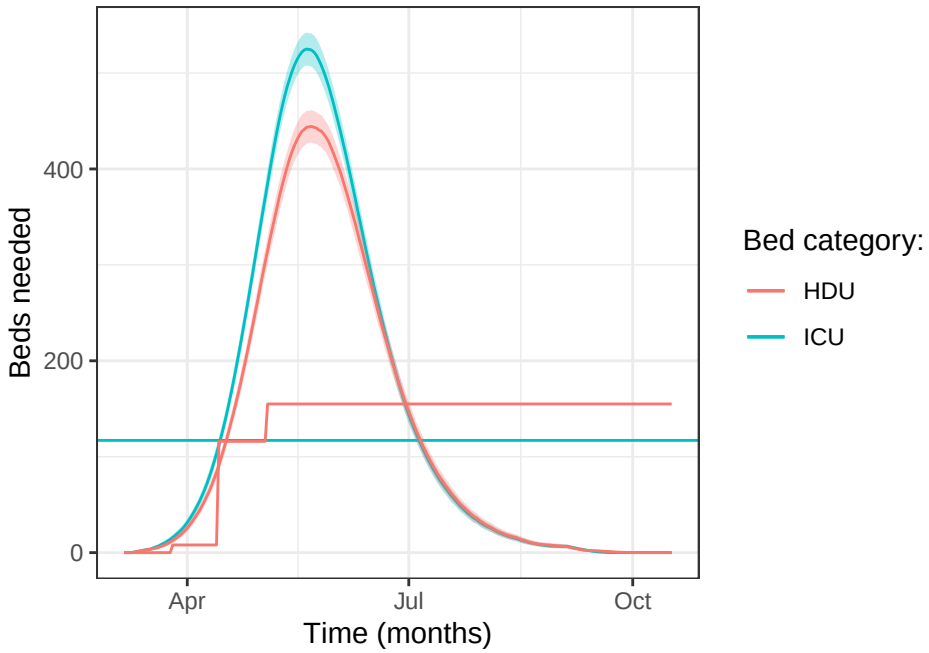

Figure 9: Output from 500 model runs for the 60% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.

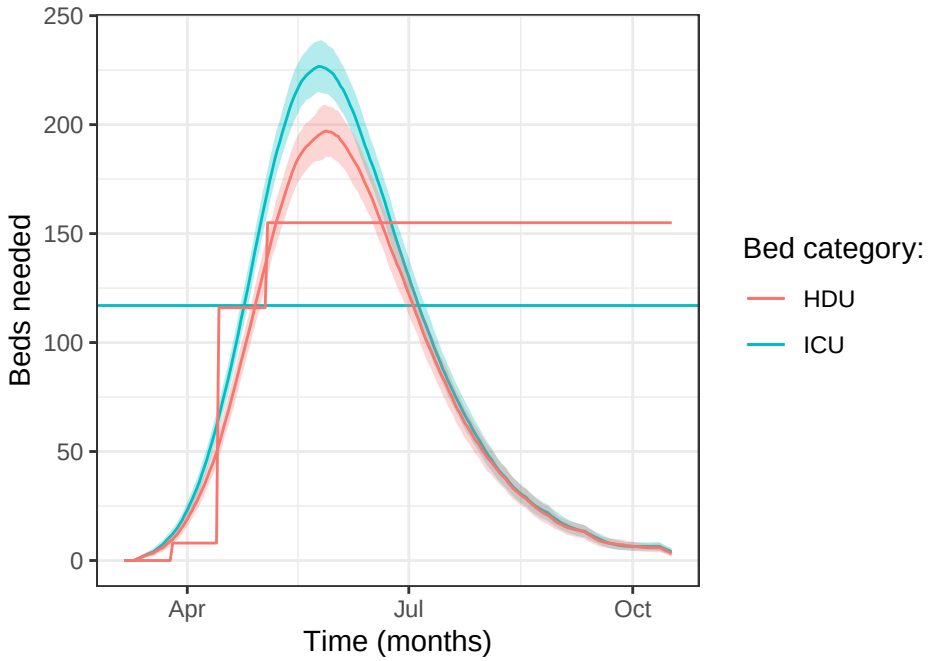

Figure 10: Output from 500 model runs for the 70% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.

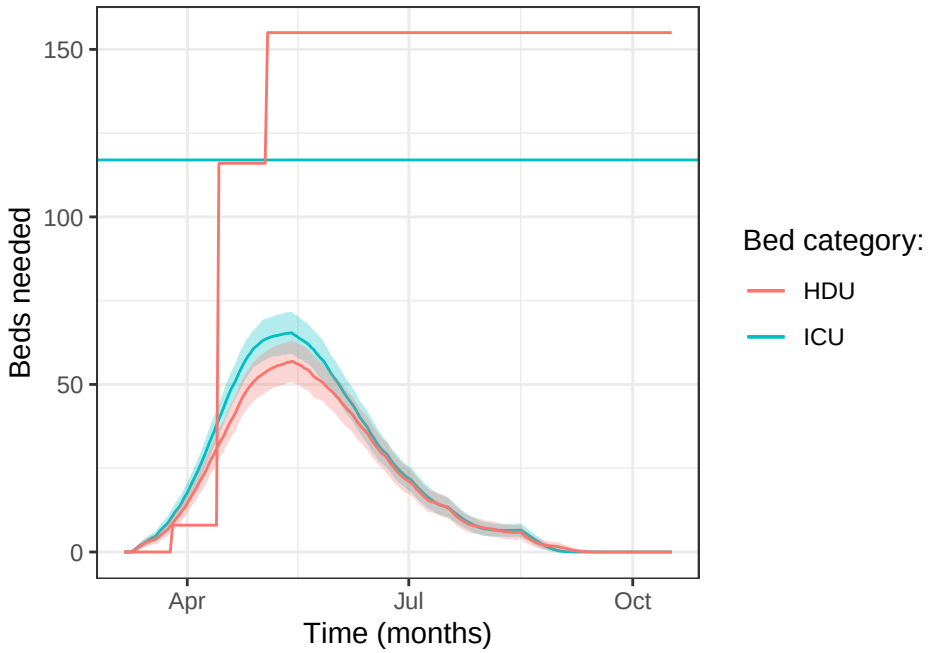

Figure 11: Output from 500 model runs for the 80% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.

Table 2: Model output from 500 model runs for the base scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-06	0	0	0	0	0	0	0	0	0
2020-03-07	0	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0	0
2020-03-09	1	1	0	1	0	0	0	0	1
2020-03-10	1	1	1	1	0	0	0	0	1
2020-03-11	2	1	1	1	0	0	0	0	1
2020-03-12	2	1	2	1	0	0	0	0	1
2020-03-13	3	1	2	1	0	0	0	0	1
2020-03-14	3	1	3	1	0	0	0	0	1
2020-03-15	4	1	4	1	0	0	0	0	2
2020-03-16	5	1	4	1	0	1	0	0	2
2020-03-17	6	2	6	2	1	1	0	1	3
2020-03-18	8	2	7	2	1	1	0	1	3
2020-03-19	10	2	8	2	1	1	1	1	4
2020-03-20	12	3	10	2	1	1	1	1	5
2020-03-21	15	3	13	3	2	1	1	1	6
2020-03-22	18	3	15	3	2	1	1	1	7

Table 2: Model output from 500 model runs for the base scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-23	22	3	19	3	3	1	1	1	9
2020-03-24	27	4	23	4	4	2	1	1	11
2020-03-25	33	4	29	4	5	2	2	1	14
2020-03-26	41	5	36	5	6	2	2	1	17
2020-03-27	50	5	44	5	7	2	3	2	20
2020-03-28	60	6	53	6	9	3	3	2	24
2020-03-29	74	6	65	6	10	3	4	2	30
2020-03-30	90	7	79	7	13	3	5	2	36
2020-03-31	109	8	95	7	16	4	6	2	43
2020-04-01	133	8	115	8	20	4	7	3	52
2020-04-02	161	9	138	8	24	5	8	3	62
2020-04-03	193	10	165	10	30	5	10	3	73
2020-04-04	231	11	198	10	36	6	12	3	86
2020-04-05	276	12	235	11	44	6	15	4	101
2020-04-06	328	13	277	12	53	7	18	4	118
2020-04-07	386	13	327	13	64	7	21	5	135
2020-04-08	452	15	382	15	77	8	25	5	154
2020-04-09	526	16	442	17	92	9	30	5	174
2020-04-10	607	18	508	18	111	10	34	6	193
2020-04-11	694	19	578	19	132	11	41	6	212
2020-04-12	787	21	651	20	157	11	48	7	230
2020-04-13	884	22	724	21	185	13	55	8	246
2020-04-14	983	24	798	21	217	14	62	8	259
2020-04-15	1080	25	869	22	252	14	71	8	268
2020-04-16	1175	25	937	22	292	15	79	9	275
2020-04-17	1265	26	1000	24	335	16	87	9	278
2020-04-18	1348	28	1056	26	382	17	95	10	277
2020-04-19	1421	30	1104	27	431	19	103	10	273
2020-04-20	1483	31	1143	28	484	20	110	10	266
2020-04-21	1532	31	1172	28	539	21	117	10	257
2020-04-22	1569	31	1191	28	593	21	122	11	245
2020-04-23	1590	32	1203	29	648	22	125	11	232
2020-04-24	1598	32	1208	29	703	23	128	11	218
2020-04-25	1591	31	1205	28	756	25	129	11	204
2020-04-26	1571	31	1197	29	808	26	129	12	189
2020-04-27	1538	32	1184	29	858	27	128	11	174
2020-04-28	1495	31	1164	29	904	28	126	10	159
2020-04-29	1442	30	1141	28	947	29	121	11	145
2020-04-30	1382	29	1114	27	988	29	118	11	132
2020-05-01	1315	29	1084	27	1024	29	112	11	119
2020-05-02	1242	28	1051	27	1057	29	106	10	107
2020-05-03	1166	27	1015	26	1085	29	100	10	96
2020-05-04	1089	26	977	26	1111	29	93	9	86

Table 2: Model output from 500 model runs for the base scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-05-05	1012	24	936	25	1134	28	86	9	77
2020-05-06	936	23	894	25	1153	30	81	9	69
2020-05-07	860	22	849	24	1168	31	75	8	61
2020-05-08	788	22	803	24	1178	31	68	8	54
2020-05-09	718	20	758	24	1183	31	61	8	48
2020-05-10	653	20	713	25	1185	30	56	8	43
2020-05-11	592	19	667	24	1182	30	51	7	38
2020-05-12	534	18	621	24	1176	31	45	6	34
2020-05-13	482	17	576	22	1166	31	41	6	30
2020-05-14	433	16	532	21	1151	30	37	6	26
2020-05-15	388	16	490	20	1131	29	33	6	23
2020-05-16	347	15	450	18	1107	29	30	5	21
2020-05-17	309	14	412	18	1079	29	26	5	18
2020-05-18	275	14	376	16	1047	29	23	5	16
2020-05-19	245	13	341	16	1012	29	21	4	14
2020-05-20	218	12	309	16	974	28	18	4	13
2020-05-21	194	11	278	16	933	28	16	4	11
2020-05-22	172	10	251	15	889	28	14	4	10
2020-05-23	153	10	226	14	844	27	13	4	9
2020-05-24	136	10	203	13	798	26	12	3	8
2020-05-25	120	9	182	13	751	26	10	3	7
2020-05-26	106	8	162	12	703	25	9	3	6
2020-05-27	94	8	145	11	656	25	8	3	5
2020-05-28	83	7	130	11	610	24	7	2	5
2020-05-29	74	7	115	10	565	23	6	2	4
2020-05-30	66	7	102	9	521	22	5	2	4
2020-05-31	58	6	90	8	479	21	5	2	3
2020-06-01	51	6	80	8	438	20	4	2	3
2020-06-02	46	6	71	7	400	19	4	2	3
2020-06-03	40	5	63	7	364	18	3	2	2
2020-06-04	36	5	56	6	331	17	3	2	2
2020-06-05	32	5	50	6	299	16	3	2	2
2020-06-06	28	4	44	6	270	15	2	2	2
2020-06-07	25	4	40	6	244	14	2	1	2
2020-06-08	22	4	35	6	219	13	2	1	1
2020-06-09	20	4	31	5	197	12	2	1	1
2020-06-10	18	3	27	5	177	11	1	1	1
2020-06-11	16	3	24	5	158	11	1	1	1
2020-06-12	14	3	22	5	141	10	1	1	1
2020-06-13	13	3	19	4	126	10	1	1	1
2020-06-14	12	3	17	4	112	9	1	1	1
2020-06-15	11	3	15	3	99	9	1	1	1
2020-06-16	10	3	14	3	88	8	1	1	1

Table 2: Model output from 500 model runs for the base scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-06-17	9	2	13	3	78	8	1	1	1
2020-06-18	8	2	11	3	70	8	1	1	0
2020-06-19	7	2	10	3	62	7	1	1	0
2020-06-20	6	2	9	3	55	7	1	1	0
2020-06-21	5	2	7	3	49	7	0	1	0
2020-06-22	4	2	6	2	43	6	0	1	0
2020-06-23	4	2	6	2	38	6	0	1	0
2020-06-24	3	1	5	2	34	5	0	1	0
2020-06-25	3	1	4	2	30	5	0	0	0
2020-06-26	2	1	4	2	27	5	0	0	0
2020-06-27	2	1	3	2	24	5	0	0	0
2020-06-28	1	1	3	2	21	4	0	0	0
2020-06-29	1	1	2	1	19	4	0	0	0
2020-06-30	1	1	2	1	16	4	0	0	0
2020-07-01	1	1	2	1	15	3	0	0	0
2020-07-02	0	1	2	1	13	3	0	0	0
2020-07-03	0	1	1	1	11	3	0	0	0
2020-07-04	0	0	1	1	10	3	0	0	0
2020-07-05	0	0	1	1	9	3	0	0	0
2020-07-06	0	0	1	1	8	3	0	0	0
2020-07-07	0	0	1	1	7	3	0	0	0
2020-07-08	0	0	1	1	6	2	0	0	0
2020-07-09	0	0	1	1	6	2	0	0	0
2020-07-10	0	0	0	1	5	2	0	0	0
2020-07-11	0	0	0	1	4	2	0	0	0
2020-07-12	0	0	0	0	4	2	0	0	0
2020-07-13	0	0	0	0	3	2	0	0	0
2020-07-14	0	0	0	0	3	2	0	0	0
2020-07-15	0	0	0	0	3	2	0	0	0
2020-07-16	0	0	0	0	2	1	0	0	0
2020-07-17	0	0	0	0	2	1	0	0	0
2020-07-18	0	0	0	0	2	1	0	0	0
2020-07-19	0	0	0	0	1	1	0	0	0
2020-07-20	0	0	0	0	1	1	0	0	0
2020-07-21	0	0	0	0	1	1	0	0	0
2020-07-22	0	0	0	0	1	1	0	0	0
2020-07-23	0	0	0	0	1	1	0	0	0
2020-07-24	0	0	0	0	1	1	0	0	0
2020-07-25	0	0	0	0	0	1	0	0	0
2020-07-26	0	0	0	0	0	1	0	0	0
2020-07-27	0	0	0	0	0	0	0	0	0
2020-07-28	0	0	0	0	0	0	0	0	0
2020-07-29	0	0	0	0	0	0	0	0	0

Table 2: Model output from 500 model runs for the base scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-07-30	0	0	0	0	0	0	0	0	0
2020-07-31	0	0	0	0	0	0	0	0	0
2020-08-01	0	0	0	0	0	0	0	0	0
2020-08-02	0	0	0	0	0	0	0	0	0
2020-08-03	0	0	0	0	0	0	0	0	0
2020-08-04	0	0	0	0	0	0	0	0	0
2020-08-05	0	0	0	0	0	0	0	0	0
2020-08-06	0	0	0	0	0	0	0	0	0
2020-08-07	0	0	0	0	0	0	0	0	0
2020-08-08	0	0	0	0	0	0	0	0	0
2020-08-09	0	0	0	0	0	0	0	0	0
2020-08-10	0	0	0	0	0	0	0	0	0
2020-08-11	0	0	0	0	0	0	0	0	0
2020-08-12	0	0	0	0	0	0	0	0	0
2020-08-13	0	0	0	0	0	0	0	0	0
2020-08-14	0	0	0	0	0	0	0	0	0
2020-08-15	0	0	0	0	0	0	0	0	0
2020-08-16	0	0	0	0	0	0	0	0	0
2020-08-17	0	0	0	0	0	0	0	0	0
2020-08-18	0	0	0	0	0	0	0	0	0
2020-08-19	0	0	0	0	0	0	0	0	0
2020-08-20	0	0	0	0	0	0	0	0	0
2020-08-21	0	0	0	0	0	0	0	0	0
2020-08-22	0	0	0	0	0	0	0	0	0
2020-08-23	0	0	0	0	0	0	0	0	0
2020-08-24	0	0	0	0	0	0	0	0	0
2020-08-25	0	0	0	0	0	0	0	0	0
2020-08-26	0	0	0	0	0	0	0	0	0
2020-08-27	0	0	0	0	0	0	0	0	0
2020-08-28	0	0	0	0	0	0	0	0	0
2020-08-29	0	0	0	0	0	0	0	0	0
2020-08-30	0	0	0	0	0	0	0	0	0
2020-08-31	0	0	0	0	0	0	0	0	0
2020-09-01	0	0	0	0	0	0	0	0	0
2020-09-02	0	0	0	0	0	0	0	0	0
2020-09-03	0	0	0	0	0	0	0	0	0
2020-09-04	0	0	0	0	0	0	0	0	0
2020-09-05	0	0	0	0	0	0	0	0	0
2020-09-06	0	0	0	0	0	0	0	0	0
2020-09-07	0	0	0	0	0	0	0	0	0
2020-09-08	0	0	0	0	0	0	0	0	0
2020-09-09	0	0	0	0	0	0	0	0	0
2020-09-10	0	0	0	0	0	0	0	0	0

Table 2: Model output from 500 model runs for the base scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-09-11	0	0	0	0	0	0	0	0	0
2020-09-12	0	0	0	0	0	0	0	0	0
2020-09-13	0	0	0	0	0	0	0	0	0
2020-09-14	0	0	0	0	0	0	0	0	0
2020-09-15	0	0	0	0	0	0	0	0	0
2020-09-16	0	0	0	0	0	0	0	0	0
2020-09-17	0	0	0	0	0	0	0	0	0
2020-09-18	0	0	0	0	0	0	0	0	0
2020-09-19	0	0	0	0	0	0	0	0	0
2020-09-20	0	0	0	0	0	0	0	0	0
2020-09-21	0	0	0	0	0	0	0	0	0
2020-09-22	0	0	0	0	0	0	0	0	0
2020-09-23	0	0	0	0	0	0	0	0	0
2020-09-24	0	0	0	0	0	0	0	0	0
2020-09-25	0	0	0	0	0	0	0	0	0
2020-09-26	0	0	0	0	0	0	0	0	0
2020-09-27	0	0	0	0	0	0	0	0	0
2020-09-28	0	0	0	0	0	0	0	0	0
2020-09-29	0	0	0	0	0	0	0	0	0
2020-09-30	0	0	0	0	0	0	0	0	0
2020-10-01	0	0	0	0	0	0	0	0	0
2020-10-02	0	0	0	0	0	0	0	0	0
2020-10-03	0	0	0	0	0	0	0	0	0
2020-10-04	0	0	0	0	0	0	0	0	0
2020-10-05	0	0	0	0	0	0	0	0	0
2020-10-06	0	0	0	0	0	0	0	0	0
2020-10-07	0	0	0	0	0	0	0	0	0
2020-10-08	0	0	0	0	0	0	0	0	0
2020-10-09	0	0	0	0	0	0	0	0	0
2020-10-10	0	0	0	0	0	0	0	0	0
2020-10-11	0	0	0	0	0	0	0	0	0
2020-10-12	0	0	0	0	0	0	0	0	0
2020-10-13	0	0	0	0	0	0	0	0	0
2020-10-14	0	0	0	0	0	0	0	0	0
2020-10-15	0	0	0	0	0	0	0	0	0
2020-10-16	0	0	0	0	0	0	0	0	0
2020-10-17	0	0	0	0	0	0	0	0	0

Table 3: Model output from 500 model runs for the 20% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-06	0	0	0	0	0	0	0	0	0
2020-03-07	0	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0	0
2020-03-10	1	0	0	0	0	0	0	0	1
2020-03-11	1	1	1	1	0	0	0	0	1
2020-03-12	2	1	1	1	0	0	0	0	1
2020-03-13	2	1	2	1	0	0	0	0	1
2020-03-14	3	1	2	1	0	0	0	0	1
2020-03-15	3	1	3	1	0	0	0	0	1
2020-03-16	4	1	4	1	0	0	0	0	2
2020-03-17	5	2	4	1	0	1	0	0	2
2020-03-18	6	2	5	2	1	1	0	0	2
2020-03-19	7	2	6	2	1	1	0	1	3
2020-03-20	9	2	8	2	1	1	0	1	4
2020-03-21	11	2	9	2	1	1	1	1	4
2020-03-22	13	3	11	2	2	1	1	1	5
2020-03-23	16	3	13	3	2	1	1	1	6
2020-03-24	19	3	16	3	3	2	1	1	7
2020-03-25	23	3	20	3	3	2	1	1	9
2020-03-26	27	4	23	4	4	2	1	1	10
2020-03-27	33	4	28	4	5	2	2	1	12
2020-03-28	39	4	33	4	6	2	2	1	14
2020-03-29	46	5	39	5	7	3	3	2	17
2020-03-30	55	5	46	5	9	3	3	2	20
2020-03-31	66	6	55	5	11	3	4	2	24
2020-04-01	78	6	65	6	13	3	4	2	28
2020-04-02	92	7	78	7	16	4	5	2	33
2020-04-03	108	8	92	7	19	4	6	2	38
2020-04-04	128	8	108	8	22	4	7	3	45
2020-04-05	150	9	127	9	26	4	8	3	52
2020-04-06	175	10	148	9	32	5	10	3	60
2020-04-07	204	11	173	10	37	5	12	3	69
2020-04-08	238	11	201	11	45	6	14	3	80
2020-04-09	276	12	232	12	53	7	16	4	91
2020-04-10	319	13	267	13	63	7	18	4	103
2020-04-11	367	14	306	13	74	8	21	4	116
2020-04-12	419	15	348	15	86	9	25	5	129
2020-04-13	477	16	394	16	101	9	29	5	143
2020-04-14	539	17	443	16	117	9	33	6	157
2020-04-15	605	18	496	17	136	11	38	6	171
2020-04-16	675	19	551	18	157	11	42	6	184
2020-04-17	748	20	607	19	180	12	48	7	196

Table 3: Model output from 500 model runs for the 20% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-04-18	822	21	664	20	206	13	54	7	207
2020-04-19	896	22	721	21	236	14	60	8	217
2020-04-20	970	22	774	21	268	15	66	8	224
2020-04-21	1042	23	825	22	303	16	72	8	229
2020-04-22	1110	24	874	23	340	17	78	8	233
2020-04-23	1173	25	919	25	380	18	84	9	234
2020-04-24	1229	26	958	25	421	18	90	9	232
2020-04-25	1276	26	994	24	464	19	95	10	229
2020-04-26	1317	28	1022	25	509	20	100	10	224
2020-04-27	1347	29	1044	25	554	21	103	10	217
2020-04-28	1368	29	1061	24	600	21	107	10	209
2020-04-29	1379	29	1070	27	646	22	109	10	200
2020-04-30	1380	29	1073	26	690	23	110	10	190
2020-05-01	1372	28	1073	25	734	23	111	10	179
2020-05-02	1353	27	1067	26	777	24	111	10	168
2020-05-03	1326	27	1056	26	818	24	109	10	157
2020-05-04	1292	26	1041	27	856	25	107	10	146
2020-05-05	1250	26	1023	27	892	25	104	10	135
2020-05-06	1204	26	1001	27	924	26	101	10	125
2020-05-07	1154	26	976	27	954	25	98	9	115
2020-05-08	1098	26	947	28	981	26	93	10	105
2020-05-09	1041	26	916	27	1005	27	87	9	96
2020-05-10	983	25	883	26	1026	28	84	9	88
2020-05-11	923	24	849	25	1044	28	79	9	80
2020-05-12	862	24	813	25	1057	29	73	8	72
2020-05-13	803	23	777	24	1067	28	67	8	66
2020-05-14	746	22	739	23	1074	29	63	8	59
2020-05-15	691	21	702	23	1077	30	59	8	54
2020-05-16	637	21	662	22	1077	30	54	7	48
2020-05-17	586	20	624	21	1074	30	49	7	44
2020-05-18	538	18	585	20	1065	30	46	7	39
2020-05-19	491	18	548	20	1054	29	42	6	35
2020-05-20	447	17	511	19	1040	29	38	6	32
2020-05-21	407	16	475	19	1021	30	34	5	29
2020-05-22	370	15	441	19	1000	29	31	6	26
2020-05-23	335	14	408	19	975	28	28	5	23
2020-05-24	304	14	376	18	946	28	26	5	21
2020-05-25	275	14	346	17	916	28	23	5	19
2020-05-26	249	13	318	17	884	27	21	5	17
2020-05-27	225	12	290	16	849	26	19	4	15
2020-05-28	203	11	265	15	812	26	17	4	14
2020-05-29	183	11	242	14	774	26	15	4	12
2020-05-30	165	10	220	13	735	25	14	4	11

Table 3: Model output from 500 model runs for the 20% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-05-31	148	9	201	12	696	24	12	3	10
2020-06-01	133	9	182	12	657	24	11	3	9
2020-06-02	120	8	165	12	618	23	10	3	8
2020-06-03	108	8	149	11	579	22	9	3	7
2020-06-04	97	8	135	11	540	22	8	3	7
2020-06-05	87	7	122	10	503	20	7	3	6
2020-06-06	79	7	110	9	467	20	7	2	5
2020-06-07	71	7	100	9	433	19	6	2	5
2020-06-08	64	6	90	8	401	18	5	2	4
2020-06-09	57	6	81	8	369	18	5	2	4
2020-06-10	52	6	73	8	339	17	4	2	4
2020-06-11	46	6	65	7	311	17	4	2	3
2020-06-12	42	5	59	7	284	15	4	2	3
2020-06-13	38	5	53	7	260	14	3	2	3
2020-06-14	34	5	48	6	237	14	3	2	2
2020-06-15	31	5	43	6	215	13	3	2	2
2020-06-16	28	4	39	6	196	13	2	1	2
2020-06-17	25	4	35	6	177	12	2	1	2
2020-06-18	23	4	32	5	161	12	2	1	2
2020-06-19	21	4	29	5	145	11	2	1	1
2020-06-20	18	3	26	5	132	11	1	1	1
2020-06-21	17	3	23	5	119	11	1	1	1
2020-06-22	15	3	20	4	108	10	1	1	1
2020-06-23	14	3	18	4	97	9	1	1	1
2020-06-24	12	3	17	4	87	9	1	1	1
2020-06-25	11	3	15	4	79	8	1	1	1
2020-06-26	10	3	14	3	71	8	1	1	1
2020-06-27	10	2	13	3	64	7	1	1	1
2020-06-28	9	2	12	3	57	7	1	1	1
2020-06-29	8	2	11	3	52	7	1	1	1
2020-06-30	8	2	10	3	47	6	1	1	1
2020-07-01	7	2	9	3	42	6	1	1	0
2020-07-02	6	2	8	3	38	6	1	1	0
2020-07-03	5	2	7	2	34	6	0	1	0
2020-07-04	5	2	6	2	31	5	0	1	0
2020-07-05	4	2	5	2	28	5	0	1	0
2020-07-06	4	2	5	2	25	5	0	1	0
2020-07-07	3	2	4	2	23	5	0	1	0
2020-07-08	3	1	3	2	21	4	0	0	0
2020-07-09	2	1	3	2	19	4	0	0	0
2020-07-10	2	1	3	2	17	4	0	0	0
2020-07-11	1	1	2	1	15	4	0	0	0
2020-07-12	1	1	2	1	13	4	0	0	0

Table 3: Model output from 500 model runs for the 20% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-07-13	1	1	2	1	12	3	0	0	0
2020-07-14	1	1	2	1	11	3	0	0	0
2020-07-15	0	1	2	1	10	3	0	0	0
2020-07-16	0	1	1	1	9	3	0	0	0
2020-07-17	0	0	1	1	8	3	0	0	0
2020-07-18	0	0	1	1	7	3	0	0	0
2020-07-19	0	0	1	1	6	2	0	0	0
2020-07-20	0	0	1	1	6	2	0	0	0
2020-07-21	0	0	1	1	5	2	0	0	0
2020-07-22	0	0	0	1	4	2	0	0	0
2020-07-23	0	0	0	1	4	2	0	0	0
2020-07-24	0	0	0	1	4	2	0	0	0
2020-07-25	0	0	0	0	3	2	0	0	0
2020-07-26	0	0	0	0	3	2	0	0	0
2020-07-27	0	0	0	0	3	1	0	0	0
2020-07-28	0	0	0	0	2	1	0	0	0
2020-07-29	0	0	0	0	2	1	0	0	0
2020-07-30	0	0	0	0	2	1	0	0	0
2020-07-31	0	0	0	0	1	1	0	0	0
2020-08-01	0	0	0	0	1	1	0	0	0
2020-08-02	0	0	0	0	1	1	0	0	0
2020-08-03	0	0	0	0	1	1	0	0	0
2020-08-04	0	0	0	0	1	1	0	0	0
2020-08-05	0	0	0	0	1	1	0	0	0
2020-08-06	0	0	0	0	0	1	0	0	0
2020-08-07	0	0	0	0	0	1	0	0	0
2020-08-08	0	0	0	0	0	1	0	0	0
2020-08-09	0	0	0	0	0	0	0	0	0
2020-08-10	0	0	0	0	0	0	0	0	0
2020-08-11	0	0	0	0	0	0	0	0	0
2020-08-12	0	0	0	0	0	0	0	0	0
2020-08-13	0	0	0	0	0	0	0	0	0
2020-08-14	0	0	0	0	0	0	0	0	0
2020-08-15	0	0	0	0	0	0	0	0	0
2020-08-16	0	0	0	0	0	0	0	0	0
2020-08-17	0	0	0	0	0	0	0	0	0
2020-08-18	0	0	0	0	0	0	0	0	0
2020-08-19	0	0	0	0	0	0	0	0	0
2020-08-20	0	0	0	0	0	0	0	0	0
2020-08-21	0	0	0	0	0	0	0	0	0
2020-08-22	0	0	0	0	0	0	0	0	0
2020-08-23	0	0	0	0	0	0	0	0	0
2020-08-24	0	0	0	0	0	0	0	0	0

Table 3: Model output from 500 model runs for the 20% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-08-25	0	0	0	0	0	0	0	0	0
2020-08-26	0	0	0	0	0	0	0	0	0
2020-08-27	0	0	0	0	0	0	0	0	0
2020-08-28	0	0	0	0	0	0	0	0	0
2020-08-29	0	0	0	0	0	0	0	0	0
2020-08-30	0	0	0	0	0	0	0	0	0
2020-08-31	0	0	0	0	0	0	0	0	0
2020-09-01	0	0	0	0	0	0	0	0	0
2020-09-02	0	0	0	0	0	0	0	0	0
2020-09-03	0	0	0	0	0	0	0	0	0
2020-09-04	0	0	0	0	0	0	0	0	0
2020-09-05	0	0	0	0	0	0	0	0	0
2020-09-06	0	0	0	0	0	0	0	0	0
2020-09-07	0	0	0	0	0	0	0	0	0
2020-09-08	0	0	0	0	0	0	0	0	0
2020-09-09	0	0	0	0	0	0	0	0	0
2020-09-10	0	0	0	0	0	0	0	0	0
2020-09-11	0	0	0	0	0	0	0	0	0
2020-09-12	0	0	0	0	0	0	0	0	0
2020-09-13	0	0	0	0	0	0	0	0	0
2020-09-14	0	0	0	0	0	0	0	0	0
2020-09-15	0	0	0	0	0	0	0	0	0
2020-09-16	0	0	0	0	0	0	0	0	0
2020-09-17	0	0	0	0	0	0	0	0	0
2020-09-18	0	0	0	0	0	0	0	0	0
2020-09-19	0	0	0	0	0	0	0	0	0
2020-09-20	0	0	0	0	0	0	0	0	0
2020-09-21	0	0	0	0	0	0	0	0	0
2020-09-22	0	0	0	0	0	0	0	0	0
2020-09-23	0	0	0	0	0	0	0	0	0
2020-09-24	0	0	0	0	0	0	0	0	0
2020-09-25	0	0	0	0	0	0	0	0	0
2020-09-26	0	0	0	0	0	0	0	0	0
2020-09-27	0	0	0	0	0	0	0	0	0
2020-09-28	0	0	0	0	0	0	0	0	0
2020-09-29	0	0	0	0	0	0	0	0	0
2020-09-30	0	0	0	0	0	0	0	0	0
2020-10-01	0	0	0	0	0	0	0	0	0
2020-10-02	0	0	0	0	0	0	0	0	0
2020-10-03	0	0	0	0	0	0	0	0	0
2020-10-04	0	0	0	0	0	0	0	0	0
2020-10-05	0	0	0	0	0	0	0	0	0
2020-10-06	0	0	0	0	0	0	0	0	0

Table 3: Model output from 500 model runs for the 20% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-10-07	0	0	0	0	0	0	0	0	0
2020-10-08	0	0	0	0	0	0	0	0	0
2020-10-09	0	0	0	0	0	0	0	0	0
2020-10-10	0	0	0	0	0	0	0	0	0
2020-10-11	0	0	0	0	0	0	0	0	0
2020-10-12	0	0	0	0	0	0	0	0	0
2020-10-13	0	0	0	0	0	0	0	0	0
2020-10-14	0	0	0	0	0	0	0	0	0
2020-10-15	0	0	0	0	0	0	0	0	0
2020-10-16	0	0	0	0	0	0	0	0	0
2020-10-17	0	0	0	0	0	0	0	0	0

Table 4: Model output from 500 model runs for the 40% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-06	0	0	0	0	0	0	0	0	0
2020-03-07	0	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0	0
2020-03-10	0	0	1	0	0	0	0	0	1
2020-03-11	1	1	1	1	0	0	0	0	1
2020-03-12	1	1	2	1	0	0	0	0	1
2020-03-13	2	1	2	1	0	0	0	0	1
2020-03-14	2	1	2	1	0	0	0	0	1
2020-03-15	3	1	3	1	0	0	0	0	1
2020-03-16	4	1	4	1	0	1	0	0	2
2020-03-17	5	2	4	2	0	1	0	0	2
2020-03-18	6	2	5	2	1	1	0	1	2
2020-03-19	7	2	6	2	1	1	0	1	2
2020-03-20	8	2	7	2	1	1	0	1	3
2020-03-21	9	2	8	2	1	1	1	1	3
2020-03-22	11	2	9	2	2	1	1	1	4
2020-03-23	13	3	11	3	2	1	1	1	5
2020-03-24	15	3	13	3	3	1	1	1	5
2020-03-25	18	3	15	3	3	1	1	1	6
2020-03-26	21	3	17	3	4	2	1	1	7
2020-03-27	24	4	20	3	4	2	1	1	8

Table 4: Model output from 500 model runs for the 40% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-28	28	4	24	4	5	2	2	1	10
2020-03-29	33	4	28	4	6	2	2	1	11
2020-03-30	38	5	32	4	7	2	2	2	13
2020-03-31	44	5	37	5	8	3	3	2	14
2020-04-01	51	5	43	5	10	3	3	2	17
2020-04-02	59	6	49	5	12	3	3	2	19
2020-04-03	68	6	57	6	14	3	4	2	22
2020-04-04	78	7	65	6	16	4	5	2	25
2020-04-05	90	7	74	7	19	4	5	2	28
2020-04-06	103	8	85	7	22	4	6	2	32
2020-04-07	117	8	97	8	25	5	7	2	36
2020-04-08	133	9	110	8	29	5	8	3	40
2020-04-09	150	9	125	9	34	5	9	3	45
2020-04-10	170	10	141	9	39	6	10	3	50
2020-04-11	192	10	159	10	45	6	12	3	56
2020-04-12	215	11	178	10	51	7	14	4	62
2020-04-13	241	12	199	11	59	7	15	4	69
2020-04-14	270	13	222	12	67	8	17	4	76
2020-04-15	301	13	247	12	77	9	19	4	83
2020-04-16	334	14	274	13	88	9	21	5	91
2020-04-17	370	15	302	14	99	10	24	5	99
2020-04-18	408	16	333	15	112	10	26	5	107
2020-04-19	448	16	365	15	126	10	29	5	115
2020-04-20	491	17	398	16	141	11	32	5	123
2020-04-21	534	18	432	16	158	11	35	6	130
2020-04-22	579	19	468	17	177	12	39	6	138
2020-04-23	625	20	504	17	196	13	43	7	145
2020-04-24	670	20	540	17	217	13	46	7	151
2020-04-25	715	20	575	18	241	14	50	7	157
2020-04-26	760	21	609	18	265	15	54	7	161
2020-04-27	803	21	642	19	292	15	57	8	165
2020-04-28	845	22	673	20	319	16	61	7	168
2020-04-29	884	23	703	21	347	17	64	7	170
2020-04-30	920	23	731	21	377	17	67	7	171
2020-05-01	951	23	756	22	408	18	71	8	171
2020-05-02	979	22	779	23	439	18	74	9	170
2020-05-03	1002	23	798	23	471	19	76	9	168
2020-05-04	1022	23	814	23	502	21	78	9	166
2020-05-05	1035	23	828	24	534	21	80	8	162
2020-05-06	1044	23	837	24	567	21	81	9	158
2020-05-07	1048	24	843	24	598	21	82	9	153
2020-05-08	1047	24	846	25	630	22	83	9	147
2020-05-09	1041	24	846	24	660	22	82	9	142

Table 4: Model output from 500 model runs for the 40% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-05-10	1028	24	844	25	687	24	82	9	135
2020-05-11	1012	24	838	25	714	24	81	9	129
2020-05-12	992	24	830	25	739	26	80	9	123
2020-05-13	969	24	817	25	763	25	78	9	116
2020-05-14	943	25	803	24	785	27	77	8	110
2020-05-15	913	24	788	24	805	26	75	9	103
2020-05-16	880	24	769	23	822	27	72	8	97
2020-05-17	846	23	750	22	838	27	71	8	91
2020-05-18	809	22	728	22	851	28	67	8	85
2020-05-19	771	22	706	23	862	28	64	8	79
2020-05-20	734	22	681	23	871	29	61	7	74
2020-05-21	696	22	656	23	877	28	58	8	69
2020-05-22	659	21	630	22	881	27	55	8	64
2020-05-23	622	19	602	22	882	27	52	7	59
2020-05-24	586	19	576	22	881	27	49	7	55
2020-05-25	550	18	548	21	877	26	46	7	51
2020-05-26	516	17	521	21	870	26	43	6	47
2020-05-27	483	17	494	20	861	26	40	6	43
2020-05-28	451	17	468	20	849	26	37	6	40
2020-05-29	421	16	442	19	834	26	35	6	37
2020-05-30	392	16	417	18	819	25	33	6	34
2020-05-31	364	15	391	18	801	24	30	5	31
2020-06-01	339	15	367	17	781	25	28	5	29
2020-06-02	314	14	344	16	758	26	26	5	26
2020-06-03	290	14	322	16	736	25	24	5	24
2020-06-04	268	13	301	15	712	24	22	5	22
2020-06-05	248	13	280	15	686	24	21	4	21
2020-06-06	229	13	261	14	660	23	19	4	19
2020-06-07	211	13	243	14	632	23	18	4	17
2020-06-08	194	12	226	13	604	23	16	4	16
2020-06-09	179	11	211	13	576	22	15	4	15
2020-06-10	165	11	196	13	549	21	14	3	14
2020-06-11	152	10	181	13	521	21	13	4	12
2020-06-12	139	10	168	12	493	20	12	3	11
2020-06-13	128	9	155	11	466	20	11	3	11
2020-06-14	119	9	143	11	439	19	10	3	10
2020-06-15	109	8	132	11	414	18	9	3	9
2020-06-16	100	8	122	10	389	18	8	3	8
2020-06-17	92	8	113	9	365	18	7	3	8
2020-06-18	85	7	104	9	342	17	7	3	7
2020-06-19	78	7	96	9	320	17	7	3	6
2020-06-20	72	7	88	8	299	16	6	2	6
2020-06-21	66	7	81	8	279	15	5	2	5

Table 4: Model output from 500 model runs for the 40% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-06-22	61	6	75	7	259	15	5	2	5
2020-06-23	56	6	69	7	241	15	5	2	5
2020-06-24	52	6	63	7	224	14	4	2	4
2020-06-25	48	5	58	7	208	14	4	2	4
2020-06-26	44	5	54	7	193	13	4	2	4
2020-06-27	40	5	50	6	178	12	3	2	3
2020-06-28	37	5	45	6	165	12	3	2	3
2020-06-29	34	5	42	6	153	11	3	2	3
2020-06-30	32	4	39	6	141	11	3	2	3
2020-07-01	29	4	35	5	131	11	2	2	2
2020-07-02	26	4	33	5	121	10	2	1	2
2020-07-03	24	4	30	5	111	10	2	1	2
2020-07-04	22	4	28	5	103	9	2	1	2
2020-07-05	21	4	26	4	95	9	2	1	2
2020-07-06	19	4	24	4	87	8	1	1	2
2020-07-07	18	4	22	4	80	8	1	1	2
2020-07-08	17	3	20	4	74	7	1	1	1
2020-07-09	15	3	18	4	68	7	1	1	1
2020-07-10	14	3	17	4	63	7	1	1	1
2020-07-11	13	3	16	4	58	7	1	1	1
2020-07-12	12	3	14	3	53	7	1	1	1
2020-07-13	11	3	13	3	49	6	1	1	1
2020-07-14	10	3	12	3	45	6	1	1	1
2020-07-15	10	3	11	3	42	6	1	1	1
2020-07-16	9	2	11	3	38	5	1	1	1
2020-07-17	8	2	10	3	35	5	1	1	1
2020-07-18	8	2	10	3	32	5	1	1	1
2020-07-19	8	2	9	3	30	5	1	1	1
2020-07-20	7	2	9	3	27	5	1	1	1
2020-07-21	7	2	8	3	25	4	1	1	1
2020-07-22	6	2	7	2	23	4	0	1	0
2020-07-23	6	2	7	2	22	4	1	1	0
2020-07-24	5	2	6	2	20	4	0	1	0
2020-07-25	5	2	5	2	19	4	0	1	0
2020-07-26	4	2	4	2	17	4	0	1	0
2020-07-27	4	2	4	2	16	4	0	1	0
2020-07-28	3	1	3	2	15	4	0	1	0
2020-07-29	3	1	3	2	14	3	0	0	0
2020-07-30	2	1	3	1	13	3	0	0	0
2020-07-31	2	1	2	1	11	3	0	0	0
2020-08-01	1	1	2	1	11	3	0	0	0
2020-08-02	1	1	2	1	10	3	0	0	0
2020-08-03	1	1	2	1	9	3	0	0	0

Table 4: Model output from 500 model runs for the 40% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-08-04	1	1	2	1	8	3	0	0	0
2020-08-05	0	1	2	1	7	3	0	0	0
2020-08-06	0	1	1	1	7	2	0	0	0
2020-08-07	0	0	1	1	6	2	0	0	0
2020-08-08	0	0	1	1	6	2	0	0	0
2020-08-09	0	0	1	1	5	2	0	0	0
2020-08-10	0	0	1	1	5	2	0	0	0
2020-08-11	0	0	1	1	4	2	0	0	0
2020-08-12	0	0	0	1	4	2	0	0	0
2020-08-13	0	0	0	1	4	2	0	0	0
2020-08-14	0	0	0	1	3	2	0	0	0
2020-08-15	0	0	0	0	3	2	0	0	0
2020-08-16	0	0	0	0	3	2	0	0	0
2020-08-17	0	0	0	0	2	1	0	0	0
2020-08-18	0	0	0	0	2	1	0	0	0
2020-08-19	0	0	0	0	2	1	0	0	0
2020-08-20	0	0	0	0	2	1	0	0	0
2020-08-21	0	0	0	0	1	1	0	0	0
2020-08-22	0	0	0	0	1	1	0	0	0
2020-08-23	0	0	0	0	1	1	0	0	0
2020-08-24	0	0	0	0	1	1	0	0	0
2020-08-25	0	0	0	0	1	1	0	0	0
2020-08-26	0	0	0	0	1	1	0	0	0
2020-08-27	0	0	0	0	0	1	0	0	0
2020-08-28	0	0	0	0	0	1	0	0	0
2020-08-29	0	0	0	0	0	1	0	0	0
2020-08-30	0	0	0	0	0	0	0	0	0
2020-08-31	0	0	0	0	0	0	0	0	0
2020-09-01	0	0	0	0	0	0	0	0	0
2020-09-02	0	0	0	0	0	0	0	0	0
2020-09-03	0	0	0	0	0	0	0	0	0
2020-09-04	0	0	0	0	0	0	0	0	0
2020-09-05	0	0	0	0	0	0	0	0	0
2020-09-06	0	0	0	0	0	0	0	0	0
2020-09-07	0	0	0	0	0	0	0	0	0
2020-09-08	0	0	0	0	0	0	0	0	0
2020-09-09	0	0	0	0	0	0	0	0	0
2020-09-10	0	0	0	0	0	0	0	0	0
2020-09-11	0	0	0	0	0	0	0	0	0
2020-09-12	0	0	0	0	0	0	0	0	0
2020-09-13	0	0	0	0	0	0	0	0	0
2020-09-14	0	0	0	0	0	0	0	0	0
2020-09-15	0	0	0	0	0	0	0	0	0

Table 4: Model output from 500 model runs for the 40% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-09-16	0	0	0	0	0	0	0	0	0
2020-09-17	0	0	0	0	0	0	0	0	0
2020-09-18	0	0	0	0	0	0	0	0	0
2020-09-19	0	0	0	0	0	0	0	0	0
2020-09-20	0	0	0	0	0	0	0	0	0
2020-09-21	0	0	0	0	0	0	0	0	0
2020-09-22	0	0	0	0	0	0	0	0	0
2020-09-23	0	0	0	0	0	0	0	0	0
2020-09-24	0	0	0	0	0	0	0	0	0
2020-09-25	0	0	0	0	0	0	0	0	0
2020-09-26	0	0	0	0	0	0	0	0	0
2020-09-27	0	0	0	0	0	0	0	0	0
2020-09-28	0	0	0	0	0	0	0	0	0
2020-09-29	0	0	0	0	0	0	0	0	0
2020-09-30	0	0	0	0	0	0	0	0	0
2020-10-01	0	0	0	0	0	0	0	0	0
2020-10-02	0	0	0	0	0	0	0	0	0
2020-10-03	0	0	0	0	0	0	0	0	0
2020-10-04	0	0	0	0	0	0	0	0	0
2020-10-05	0	0	0	0	0	0	0	0	0
2020-10-06	0	0	0	0	0	0	0	0	0
2020-10-07	0	0	0	0	0	0	0	0	0
2020-10-08	0	0	0	0	0	0	0	0	0
2020-10-09	0	0	0	0	0	0	0	0	0
2020-10-10	0	0	0	0	0	0	0	0	0
2020-10-11	0	0	0	0	0	0	0	0	0
2020-10-12	0	0	0	0	0	0	0	0	0
2020-10-13	0	0	0	0	0	0	0	0	0
2020-10-14	0	0	0	0	0	0	0	0	0
2020-10-15	0	0	0	0	0	0	0	0	0
2020-10-16	0	0	0	0	0	0	0	0	0
2020-10-17	0	0	0	0	0	0	0	0	0

Table 5: Model output from 500 model runs for the 50% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-06	0	0	0	0	0	0	0	0	0
2020-03-07	0	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0	0
2020-03-10	0	1	1	1	0	0	0	0	1
2020-03-11	1	1	1	1	0	0	0	0	1
2020-03-12	1	1	2	1	0	0	0	0	1
2020-03-13	2	1	2	1	0	0	0	0	1
2020-03-14	2	1	2	1	0	0	0	0	1
2020-03-15	3	1	3	1	0	0	0	0	1
2020-03-16	3	1	3	1	0	1	0	0	1
2020-03-17	4	1	4	1	0	1	0	0	2
2020-03-18	5	2	4	2	1	1	0	1	2
2020-03-19	6	2	5	2	1	1	0	1	2
2020-03-20	7	2	6	2	1	1	0	1	2
2020-03-21	8	2	7	2	1	1	0	1	3
2020-03-22	10	2	8	2	2	1	1	1	3
2020-03-23	11	2	9	2	2	1	1	1	4
2020-03-24	13	3	11	2	2	1	1	1	4
2020-03-25	15	3	12	3	3	1	1	1	5
2020-03-26	17	3	14	3	3	2	1	1	5
2020-03-27	19	3	16	3	4	2	1	1	6
2020-03-28	22	4	18	3	5	2	1	1	7
2020-03-29	25	4	21	3	5	2	2	1	8
2020-03-30	29	4	24	4	6	2	2	1	9
2020-03-31	33	4	27	4	7	2	2	1	10
2020-04-01	38	5	31	4	8	3	2	1	12
2020-04-02	43	5	36	5	9	3	3	1	13
2020-04-03	49	5	41	5	11	3	3	2	15
2020-04-04	55	5	46	5	13	3	3	2	16
2020-04-05	62	6	52	5	14	4	4	2	18
2020-04-06	70	6	58	6	17	4	4	2	21
2020-04-07	79	6	66	6	19	4	5	2	23
2020-04-08	88	7	73	7	22	4	6	2	25
2020-04-09	99	7	82	7	25	5	6	3	28
2020-04-10	110	8	91	7	29	5	7	3	31
2020-04-11	123	8	101	7	33	5	8	3	34
2020-04-12	137	8	112	8	37	5	9	3	38
2020-04-13	153	9	125	9	41	6	10	3	42
2020-04-14	169	9	138	9	46	6	11	3	45
2020-04-15	187	10	153	10	52	6	12	4	50
2020-04-16	205	10	168	10	58	7	14	3	54
2020-04-17	226	11	184	10	66	7	15	4	58

Table 5: Model output from 500 model runs for the 50% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-04-18	248	11	201	11	73	7	16	4	63
2020-04-19	271	12	219	12	82	8	18	4	68
2020-04-20	295	12	238	13	91	8	19	4	73
2020-04-21	321	13	259	13	100	9	21	5	78
2020-04-22	347	13	281	13	111	9	23	5	83
2020-04-23	375	14	303	14	123	10	25	5	88
2020-04-24	403	14	326	14	135	10	28	5	93
2020-04-25	432	15	349	15	149	11	30	5	98
2020-04-26	462	16	373	16	163	12	32	6	103
2020-04-27	492	16	397	16	179	13	35	6	107
2020-04-28	522	16	422	15	195	13	36	6	112
2020-04-29	551	17	446	16	212	14	39	7	115
2020-04-30	580	17	470	16	230	14	42	6	119
2020-05-01	610	17	492	16	249	14	44	6	122
2020-05-02	638	17	514	17	269	15	46	7	125
2020-05-03	665	18	536	17	289	16	49	7	127
2020-05-04	690	19	556	17	311	17	51	7	129
2020-05-05	714	19	575	18	333	17	54	7	130
2020-05-06	735	19	593	19	355	17	54	7	131
2020-05-07	755	20	610	20	377	18	56	8	131
2020-05-08	772	21	625	20	401	18	59	8	130
2020-05-09	786	21	636	20	424	17	59	8	129
2020-05-10	798	22	648	21	447	18	61	8	128
2020-05-11	805	22	658	21	469	19	62	8	126
2020-05-12	811	22	665	21	492	19	64	8	124
2020-05-13	813	22	669	21	515	20	63	8	121
2020-05-14	813	22	672	22	536	21	63	8	118
2020-05-15	810	22	673	22	557	21	64	8	115
2020-05-16	804	22	673	23	577	21	64	8	112
2020-05-17	795	22	670	23	596	22	63	8	108
2020-05-18	785	22	665	22	614	23	63	8	104
2020-05-19	771	21	659	22	630	23	63	8	100
2020-05-20	756	21	651	22	646	23	61	8	96
2020-05-21	738	21	642	21	660	24	60	8	92
2020-05-22	719	20	631	21	672	23	58	8	88
2020-05-23	699	20	618	22	683	23	57	7	84
2020-05-24	677	19	606	21	693	24	55	7	80
2020-05-25	654	19	591	20	701	24	53	7	76
2020-05-26	632	19	576	20	707	24	51	7	72
2020-05-27	608	19	559	19	711	24	50	7	68
2020-05-28	584	18	541	19	713	24	48	7	64
2020-05-29	560	18	523	19	715	24	46	7	61
2020-05-30	535	17	505	19	715	24	44	6	57

Table 5: Model output from 500 model runs for the 50% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-05-31	511	17	486	19	713	24	42	6	54
2020-06-01	487	17	468	19	708	25	40	6	51
2020-06-02	463	17	449	19	702	25	38	6	48
2020-06-03	440	16	431	18	694	25	36	6	45
2020-06-04	417	16	412	17	685	24	34	6	42
2020-06-05	394	15	394	17	675	25	33	5	39
2020-06-06	372	14	376	17	663	24	31	5	37
2020-06-07	351	14	358	17	650	23	29	5	35
2020-06-08	331	13	340	16	636	23	27	5	32
2020-06-09	311	13	323	15	620	23	26	5	30
2020-06-10	292	13	306	15	604	22	24	5	28
2020-06-11	275	13	290	15	587	23	23	5	26
2020-06-12	258	12	274	14	569	22	21	5	25
2020-06-13	243	12	258	13	551	21	20	4	23
2020-06-14	227	11	243	13	533	21	19	4	22
2020-06-15	213	11	229	13	513	21	17	4	20
2020-06-16	200	11	216	13	494	21	16	4	19
2020-06-17	188	11	203	12	475	20	16	4	18
2020-06-18	175	10	191	12	455	19	14	4	16
2020-06-19	164	10	179	11	436	19	14	4	15
2020-06-20	154	9	168	11	416	18	13	4	14
2020-06-21	143	9	157	11	398	17	12	4	13
2020-06-22	134	9	147	11	379	17	11	3	12
2020-06-23	125	9	138	11	360	16	10	3	12
2020-06-24	117	9	129	10	342	16	10	3	11
2020-06-25	110	8	121	10	324	16	9	3	10
2020-06-26	102	8	113	10	307	16	8	3	9
2020-06-27	95	8	106	9	290	15	8	3	9
2020-06-28	89	8	99	9	274	15	7	3	8
2020-06-29	83	8	93	9	259	15	7	3	8
2020-06-30	77	7	86	8	244	14	6	2	7
2020-07-01	72	7	81	8	229	14	6	2	7
2020-07-02	67	7	76	8	216	14	6	2	6
2020-07-03	63	7	71	8	202	13	5	2	6
2020-07-04	59	6	66	7	190	13	5	2	5
2020-07-05	55	6	62	7	179	12	5	2	5
2020-07-06	51	6	58	7	168	12	4	2	5
2020-07-07	47	6	54	7	157	12	4	2	4
2020-07-08	44	5	50	7	148	12	4	2	4
2020-07-09	41	5	47	6	138	11	3	2	4
2020-07-10	39	5	44	6	129	10	3	2	4
2020-07-11	36	5	41	6	121	10	3	2	3
2020-07-12	34	5	38	6	113	10	3	2	3

Table 5: Model output from 500 model runs for the 50% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-07-13	32	5	35	5	106	10	3	1	3
2020-07-14	30	4	33	5	98	10	2	2	3
2020-07-15	28	4	31	5	92	9	2	1	3
2020-07-16	26	4	29	5	86	9	2	1	2
2020-07-17	24	4	27	5	81	9	2	1	2
2020-07-18	23	4	25	4	75	9	2	1	2
2020-07-19	21	4	23	4	70	8	2	1	2
2020-07-20	20	3	22	4	66	8	2	1	2
2020-07-21	19	3	21	4	62	8	2	1	2
2020-07-22	18	3	19	4	57	7	1	1	2
2020-07-23	16	3	18	4	53	7	1	1	1
2020-07-24	15	3	17	4	50	7	1	1	1
2020-07-25	14	3	15	3	46	6	1	1	1
2020-07-26	13	3	14	3	43	6	1	1	1
2020-07-27	12	3	13	3	40	6	1	1	1
2020-07-28	11	3	12	3	38	6	1	1	1
2020-07-29	10	3	12	3	35	6	1	1	1
2020-07-30	10	3	11	3	33	5	1	1	1
2020-07-31	9	2	10	3	31	5	1	1	1
2020-08-01	8	2	10	3	29	5	1	1	1
2020-08-02	8	2	9	3	27	5	1	1	1
2020-08-03	7	2	9	3	25	5	1	1	1
2020-08-04	7	2	9	3	23	4	1	1	1
2020-08-05	7	2	8	3	22	4	0	1	1
2020-08-06	7	2	8	2	20	4	1	1	1
2020-08-07	7	2	8	2	19	4	0	1	1
2020-08-08	6	2	7	2	18	4	0	1	0
2020-08-09	6	2	6	2	17	4	1	1	0
2020-08-10	5	2	5	2	16	4	0	1	0
2020-08-11	5	2	5	2	15	4	0	1	0
2020-08-12	4	2	4	2	14	4	0	1	0
2020-08-13	4	2	3	2	13	3	0	1	0
2020-08-14	3	1	3	2	12	3	0	1	0
2020-08-15	3	1	3	1	11	3	0	0	0
2020-08-16	2	1	2	1	11	3	0	0	0
2020-08-17	2	1	2	1	10	3	0	0	0
2020-08-18	1	1	2	1	9	3	0	0	0
2020-08-19	1	1	2	1	8	3	0	0	0
2020-08-20	1	1	2	1	8	3	0	0	0
2020-08-21	1	1	2	1	7	2	0	0	0
2020-08-22	0	1	2	1	6	2	0	0	0
2020-08-23	0	1	2	1	6	2	0	0	0
2020-08-24	0	0	1	1	6	2	0	0	0

Table 5: Model output from 500 model runs for the 50% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-08-25	0	0	1	1	5	2	0	0	0
2020-08-26	0	0	1	1	5	2	0	0	0
2020-08-27	0	0	1	1	4	2	0	0	0
2020-08-28	0	0	1	1	4	2	0	0	0
2020-08-29	0	0	0	1	4	2	0	0	0
2020-08-30	0	0	0	1	3	2	0	0	0
2020-08-31	0	0	0	0	3	2	0	0	0
2020-09-01	0	0	0	0	3	2	0	0	0
2020-09-02	0	0	0	0	3	1	0	0	0
2020-09-03	0	0	0	0	2	1	0	0	0
2020-09-04	0	0	0	0	2	1	0	0	0
2020-09-05	0	0	0	0	2	1	0	0	0
2020-09-06	0	0	0	0	2	1	0	0	0
2020-09-07	0	0	0	0	1	1	0	0	0
2020-09-08	0	0	0	0	1	1	0	0	0
2020-09-09	0	0	0	0	1	1	0	0	0
2020-09-10	0	0	0	0	1	1	0	0	0
2020-09-11	0	0	0	0	1	1	0	0	0
2020-09-12	0	0	0	0	1	1	0	0	0
2020-09-13	0	0	0	0	0	1	0	0	0
2020-09-14	0	0	0	0	0	1	0	0	0
2020-09-15	0	0	0	0	0	0	0	0	0
2020-09-16	0	0	0	0	0	0	0	0	0
2020-09-17	0	0	0	0	0	0	0	0	0
2020-09-18	0	0	0	0	0	0	0	0	0
2020-09-19	0	0	0	0	0	0	0	0	0
2020-09-20	0	0	0	0	0	0	0	0	0
2020-09-21	0	0	0	0	0	0	0	0	0
2020-09-22	0	0	0	0	0	0	0	0	0
2020-09-23	0	0	0	0	0	0	0	0	0
2020-09-24	0	0	0	0	0	0	0	0	0
2020-09-25	0	0	0	0	0	0	0	0	0
2020-09-26	0	0	0	0	0	0	0	0	0
2020-09-27	0	0	0	0	0	0	0	0	0
2020-09-28	0	0	0	0	0	0	0	0	0
2020-09-29	0	0	0	0	0	0	0	0	0
2020-09-30	0	0	0	0	0	0	0	0	0
2020-10-01	0	0	0	0	0	0	0	0	0
2020-10-02	0	0	0	0	0	0	0	0	0
2020-10-03	0	0	0	0	0	0	0	0	0
2020-10-04	0	0	0	0	0	0	0	0	0
2020-10-05	0	0	0	0	0	0	0	0	0
2020-10-06	0	0	0	0	0	0	0	0	0

Table 5: Model output from 500 model runs for the 50% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-10-07	0	0	0	0	0	0	0	0	0
2020-10-08	0	0	0	0	0	0	0	0	0
2020-10-09	0	0	0	0	0	0	0	0	0
2020-10-10	0	0	0	0	0	0	0	0	0
2020-10-11	0	0	0	0	0	0	0	0	0
2020-10-12	0	0	0	0	0	0	0	0	0
2020-10-13	0	0	0	0	0	0	0	0	0
2020-10-14	0	0	0	0	0	0	0	0	0
2020-10-15	0	0	0	0	0	0	0	0	0
2020-10-16	0	0	0	0	0	0	0	0	0
2020-10-17	0	0	0	0	0	0	0	0	0

Table 6: Model output from 500 model runs for the 60% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-06	0	0	0	0	0	0	0	0	0
2020-03-07	0	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0	0
2020-03-10	1	0	0	0	0	0	0	0	1
2020-03-11	1	1	1	1	0	0	0	0	1
2020-03-12	2	1	1	1	0	0	0	0	1
2020-03-13	2	1	2	1	0	0	0	0	1
2020-03-14	3	1	2	1	0	0	0	0	1
2020-03-15	3	1	3	1	0	0	0	0	1
2020-03-16	3	1	3	1	0	0	0	0	1
2020-03-17	4	1	3	1	0	1	0	0	1
2020-03-18	5	2	4	1	1	1	0	1	2
2020-03-19	6	2	5	2	1	1	0	1	2
2020-03-20	7	2	5	2	1	1	0	1	2
2020-03-21	8	2	6	2	1	1	0	1	3
2020-03-22	9	2	7	2	2	1	1	1	3
2020-03-23	11	2	8	2	2	1	1	1	3
2020-03-24	12	3	10	2	2	1	1	1	4
2020-03-25	14	3	11	3	3	1	1	1	4
2020-03-26	16	3	13	3	3	2	1	1	5
2020-03-27	18	3	14	3	4	2	1	1	5

Table 6: Model output from 500 model runs for the 60% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-28	20	3	16	3	4	2	1	1	6
2020-03-29	22	3	18	3	5	2	1	1	6
2020-03-30	25	4	20	3	6	2	1	1	7
2020-03-31	28	4	23	4	6	2	2	1	8
2020-04-01	31	4	26	4	7	3	2	1	9
2020-04-02	35	4	29	4	9	3	2	1	10
2020-04-03	39	4	32	4	10	3	2	2	11
2020-04-04	44	5	36	5	11	3	3	2	12
2020-04-05	48	5	40	5	13	3	3	2	13
2020-04-06	53	5	44	5	15	3	4	2	14
2020-04-07	59	6	48	5	17	4	4	2	16
2020-04-08	65	6	53	5	19	4	4	2	17
2020-04-09	72	7	59	6	21	4	5	2	19
2020-04-10	79	7	64	6	24	4	5	2	20
2020-04-11	86	7	70	6	26	4	6	2	22
2020-04-12	94	7	77	7	29	5	6	2	24
2020-04-13	103	8	84	7	33	5	7	2	26
2020-04-14	112	8	91	7	36	6	7	3	28
2020-04-15	122	8	100	8	40	6	8	3	30
2020-04-16	132	9	108	8	44	6	9	3	32
2020-04-17	143	9	117	8	48	6	10	3	34
2020-04-18	154	9	126	8	52	7	10	3	37
2020-04-19	166	9	136	9	58	7	11	3	39
2020-04-20	179	10	146	9	63	7	12	3	41
2020-04-21	192	10	156	10	69	7	13	4	44
2020-04-22	205	10	167	10	76	8	14	4	46
2020-04-23	219	11	178	11	82	8	15	4	49
2020-04-24	234	11	189	11	89	9	16	4	51
2020-04-25	248	12	201	11	97	9	17	4	54
2020-04-26	263	12	213	12	104	9	18	4	56
2020-04-27	278	13	226	12	113	10	20	4	59
2020-04-28	293	12	238	12	122	10	21	5	61
2020-04-29	309	13	251	13	131	11	22	5	64
2020-04-30	324	14	264	13	141	11	23	5	66
2020-05-01	340	14	277	13	151	11	24	5	68
2020-05-02	355	14	290	14	162	12	26	5	70
2020-05-03	370	14	303	14	172	12	27	5	72
2020-05-04	385	15	315	14	184	12	28	5	74
2020-05-05	400	16	327	15	196	13	29	6	76
2020-05-06	414	16	339	15	208	13	31	5	77
2020-05-07	428	16	350	16	220	13	31	6	79
2020-05-08	441	16	362	16	232	14	33	6	80
2020-05-09	454	16	373	16	245	14	34	6	81

Table 6: Model output from 500 model runs for the 60% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-05-10	465	16	383	16	258	15	35	6	82
2020-05-11	476	16	393	17	271	15	36	6	82
2020-05-12	486	16	402	16	284	15	37	6	83
2020-05-13	494	16	410	16	298	16	37	6	83
2020-05-14	501	17	418	16	310	16	39	6	83
2020-05-15	508	17	424	17	324	16	39	6	83
2020-05-16	513	17	430	17	336	16	40	6	82
2020-05-17	518	17	435	17	349	17	40	6	82
2020-05-18	522	17	439	17	361	17	41	6	81
2020-05-19	524	17	441	17	373	17	41	6	80
2020-05-20	525	17	443	17	385	18	41	6	79
2020-05-21	525	17	444	17	397	18	41	7	78
2020-05-22	524	17	444	17	407	18	41	6	77
2020-05-23	522	17	443	17	417	18	41	6	75
2020-05-24	519	17	443	16	427	19	41	6	74
2020-05-25	514	18	441	17	435	19	40	6	72
2020-05-26	508	17	440	17	443	19	40	6	71
2020-05-27	502	17	437	17	450	19	39	6	69
2020-05-28	495	17	433	16	457	19	39	6	67
2020-05-29	487	17	429	16	463	19	39	6	65
2020-05-30	478	17	423	17	469	19	38	6	63
2020-05-31	469	17	417	17	472	19	37	6	61
2020-06-01	459	17	410	16	476	19	37	6	59
2020-06-02	449	17	403	16	480	19	35	6	58
2020-06-03	438	16	396	16	482	19	35	5	56
2020-06-04	427	17	388	16	483	19	34	6	54
2020-06-05	416	16	379	16	484	18	34	6	52
2020-06-06	405	16	371	15	483	19	33	6	50
2020-06-07	393	16	361	16	482	19	31	5	48
2020-06-08	381	15	352	16	480	19	30	5	46
2020-06-09	369	15	343	16	478	19	30	5	44
2020-06-10	356	15	333	16	474	19	29	5	42
2020-06-11	345	15	323	16	470	19	28	5	41
2020-06-12	333	15	314	16	465	19	27	5	39
2020-06-13	320	14	304	15	460	19	26	5	37
2020-06-14	309	14	294	15	454	19	25	5	36
2020-06-15	297	14	284	14	447	19	24	5	34
2020-06-16	285	13	274	14	439	18	23	5	33
2020-06-17	274	13	265	14	431	18	22	4	31
2020-06-18	263	13	255	13	423	18	21	5	30
2020-06-19	253	13	245	13	414	18	21	5	28
2020-06-20	243	12	236	12	405	17	20	4	27
2020-06-21	232	12	227	13	395	17	19	4	26

Table 6: Model output from 500 model runs for the 60% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-06-22	222	12	218	12	385	17	18	4	25
2020-06-23	212	11	209	12	375	17	18	4	23
2020-06-24	202	11	200	12	365	17	17	4	22
2020-06-25	193	11	192	12	354	17	16	4	21
2020-06-26	184	11	184	12	344	17	15	4	20
2020-06-27	175	10	176	12	334	17	14	4	19
2020-06-28	167	10	169	11	324	17	14	4	18
2020-06-29	159	10	161	11	313	16	13	4	17
2020-06-30	151	9	154	11	302	16	12	3	16
2020-07-01	144	9	147	11	292	16	12	3	16
2020-07-02	137	9	141	10	282	16	11	3	15
2020-07-03	130	9	134	10	271	15	10	3	14
2020-07-04	124	9	127	10	262	15	10	3	13
2020-07-05	118	8	121	9	252	14	9	3	13
2020-07-06	113	8	116	10	242	14	9	3	12
2020-07-07	107	8	110	10	233	14	9	3	11
2020-07-08	102	8	105	9	223	14	8	3	11
2020-07-09	97	8	100	9	214	14	8	3	10
2020-07-10	92	8	95	8	205	13	7	3	10
2020-07-11	87	8	90	8	196	14	7	3	9
2020-07-12	83	7	86	8	188	14	7	3	9
2020-07-13	79	7	81	8	180	13	6	2	8
2020-07-14	75	7	77	8	172	13	6	2	8
2020-07-15	71	7	74	8	164	12	6	2	8
2020-07-16	67	7	70	8	156	12	5	2	7
2020-07-17	64	7	67	7	149	11	5	2	7
2020-07-18	61	7	63	7	142	11	5	2	6
2020-07-19	58	6	60	7	136	11	5	2	6
2020-07-20	55	6	57	7	129	11	4	2	6
2020-07-21	52	6	54	7	124	11	4	2	5
2020-07-22	49	6	51	6	118	10	4	2	5
2020-07-23	46	6	48	6	112	10	4	2	5
2020-07-24	44	5	46	6	107	9	3	2	5
2020-07-25	42	5	44	6	102	9	3	2	4
2020-07-26	39	5	41	6	97	9	3	2	4
2020-07-27	37	5	39	6	92	9	3	2	4
2020-07-28	36	5	37	5	87	8	3	2	4
2020-07-29	34	5	36	5	83	8	3	2	4
2020-07-30	32	5	33	5	79	8	3	2	3
2020-07-31	30	4	32	5	75	7	2	2	3
2020-08-01	29	4	30	5	71	7	2	1	3
2020-08-02	27	4	29	5	68	7	2	1	3
2020-08-03	26	4	27	5	64	8	2	1	3

Table 6: Model output from 500 model runs for the 60% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-08-04	25	4	26	5	61	7	2	1	3
2020-08-05	23	4	24	5	58	7	2	1	2
2020-08-06	22	3	23	4	55	7	2	1	2
2020-08-07	21	3	22	4	52	7	2	1	2
2020-08-08	20	3	21	4	49	6	2	1	2
2020-08-09	19	3	20	4	47	6	2	1	2
2020-08-10	18	3	19	4	44	6	2	1	2
2020-08-11	17	3	18	4	42	6	1	1	2
2020-08-12	16	3	17	4	40	6	1	1	2
2020-08-13	15	3	16	4	38	6	1	1	2
2020-08-14	15	3	16	3	36	6	1	1	2
2020-08-15	14	3	15	3	34	6	1	1	1
2020-08-16	13	3	14	3	32	5	1	1	1
2020-08-17	12	3	13	3	31	5	1	1	1
2020-08-18	12	3	12	3	29	5	1	1	1
2020-08-19	11	3	11	3	28	5	1	1	1
2020-08-20	10	3	11	3	26	5	1	1	1
2020-08-21	10	3	10	3	25	5	1	1	1
2020-08-22	9	2	9	3	24	4	1	1	1
2020-08-23	9	2	9	2	23	4	1	1	1
2020-08-24	8	2	9	2	21	4	1	1	1
2020-08-25	8	2	8	2	20	4	1	1	1
2020-08-26	8	2	8	2	19	4	1	1	1
2020-08-27	7	2	8	2	18	4	1	1	1
2020-08-28	7	2	8	2	17	4	1	1	1
2020-08-29	7	2	8	2	16	4	0	1	1
2020-08-30	7	2	7	2	15	3	0	1	1
2020-08-31	7	2	7	2	15	3	0	1	1
2020-09-01	7	2	7	2	14	3	0	1	1
2020-09-02	7	2	7	2	13	3	1	1	1
2020-09-03	7	2	7	2	13	3	0	1	1
2020-09-04	7	2	6	2	12	3	0	1	1
2020-09-05	6	2	6	2	12	3	1	1	0
2020-09-06	5	2	5	2	11	3	0	1	0
2020-09-07	5	2	4	2	11	3	0	1	0
2020-09-08	5	2	4	2	10	3	1	1	0
2020-09-09	4	2	3	2	10	3	0	1	0
2020-09-10	3	2	3	2	9	3	0	1	0
2020-09-11	3	1	3	2	9	3	0	1	0
2020-09-12	3	1	2	1	8	3	0	1	0
2020-09-13	2	1	2	1	8	3	0	0	0
2020-09-14	2	1	2	1	7	3	0	0	0
2020-09-15	1	1	2	1	7	2	0	0	0

Table 6: Model output from 500 model runs for the 60% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-09-16	1	1	2	1	6	2	0	0	0
2020-09-17	1	1	2	1	6	2	0	0	0
2020-09-18	1	1	2	1	6	2	0	0	0
2020-09-19	0	1	2	1	5	2	0	0	0
2020-09-20	0	1	1	1	5	2	0	0	0
2020-09-21	0	0	1	1	5	2	0	0	0
2020-09-22	0	0	1	1	4	2	0	0	0
2020-09-23	0	0	1	1	4	2	0	0	0
2020-09-24	0	0	1	1	4	2	0	0	0
2020-09-25	0	0	1	1	4	2	0	0	0
2020-09-26	0	0	0	1	3	2	0	0	0
2020-09-27	0	0	0	1	3	2	0	0	0
2020-09-28	0	0	0	0	3	2	0	0	0
2020-09-29	0	0	0	0	3	2	0	0	0
2020-09-30	0	0	0	0	2	1	0	0	0
2020-10-01	0	0	0	0	2	1	0	0	0
2020-10-02	0	0	0	0	2	1	0	0	0
2020-10-03	0	0	0	0	2	1	0	0	0
2020-10-04	0	0	0	0	2	1	0	0	0
2020-10-05	0	0	0	0	1	1	0	0	0
2020-10-06	0	0	0	0	1	1	0	0	0
2020-10-07	0	0	0	0	1	1	0	0	0
2020-10-08	0	0	0	0	1	1	0	0	0
2020-10-09	0	0	0	0	1	1	0	0	0
2020-10-10	0	0	0	0	1	1	0	0	0
2020-10-11	0	0	0	0	0	1	0	0	0
2020-10-12	0	0	0	0	0	1	0	0	0
2020-10-13	0	0	0	0	0	1	0	0	0
2020-10-14	0	0	0	0	0	0	0	0	0
2020-10-15	0	0	0	0	0	0	0	0	0
2020-10-16	0	0	0	0	0	0	0	0	0
2020-10-17	0	0	0	0	0	0	0	0	0

Table 7: Model output from 500 model runs for the 70% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-06	0	0	0	0	0	0	0	0	0
2020-03-07	0	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0	0
2020-03-10	0	0	0	0	0	0	0	0	0
2020-03-11	1	1	0	1	0	0	0	0	1
2020-03-12	1	1	1	1	0	0	0	0	1
2020-03-13	1	1	2	1	0	0	0	0	1
2020-03-14	2	1	2	1	0	0	0	0	1
2020-03-15	3	1	2	1	0	0	0	0	1
2020-03-16	3	1	3	1	0	0	0	0	1
2020-03-17	4	1	3	1	0	1	0	0	1
2020-03-18	4	1	3	1	0	1	0	0	1
2020-03-19	5	2	4	2	1	1	0	1	2
2020-03-20	6	2	5	2	1	1	0	1	2
2020-03-21	7	2	5	2	1	1	0	1	2
2020-03-22	7	2	6	2	1	1	0	1	2
2020-03-23	9	2	7	2	2	1	1	1	3
2020-03-24	10	2	8	2	2	1	1	1	3
2020-03-25	11	2	9	2	2	1	1	1	3
2020-03-26	12	2	10	2	3	2	1	1	3
2020-03-27	14	3	11	2	3	2	1	1	4
2020-03-28	15	3	12	3	3	2	1	1	4
2020-03-29	17	3	14	3	4	2	1	1	5
2020-03-30	19	3	15	3	5	2	1	1	5
2020-03-31	21	3	17	3	5	2	1	1	6
2020-04-01	23	4	19	3	6	2	1	1	6
2020-04-02	26	4	21	4	7	2	2	1	7
2020-04-03	28	4	23	4	8	2	2	1	7
2020-04-04	31	4	25	4	9	3	2	1	8
2020-04-05	33	4	27	4	10	3	2	1	8
2020-04-06	36	5	30	4	11	3	3	2	9
2020-04-07	40	5	32	5	12	3	3	2	10
2020-04-08	43	5	35	5	13	3	3	2	10
2020-04-09	46	5	38	5	15	4	3	2	11
2020-04-10	50	5	41	5	16	4	3	2	12
2020-04-11	54	6	43	6	18	4	4	2	12
2020-04-12	58	6	46	6	20	4	4	2	13
2020-04-13	62	6	50	6	22	4	4	2	14
2020-04-14	66	6	53	6	24	4	5	2	15
2020-04-15	71	7	57	6	26	5	5	2	16
2020-04-16	75	7	61	6	28	5	5	2	17
2020-04-17	80	7	65	7	31	5	6	2	17

Table 7: Model output from 500 model runs for the 70% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-04-18	84	7	69	7	33	5	6	2	18
2020-04-19	89	7	73	7	36	5	6	2	19
2020-04-20	94	7	78	8	39	6	7	3	20
2020-04-21	99	8	82	8	42	6	7	3	21
2020-04-22	104	8	86	8	45	6	7	3	22
2020-04-23	110	8	91	8	49	6	8	3	23
2020-04-24	115	8	95	8	52	6	8	3	23
2020-04-25	120	8	99	8	56	7	9	3	24
2020-04-26	126	9	104	8	60	7	9	3	25
2020-04-27	131	9	108	8	63	7	10	3	26
2020-04-28	137	9	113	9	67	8	10	3	27
2020-04-29	143	9	117	9	71	8	10	3	28
2020-04-30	148	9	122	10	75	8	11	3	28
2020-05-01	154	10	126	10	80	8	11	3	29
2020-05-02	159	10	131	10	84	8	12	3	30
2020-05-03	164	10	135	9	89	8	12	3	30
2020-05-04	170	10	140	10	93	9	13	3	31
2020-05-05	175	10	144	9	98	9	13	4	32
2020-05-06	179	10	149	9	102	9	13	3	32
2020-05-07	184	10	153	10	107	9	14	4	33
2020-05-08	188	10	157	11	112	9	14	3	33
2020-05-09	192	10	160	10	117	10	15	4	33
2020-05-10	196	10	164	10	122	10	14	4	34
2020-05-11	200	10	168	11	127	10	15	4	34
2020-05-12	203	11	171	11	132	11	15	4	35
2020-05-13	207	11	174	11	136	11	16	4	35
2020-05-14	210	11	178	11	141	11	16	4	35
2020-05-15	213	12	181	11	146	11	16	4	35
2020-05-16	216	12	183	11	151	11	16	4	35
2020-05-17	218	11	185	11	156	11	17	4	35
2020-05-18	220	11	187	11	161	11	17	4	35
2020-05-19	221	11	189	11	165	11	17	4	35
2020-05-20	223	11	190	11	170	12	17	4	35
2020-05-21	224	12	191	11	174	12	17	4	35
2020-05-22	225	12	192	11	178	12	17	4	35
2020-05-23	226	12	193	10	182	12	18	4	35
2020-05-24	226	12	194	11	185	12	17	4	35
2020-05-25	227	12	195	12	189	12	17	4	35
2020-05-26	227	12	196	12	192	12	17	4	34
2020-05-27	226	12	197	12	195	12	17	4	34
2020-05-28	226	12	197	12	198	12	17	4	34
2020-05-29	225	11	197	12	201	13	17	4	33
2020-05-30	224	11	197	11	203	13	17	4	33

Table 7: Model output from 500 model runs for the 70% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-05-31	223	11	196	12	206	12	18	4	33
2020-06-01	221	11	195	12	208	12	17	4	32
2020-06-02	220	11	195	12	210	13	17	4	32
2020-06-03	218	11	193	12	212	13	17	4	31
2020-06-04	216	11	192	11	214	13	17	4	31
2020-06-05	214	11	190	11	215	13	17	4	30
2020-06-06	211	11	188	11	216	14	17	4	30
2020-06-07	209	11	186	12	217	14	16	4	29
2020-06-08	206	11	184	12	217	13	16	4	29
2020-06-09	203	11	182	12	218	14	16	4	28
2020-06-10	200	11	181	11	218	13	16	4	28
2020-06-11	197	11	178	12	218	13	16	4	27
2020-06-12	194	11	176	11	218	13	15	4	27
2020-06-13	190	11	173	11	218	13	15	4	26
2020-06-14	188	11	171	11	216	13	15	4	26
2020-06-15	184	10	168	10	215	13	15	4	25
2020-06-16	182	10	166	10	214	13	14	4	25
2020-06-17	179	10	163	11	213	13	14	3	24
2020-06-18	175	10	160	11	212	13	14	4	23
2020-06-19	172	10	157	11	210	13	14	4	23
2020-06-20	168	9	154	10	208	12	13	4	22
2020-06-21	165	9	151	10	206	12	13	4	22
2020-06-22	161	10	148	10	204	12	13	4	21
2020-06-23	158	10	145	10	202	12	13	4	21
2020-06-24	154	10	142	10	199	12	13	3	20
2020-06-25	150	9	139	10	197	12	12	4	20
2020-06-26	147	9	136	10	194	12	12	3	19
2020-06-27	143	9	134	10	191	12	11	3	19
2020-06-28	140	9	131	10	189	12	11	3	18
2020-06-29	137	9	128	10	186	12	11	3	18
2020-06-30	133	9	125	10	183	12	11	3	17
2020-07-01	130	9	122	10	180	12	10	3	17
2020-07-02	127	9	119	9	177	12	10	3	16
2020-07-03	124	8	116	9	174	12	10	3	16
2020-07-04	120	8	113	8	171	12	10	3	15
2020-07-05	117	8	111	8	167	12	9	3	15
2020-07-06	114	8	107	9	165	12	9	3	14
2020-07-07	111	8	104	9	161	12	9	3	14
2020-07-08	108	8	101	9	158	11	9	3	14
2020-07-09	105	8	99	9	155	11	8	3	13
2020-07-10	102	8	97	8	151	11	8	3	13
2020-07-11	99	8	94	8	148	11	8	3	12
2020-07-12	96	8	91	8	145	11	8	3	12

Table 7: Model output from 500 model runs for the 70% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-07-13	94	7	89	8	142	10	7	2	12
2020-07-14	91	7	86	8	139	10	7	3	11
2020-07-15	88	7	84	8	135	10	7	3	11
2020-07-16	86	7	82	8	132	10	7	3	11
2020-07-17	83	7	79	8	129	10	6	3	10
2020-07-18	80	7	77	8	126	10	7	2	10
2020-07-19	78	7	74	7	123	10	6	2	10
2020-07-20	76	7	72	7	119	10	6	2	9
2020-07-21	73	7	69	7	116	9	6	2	9
2020-07-22	71	7	68	7	113	9	6	2	9
2020-07-23	69	6	65	7	110	9	5	2	8
2020-07-24	67	7	63	7	107	9	5	2	8
2020-07-25	65	6	62	7	104	9	5	2	8
2020-07-26	63	6	60	7	101	9	5	2	8
2020-07-27	61	6	58	6	99	9	5	2	7
2020-07-28	59	6	56	6	96	9	5	2	7
2020-07-29	57	6	54	6	93	9	5	2	7
2020-07-30	55	6	53	6	91	9	4	2	7
2020-07-31	53	6	51	6	88	9	4	2	6
2020-08-01	51	5	49	6	85	9	4	2	6
2020-08-02	49	5	48	6	83	9	4	2	6
2020-08-03	48	5	46	6	80	8	4	2	6
2020-08-04	46	5	45	6	78	8	4	2	6
2020-08-05	44	5	43	6	75	8	3	2	5
2020-08-06	43	5	42	5	73	8	3	2	5
2020-08-07	41	5	41	5	71	8	3	2	5
2020-08-08	40	5	39	5	69	8	3	2	5
2020-08-09	39	5	38	5	67	8	3	2	5
2020-08-10	38	5	37	5	65	7	3	2	5
2020-08-11	36	5	35	5	63	7	3	2	4
2020-08-12	35	4	34	5	61	7	3	2	4
2020-08-13	34	4	33	5	59	7	3	2	4
2020-08-14	33	4	32	5	57	7	3	2	4
2020-08-15	32	4	31	5	55	7	3	1	4
2020-08-16	31	4	30	5	53	7	2	1	4
2020-08-17	30	4	29	4	52	7	2	1	4
2020-08-18	29	4	29	4	50	6	2	1	4
2020-08-19	28	4	27	5	48	6	2	1	3
2020-08-20	27	4	26	4	47	6	2	1	3
2020-08-21	26	4	25	5	45	6	2	1	3
2020-08-22	25	4	24	4	44	6	2	1	3
2020-08-23	24	4	24	4	42	6	2	1	3
2020-08-24	24	4	23	4	41	6	2	1	3

Table 7: Model output from 500 model runs for the 70% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-08-25	23	4	22	4	40	6	2	1	3
2020-08-26	23	4	21	4	38	6	2	1	3
2020-08-27	22	4	21	4	37	6	2	1	3
2020-08-28	21	4	20	4	36	5	2	1	2
2020-08-29	20	4	19	4	35	5	2	1	2
2020-08-30	19	4	18	4	33	5	2	1	2
2020-08-31	19	3	17	3	32	5	1	1	2
2020-09-01	18	3	17	3	31	5	1	1	2
2020-09-02	17	3	16	3	30	5	1	1	2
2020-09-03	17	3	16	3	29	5	1	1	2
2020-09-04	16	3	15	3	28	5	1	1	2
2020-09-05	15	3	15	3	27	5	1	1	2
2020-09-06	15	3	15	3	26	5	1	1	2
2020-09-07	15	3	14	3	25	5	1	1	2
2020-09-08	14	3	14	3	24	5	1	1	2
2020-09-09	14	3	14	3	24	5	1	1	2
2020-09-10	14	3	13	3	23	5	1	1	2
2020-09-11	13	3	13	3	22	5	1	1	2
2020-09-12	13	3	13	3	22	4	1	1	1
2020-09-13	12	3	12	3	21	4	1	1	1
2020-09-14	12	3	11	3	20	4	1	1	1
2020-09-15	11	3	10	3	20	4	1	1	1
2020-09-16	11	3	10	3	19	4	1	1	1
2020-09-17	10	3	9	3	18	4	1	1	1
2020-09-18	9	3	9	2	18	4	1	1	1
2020-09-19	9	2	8	2	17	4	1	1	1
2020-09-20	9	2	8	2	16	4	1	1	1
2020-09-21	8	2	8	2	16	4	1	1	1
2020-09-22	8	2	8	2	15	4	1	1	1
2020-09-23	7	2	8	2	15	4	1	1	1
2020-09-24	7	2	8	2	14	4	1	1	1
2020-09-25	7	2	7	2	14	3	1	1	1
2020-09-26	7	2	7	2	13	3	0	1	1
2020-09-27	7	2	7	2	13	3	1	1	1
2020-09-28	7	2	7	2	12	3	1	1	1
2020-09-29	7	2	7	2	12	3	0	1	1
2020-09-30	7	2	7	2	11	3	1	1	1
2020-10-01	6	2	7	2	11	3	0	1	1
2020-10-02	6	2	6	2	11	3	0	1	1
2020-10-03	6	2	6	2	10	3	1	1	1
2020-10-04	6	2	6	2	10	3	0	1	1
2020-10-05	6	2	6	2	10	3	1	1	1
2020-10-06	6	2	6	2	9	3	1	1	1

Table 7: Model output from 500 model runs for the 70% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-10-07	6	2	6	2	9	3	0	1	1
2020-10-08	6	2	6	2	9	3	1	1	1
2020-10-09	6	2	6	2	9	3	0	1	1
2020-10-10	6	2	6	2	8	3	0	1	1
2020-10-11	6	2	6	2	8	2	0	1	1
2020-10-12	6	2	6	2	8	2	1	1	1
2020-10-13	6	2	5	2	8	2	0	1	0
2020-10-14	5	2	5	2	7	2	0	1	0
2020-10-15	5	2	4	2	7	2	1	1	0
2020-10-16	4	2	4	2	7	2	0	1	0
2020-10-17	4	2	3	2	6	2	0	0	0

Table 8: Model output from 500 model runs for the 80% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions.

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-06	0	0	0	0	0	0	0	0	0
2020-03-07	0	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0	0
2020-03-10	1	1	0	1	0	0	0	0	1
2020-03-11	1	1	1	1	0	0	0	0	1
2020-03-12	2	1	1	1	0	0	0	0	1
2020-03-13	2	1	2	1	0	0	0	0	1
2020-03-14	3	1	2	1	0	0	0	0	1
2020-03-15	3	1	3	1	0	0	0	0	1
2020-03-16	3	1	3	1	0	1	0	0	1
2020-03-17	4	1	3	1	0	1	0	0	1
2020-03-18	4	1	4	1	1	1	0	1	1
2020-03-19	5	1	4	1	1	1	0	1	1
2020-03-20	6	2	4	2	1	1	0	1	2
2020-03-21	6	2	5	2	1	1	0	1	2
2020-03-22	7	2	6	2	2	1	0	1	2
2020-03-23	8	2	6	2	2	1	1	1	2
2020-03-24	9	2	7	2	2	1	1	1	2
2020-03-25	10	2	8	2	2	1	1	1	3
2020-03-26	11	2	9	2	3	2	1	1	3
2020-03-27	12	3	10	3	3	2	1	1	3

Table 8: Model output from 500 model runs for the 80% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-03-28	13	3	10	3	3	2	1	1	3
2020-03-29	14	3	11	3	4	2	1	1	3
2020-03-30	15	3	12	3	4	2	1	1	4
2020-03-31	17	3	13	3	5	2	1	1	4
2020-04-01	18	3	14	3	5	2	1	1	4
2020-04-02	19	3	16	3	6	2	1	1	5
2020-04-03	21	3	17	3	7	2	1	1	5
2020-04-04	22	3	18	3	7	2	1	1	5
2020-04-05	24	4	19	4	8	3	2	1	5
2020-04-06	25	4	21	4	9	3	2	1	6
2020-04-07	27	4	22	4	10	3	2	1	6
2020-04-08	29	4	23	4	11	3	2	1	6
2020-04-09	31	4	25	4	12	3	2	1	7
2020-04-10	32	4	26	4	13	3	2	1	7
2020-04-11	34	5	28	4	14	3	2	1	7
2020-04-12	36	5	29	4	15	3	3	2	7
2020-04-13	38	5	31	4	16	4	3	2	8
2020-04-14	40	5	32	4	17	4	3	2	8
2020-04-15	41	5	33	5	19	4	3	2	8
2020-04-16	43	5	35	5	20	4	3	2	8
2020-04-17	45	5	36	5	21	4	3	2	9
2020-04-18	47	5	38	5	23	4	4	2	9
2020-04-19	49	5	39	5	24	5	4	2	9
2020-04-20	50	5	40	5	26	5	4	2	9
2020-04-21	51	5	42	5	27	5	4	2	9
2020-04-22	53	6	44	5	28	5	4	2	10
2020-04-23	55	6	45	5	30	5	4	2	10
2020-04-24	56	6	47	5	31	5	4	2	10
2020-04-25	57	6	48	6	33	5	4	2	10
2020-04-26	59	6	49	6	34	5	4	2	10
2020-04-27	59	6	50	6	36	5	4	2	10
2020-04-28	61	6	51	6	38	6	5	2	10
2020-04-29	61	6	51	6	39	6	5	2	10
2020-04-30	62	6	52	6	41	6	5	2	10
2020-05-01	62	6	53	6	42	6	5	2	10
2020-05-02	63	6	53	6	44	6	5	2	10
2020-05-03	63	6	54	6	45	6	5	2	10
2020-05-04	64	6	54	6	47	6	5	2	10
2020-05-05	64	6	55	6	48	6	5	2	10
2020-05-06	64	6	55	6	50	6	5	2	10
2020-05-07	65	6	55	6	51	6	5	2	10
2020-05-08	65	6	56	6	52	6	5	2	10
2020-05-09	65	6	56	6	53	6	5	2	10

Table 8: Model output from 500 model runs for the 80% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-05-10	65	6	56	6	54	7	5	2	10
2020-05-11	65	6	56	6	55	7	5	2	10
2020-05-12	65	6	57	6	56	7	5	2	10
2020-05-13	65	6	57	6	57	7	5	2	10
2020-05-14	65	6	57	6	58	7	5	2	10
2020-05-15	65	6	57	6	59	7	5	2	9
2020-05-16	64	6	56	6	59	7	5	2	9
2020-05-17	64	6	56	6	60	7	5	2	9
2020-05-18	63	6	55	6	60	7	5	2	9
2020-05-19	63	6	55	6	61	7	5	2	9
2020-05-20	62	6	55	6	61	7	5	2	9
2020-05-21	62	6	54	6	62	7	5	2	9
2020-05-22	61	6	53	6	62	7	5	2	8
2020-05-23	60	6	52	6	62	7	5	2	8
2020-05-24	59	6	52	6	62	7	5	2	8
2020-05-25	58	6	51	6	63	7	4	2	8
2020-05-26	58	6	51	6	63	7	4	2	8
2020-05-27	57	6	50	6	62	7	4	2	8
2020-05-28	56	6	49	6	62	7	4	2	7
2020-05-29	55	6	49	6	62	7	4	2	7
2020-05-30	53	5	48	6	62	7	4	2	7
2020-05-31	52	5	47	6	61	7	4	2	7
2020-06-01	51	6	47	6	61	7	4	2	7
2020-06-02	50	5	46	6	61	7	4	2	7
2020-06-03	49	5	45	6	60	7	4	2	6
2020-06-04	48	5	44	6	60	7	4	2	6
2020-06-05	47	5	43	6	59	7	4	2	6
2020-06-06	46	5	42	5	59	7	4	2	6
2020-06-07	45	5	42	5	58	7	4	2	6
2020-06-08	44	5	41	5	58	7	3	2	6
2020-06-09	43	5	40	5	57	6	3	2	5
2020-06-10	41	5	39	5	56	6	3	2	5
2020-06-11	40	5	38	5	55	6	3	2	5
2020-06-12	39	5	37	5	54	6	3	2	5
2020-06-13	38	5	36	5	54	6	3	2	5
2020-06-14	37	5	35	5	53	7	3	2	5
2020-06-15	36	5	34	5	52	6	3	2	4
2020-06-16	35	5	33	5	51	6	3	2	4
2020-06-17	34	5	32	5	50	6	3	2	4
2020-06-18	32	5	31	5	49	6	3	2	4
2020-06-19	31	4	30	5	48	6	3	2	4
2020-06-20	31	4	29	4	47	6	2	1	4
2020-06-21	30	4	29	4	46	6	2	2	4

Table 8: Model output from 500 model runs for the 80% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-06-22	29	4	28	5	45	6	2	2	4
2020-06-23	28	4	27	4	44	6	2	2	3
2020-06-24	27	4	26	4	43	6	2	1	3
2020-06-25	26	4	25	4	42	6	2	1	3
2020-06-26	25	4	24	4	41	6	2	1	3
2020-06-27	24	4	23	4	39	6	2	1	3
2020-06-28	24	4	23	4	38	6	2	1	3
2020-06-29	23	4	22	4	38	6	2	1	3
2020-06-30	22	4	22	4	37	6	2	1	3
2020-07-01	22	4	21	4	36	6	2	1	3
2020-07-02	21	4	21	4	35	5	2	1	3
2020-07-03	21	4	20	4	34	5	2	1	2
2020-07-04	20	4	19	4	33	5	2	1	2
2020-07-05	19	4	18	4	32	5	2	1	2
2020-07-06	18	4	17	4	31	5	1	1	2
2020-07-07	18	3	17	4	30	5	2	1	2
2020-07-08	17	3	16	3	29	5	1	1	2
2020-07-09	16	3	15	3	28	5	1	1	2
2020-07-10	16	3	15	3	27	5	1	1	2
2020-07-11	15	3	15	3	26	5	1	1	2
2020-07-12	15	3	15	3	26	5	1	1	2
2020-07-13	14	3	14	3	25	4	1	1	2
2020-07-14	14	3	14	3	24	4	1	1	2
2020-07-15	14	3	14	3	23	4	1	1	2
2020-07-16	14	3	14	3	23	4	1	1	2
2020-07-17	13	3	13	3	22	4	1	1	2
2020-07-18	13	3	13	3	21	4	1	1	1
2020-07-19	12	3	12	3	21	4	1	1	1
2020-07-20	12	3	11	3	20	4	1	1	1
2020-07-21	11	3	10	3	20	4	1	1	1
2020-07-22	11	2	10	3	19	4	1	1	1
2020-07-23	10	2	9	3	18	4	1	1	1
2020-07-24	9	2	9	3	18	4	1	1	1
2020-07-25	9	2	9	3	17	4	1	1	1
2020-07-26	9	2	8	2	16	4	1	1	1
2020-07-27	8	2	8	2	16	4	1	1	1
2020-07-28	8	2	8	2	15	4	1	1	1
2020-07-29	8	2	8	2	15	4	1	1	1
2020-07-30	7	2	8	2	14	4	1	1	1
2020-07-31	7	2	7	2	14	3	1	1	1
2020-08-01	7	2	7	2	13	3	0	1	1
2020-08-02	7	2	7	2	12	3	0	1	1
2020-08-03	7	2	7	2	12	3	1	1	1

Table 8: Model output from 500 model runs for the 80% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-08-04	7	2	7	2	12	3	0	1	1
2020-08-05	7	2	7	2	11	3	0	1	1
2020-08-06	6	2	7	2	11	3	1	1	1
2020-08-07	6	2	6	2	11	3	1	1	1
2020-08-08	6	2	6	2	10	3	0	1	1
2020-08-09	6	2	6	2	10	3	0	1	1
2020-08-10	6	2	6	2	10	3	1	1	1
2020-08-11	6	2	6	2	9	3	1	1	1
2020-08-12	6	2	6	2	9	3	0	1	1
2020-08-13	6	2	6	2	9	3	0	1	1
2020-08-14	6	2	6	2	9	3	0	1	1
2020-08-15	6	2	6	2	8	3	1	1	1
2020-08-16	6	2	6	2	8	3	1	1	1
2020-08-17	6	2	5	2	8	3	0	1	0
2020-08-18	6	2	5	2	8	3	0	1	0
2020-08-19	5	2	4	2	8	3	0	1	0
2020-08-20	5	2	4	2	7	3	0	1	0
2020-08-21	4	2	3	2	7	3	0	1	0
2020-08-22	4	2	3	2	7	2	0	1	0
2020-08-23	3	2	3	1	7	2	0	1	0
2020-08-24	3	1	2	1	6	2	0	1	0
2020-08-25	2	1	2	1	6	2	0	0	0
2020-08-26	2	1	2	1	6	2	0	0	0
2020-08-27	1	1	2	1	6	2	0	0	0
2020-08-28	1	1	2	1	5	2	0	0	0
2020-08-29	1	1	2	1	5	2	0	0	0
2020-08-30	1	1	2	1	5	2	0	0	0
2020-08-31	0	1	2	1	5	2	0	0	0
2020-09-01	0	1	1	1	4	2	0	0	0
2020-09-02	0	0	1	1	4	2	0	0	0
2020-09-03	0	0	1	1	4	2	0	0	0
2020-09-04	0	0	1	1	4	2	0	0	0
2020-09-05	0	0	1	1	4	2	0	0	0
2020-09-06	0	0	1	1	3	2	0	0	0
2020-09-07	0	0	0	1	3	2	0	0	0
2020-09-08	0	0	0	1	3	2	0	0	0
2020-09-09	0	0	0	1	3	2	0	0	0
2020-09-10	0	0	0	0	3	2	0	0	0
2020-09-11	0	0	0	0	2	1	0	0	0
2020-09-12	0	0	0	0	2	1	0	0	0
2020-09-13	0	0	0	0	2	1	0	0	0
2020-09-14	0	0	0	0	2	1	0	0	0
2020-09-15	0	0	0	0	2	1	0	0	0

Table 8: Model output from 500 model runs for the 80% reduction scenario. SD: standard deviation. Note that ward bed needs only represent the need for critical care patients, NOT the need for total COVID19 admissions. *(continued)*

	ICU		HDU		Ward		Deaths		
Date	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD	New patients (ICU+HDU)
2020-09-16	0	0	0	0	1	1	0	0	0
2020-09-17	0	0	0	0	1	1	0	0	0
2020-09-18	0	0	0	0	1	1	0	0	0
2020-09-19	0	0	0	0	1	1	0	0	0
2020-09-20	0	0	0	0	1	1	0	0	0
2020-09-21	0	0	0	0	1	1	0	0	0
2020-09-22	0	0	0	0	1	1	0	0	0
2020-09-23	0	0	0	0	0	1	0	0	0
2020-09-24	0	0	0	0	0	1	0	0	0
2020-09-25	0	0	0	0	0	0	0	0	0
2020-09-26	0	0	0	0	0	0	0	0	0
2020-09-27	0	0	0	0	0	0	0	0	0
2020-09-28	0	0	0	0	0	0	0	0	0
2020-09-29	0	0	0	0	0	0	0	0	0
2020-09-30	0	0	0	0	0	0	0	0	0
2020-10-01	0	0	0	0	0	0	0	0	0
2020-10-02	0	0	0	0	0	0	0	0	0
2020-10-03	0	0	0	0	0	0	0	0	0
2020-10-04	0	0	0	0	0	0	0	0	0
2020-10-05	0	0	0	0	0	0	0	0	0
2020-10-06	0	0	0	0	0	0	0	0	0
2020-10-07	0	0	0	0	0	0	0	0	0
2020-10-08	0	0	0	0	0	0	0	0	0
2020-10-09	0	0	0	0	0	0	0	0	0
2020-10-10	0	0	0	0	0	0	0	0	0
2020-10-11	0	0	0	0	0	0	0	0	0
2020-10-12	0	0	0	0	0	0	0	0	0
2020-10-13	0	0	0	0	0	0	0	0	0
2020-10-14	0	0	0	0	0	0	0	0	0
2020-10-15	0	0	0	0	0	0	0	0	0
2020-10-16	0	0	0	0	0	0	0	0	0
2020-10-17	0	0	0	0	0	0	0	0	0