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% / 73% 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 20% mortality), 10 days ward, then discharge

- Proportion of admissions going in each pathway:

  1) 18%
  2) 8%

- Note: 74% 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
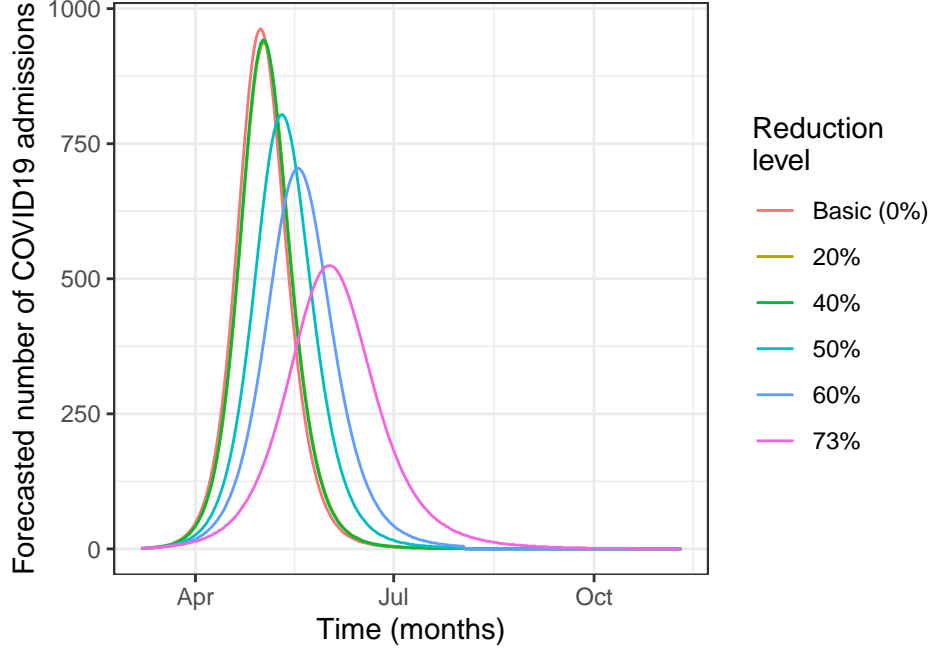 2) 20% in HDU, for those admitted straight to HDU. Otherwise they survive to discharge at end of pathway

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

2 Model principle

This model simulates the next few weeks of the epidemic. Every day, we assume a fixed 26% (18% + 8%) of forecasted COVID19 admissions require critical care. For each admission, we randomly draw the pathway based on the proportions provided as input. 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 randomly draw the length of stay in ICU from a Poisson distribution with mean 14 days. We then 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 on a Uniform distribution from 0 to the sampled length of stay above, reduce the new length of stay accordingly, and record that a death has occured at that time. If the patient does not dies, he/she 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 6 scenarios (base, 20%/40%/50%/60%/73% 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 and 10, and Tables 2, 3, 4, 5, 6 and 7.

3.1 Summary
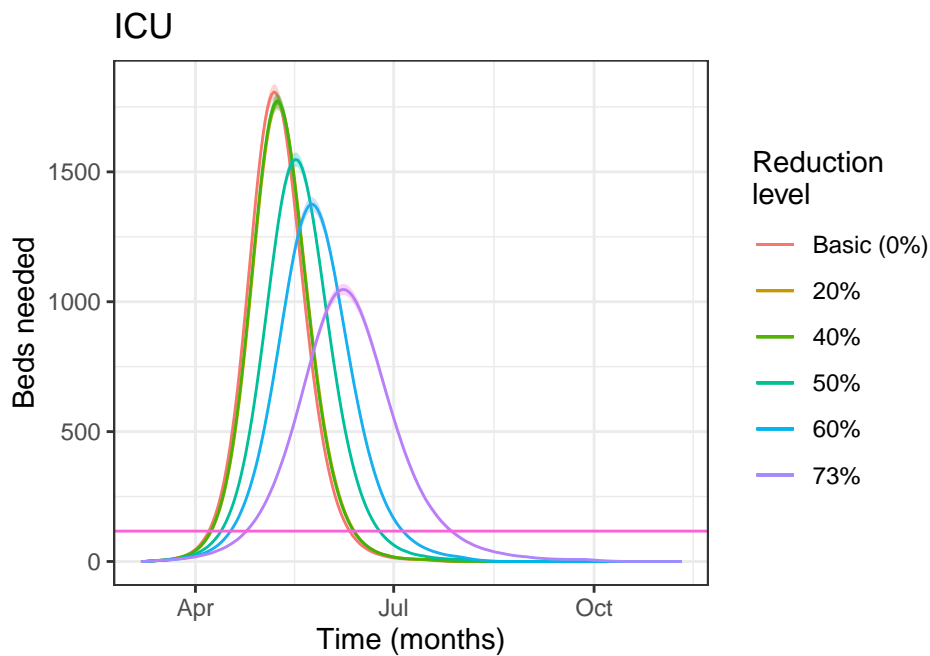
Figure 2: Output ICU bed demand from 500 model runs for the 20%, 40%, 50%, 60% and 73% reduction in contact rates. The horizontal lines represent the current maximum bed capacity. Lines are average daily requirements, shaded area represents average +/- standard deviation.
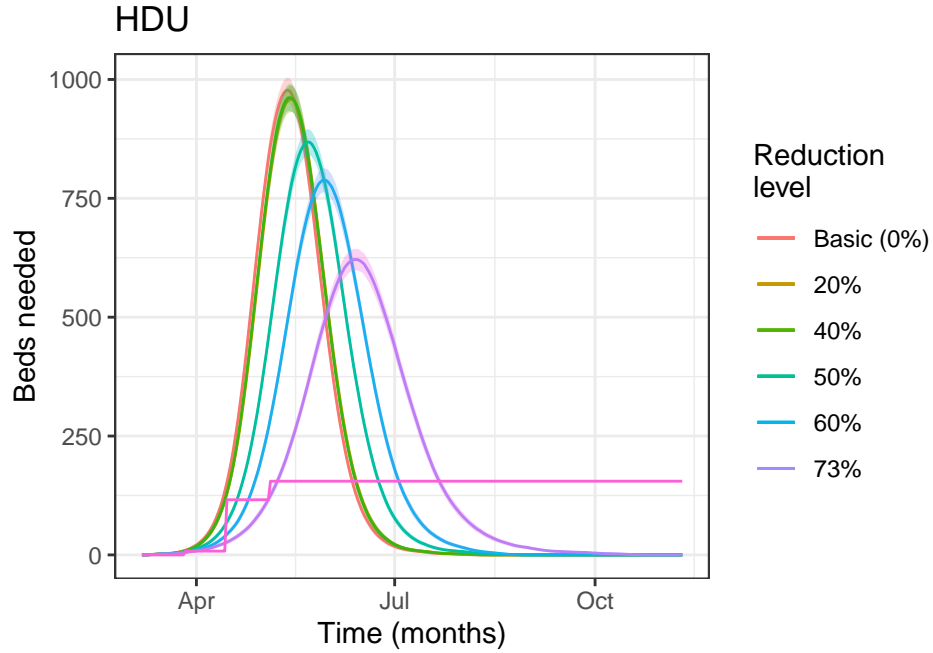
Figure 3: Output HDU bed demand from 500 model runs for the 20%, 40%, 50%, 60% and 73% reduction in contact rates. The horizontal lines represent the current maximum bed capacity. Lines are average requirements, shaded area represents average +/- standard deviation.
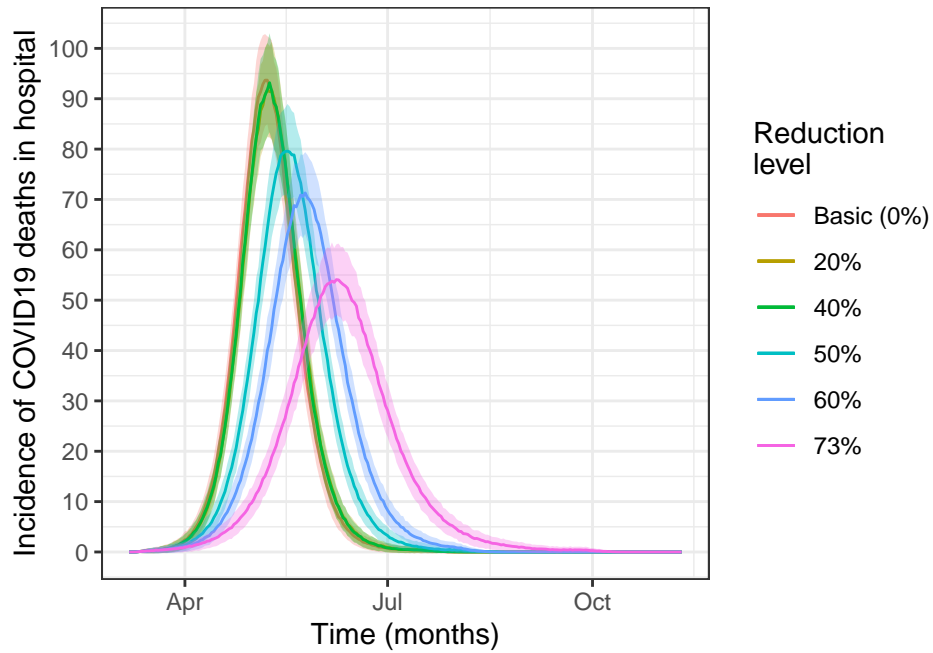
Figure 4: Estimated incidence of mortality in COVID19 hospitalised patients from 500 model runs. Scenarios are: 0% reduction in contact rate (base), 20%, 40%, 50%, 60% and 73% reduction in contact rates. Lines are average daily incidence, shaded area represents average +/- standard deviation.

Table 1: Summary model output from 500 model runs for all scenarios. Scenarios are: 0% reduction in contact rate (base), 20%, 40%, 50%, 60% and 73% 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%)	2020-05-07	1807	30	2020-05-13	978	26	2020-05-25	1439	33	3012	473
20% reduction	2020-05-09	1766	29	2020-05-15	959	27	2020-05-26	1417	32	3011	476
40% reduction	2020-05-09	1773	28	2020-05-14	962	29	2020-05-26	1420	33	3010	478
50% reduction	2020-05-17	1548	28	2020-05-22	868	27	2020-06-03	1291	32	2992	511
60% reduction	2020-05-24	1375	27	2020-05-30	788	25	2020-06-11	1181	32	2959	531
73% reduction	2020-06-08	1047	22	2020-06-13	621	22	2020-06-25	947	28	2880	602

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
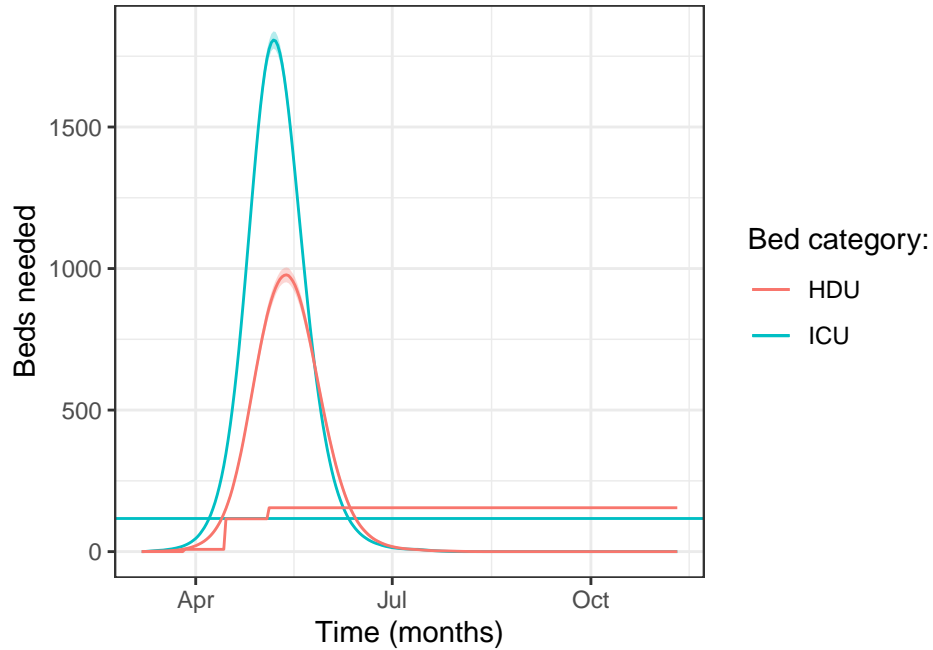
Figure 5: Output from 500 model runs for the base scenario. The horizontal lines represent the current maximum bed capacity for the different units.Lines are average daily incidence, shaded area represents average +/- standard deviation.
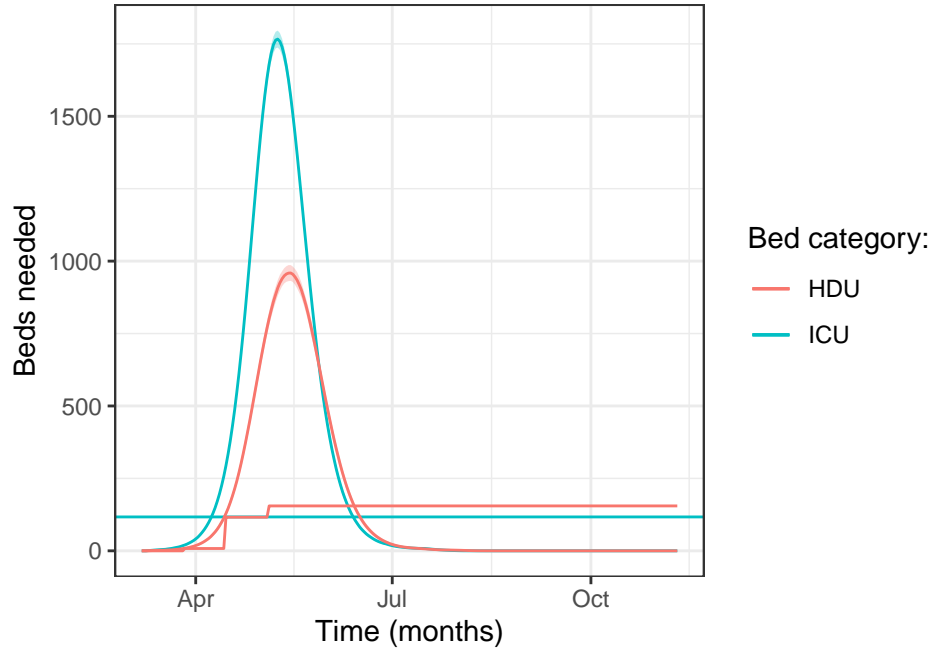
Figure 6: Output from 500 model runs for the 20% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.
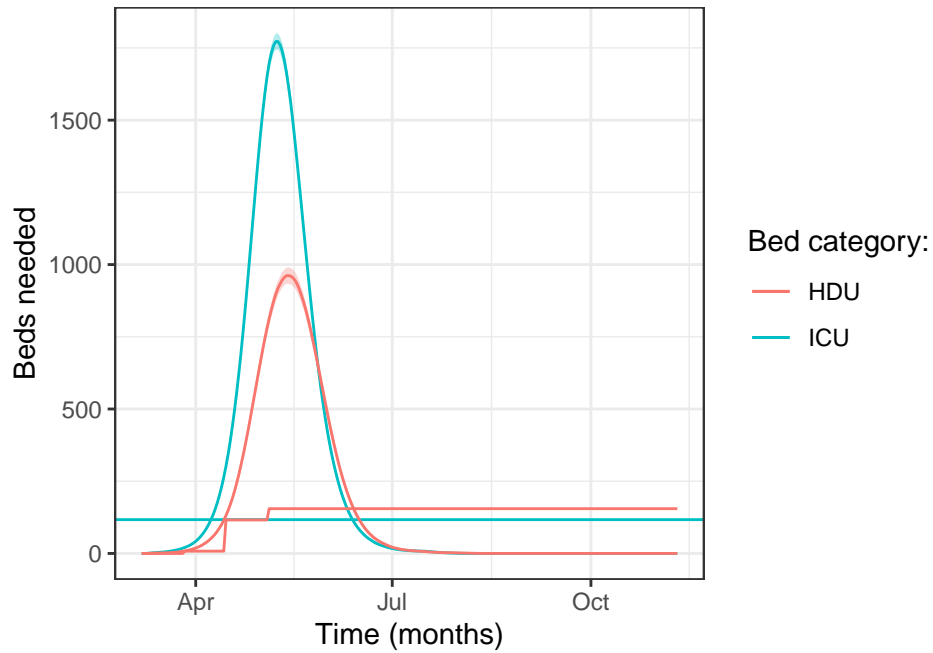
Figure 7: Output from 500 model runs for the 40% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.
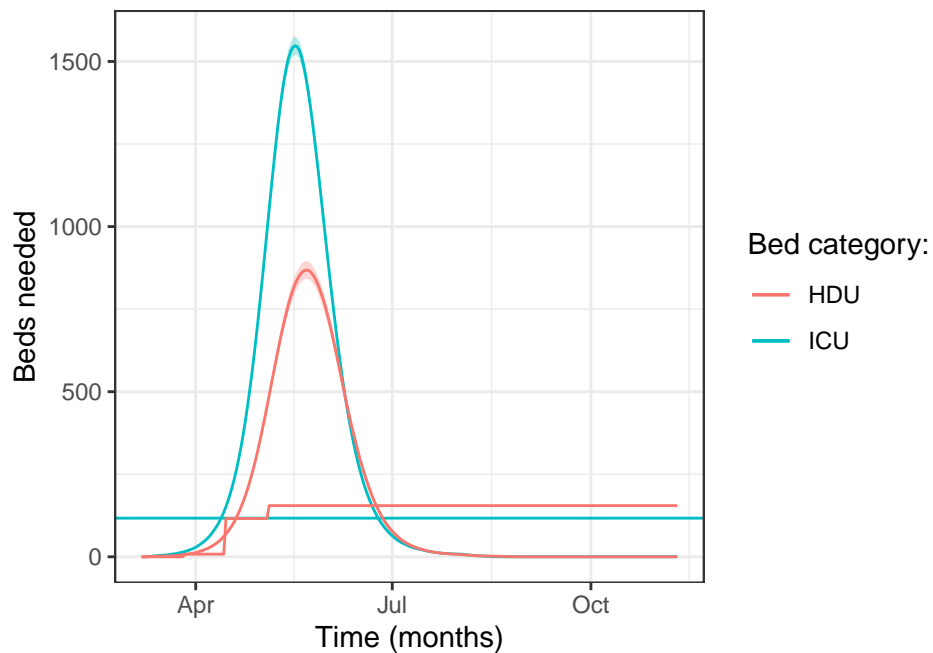
Figure 8: Output from 500 model runs for the 50% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.
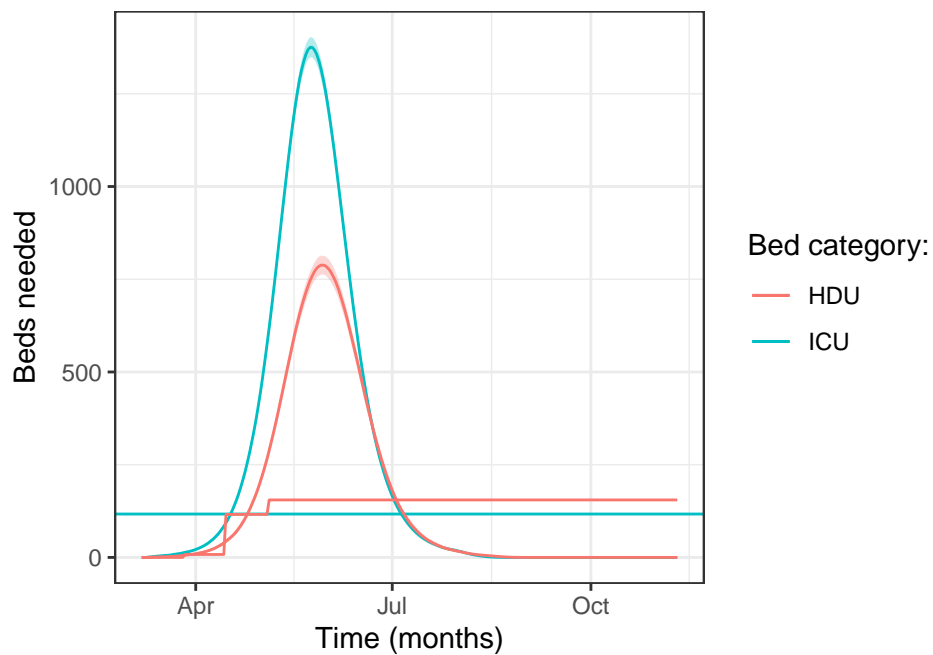
Figure 9: Output from 500 model runs for the 60% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.
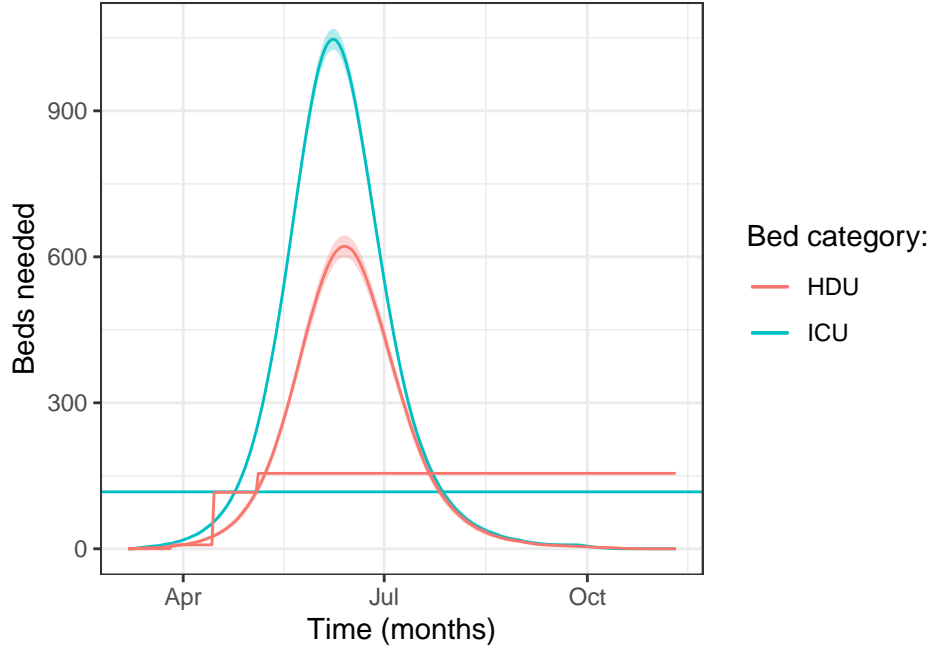
Figure 10: Output from 500 model runs for the 73% reduction scenario. The horizontal lines represent the current maximum bed capacity for the different units. Lines are average daily incidence, shaded area represents average +/- standard deviation.

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.

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-07	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0
2020-03-09	1	0	0	0	0	0	0	0
2020-03-10	1	1	1	1	0	0	0	0
2020-03-11	2	1	1	1	0	0	0	0
2020-03-12	3	1	1	1	0	0	0	0
2020-03-13	3	1	1	1	0	0	0	0
2020-03-14	4	1	2	1	0	0	0	0
2020-03-15	4	1	2	1	0	0	0	0
2020-03-16	5	1	2	1	0	1	0	0
2020-03-17	5	1	2	1	1	1	0	1
2020-03-18	7	2	3	1	1	1	0	1
2020-03-19	8	2	3	1	1	1	0	1
2020-03-20	9	2	3	2	1	1	0	1
2020-03-21	10	2	4	2	1	1	1	1
2020-03-22	11	2	4	2	2	1	1	1
2020-03-23	13	2	5	2	2	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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-24	15	2	6	2	2	1	1	1
2020-03-25	17	3	7	2	3	2	1	1
2020-03-26	19	3	8	3	3	2	1	1
2020-03-27	22	3	10	3	4	2	1	1
2020-03-28	26	3	11	3	4	2	1	1
2020-03-29	30	3	13	3	5	2	2	1
2020-03-30	35	4	15	3	6	2	2	1
2020-03-31	40	4	18	4	7	2	2	1
2020-04-01	46	4	21	4	8	3	2	2
2020-04-02	54	5	24	4	9	3	3	2
2020-04-03	63	5	28	4	11	3	3	2
2020-04-04	74	5	32	5	13	3	4	2
2020-04-05	85	6	37	5	15	3	4	2
2020-04-06	99	6	43	6	17	4	5	2
2020-04-07	114	7	50	6	20	4	6	3
2020-04-08	131	7	58	7	23	4	7	3
2020-04-09	152	8	67	7	27	5	8	3
2020-04-10	175	8	77	8	31	5	9	3
2020-04-11	202	9	88	8	36	5	10	3
2020-04-12	231	10	101	9	42	6	12	3
2020-04-13	265	11	116	9	48	6	13	4
2020-04-14	303	12	134	10	56	7	15	4
2020-04-15	346	12	152	11	64	7	17	4
2020-04-16	395	13	174	12	75	8	20	4
2020-04-17	447	13	197	12	86	8	23	5
2020-04-18	506	14	223	13	99	9	26	5
2020-04-19	570	15	252	13	113	9	29	5
2020-04-20	640	16	283	14	130	10	33	6
2020-04-21	715	17	316	15	149	11	36	6
2020-04-22	796	18	351	15	169	12	40	6
2020-04-23	880	19	390	16	193	12	45	6
2020-04-24	968	20	430	17	219	13	50	7
2020-04-25	1059	21	472	18	247	14	54	7
2020-04-26	1150	23	515	19	279	15	60	7
2020-04-27	1242	24	557	21	314	16	64	8
2020-04-28	1331	25	601	21	352	16	68	8
2020-04-29	1418	26	643	22	393	17	73	9
2020-04-30	1499	26	684	23	436	18	77	9
2020-05-01	1574	27	725	24	483	19	82	9
2020-05-02	1639	28	763	24	532	20	84	9
2020-05-03	1697	29	798	25	582	21	88	10
2020-05-04	1742	30	833	26	636	22	90	10
2020-05-05	1776	30	862	27	691	23	91	10

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-05-06	1798	30	889	26	746	24	93	10
2020-05-07	1807	30	912	26	802	25	94	9
2020-05-08	1804	32	932	25	857	26	94	9
2020-05-09	1788	32	949	25	911	27	92	10
2020-05-10	1761	31	962	26	966	28	92	10
2020-05-11	1723	31	971	26	1019	28	89	9
2020-05-12	1676	30	976	26	1070	30	87	9
2020-05-13	1619	29	978	26	1120	29	84	9
2020-05-14	1556	29	975	27	1169	30	80	9
2020-05-15	1486	29	966	27	1213	30	77	8
2020-05-16	1412	28	955	27	1254	30	72	8
2020-05-17	1335	28	941	28	1292	30	68	8
2020-05-18	1256	27	921	27	1325	31	64	8
2020-05-19	1175	26	899	27	1355	31	60	8
2020-05-20	1096	26	872	27	1381	31	56	7
2020-05-21	1017	26	842	26	1403	31	52	7
2020-05-22	939	24	809	26	1420	31	48	7
2020-05-23	865	24	774	25	1431	31	44	6
2020-05-24	793	23	739	24	1438	32	40	6
2020-05-25	725	22	701	23	1439	33	36	6
2020-05-26	662	21	661	23	1435	33	33	5
2020-05-27	601	20	622	23	1425	33	30	5
2020-05-28	545	19	582	22	1409	32	27	5
2020-05-29	493	18	544	22	1388	31	25	5
2020-05-30	444	17	505	21	1363	31	22	5
2020-05-31	400	16	468	21	1332	31	20	4
2020-06-01	358	15	432	19	1296	31	18	4
2020-06-02	321	14	398	18	1256	30	16	4
2020-06-03	287	13	365	17	1213	30	14	4
2020-06-04	256	13	333	16	1165	30	13	4
2020-06-05	228	12	303	16	1115	29	11	3
2020-06-06	203	12	275	15	1063	29	10	3
2020-06-07	181	11	250	14	1009	29	9	3
2020-06-08	162	10	226	14	955	28	8	3
2020-06-09	144	9	203	13	901	27	7	3
2020-06-10	128	9	182	12	845	26	7	3
2020-06-11	114	8	164	12	790	24	6	2
2020-06-12	101	8	147	12	737	24	5	2
2020-06-13	91	7	131	11	684	24	4	2
2020-06-14	81	7	118	10	633	23	4	2
2020-06-15	72	6	105	10	583	22	4	2
2020-06-16	64	6	94	9	536	21	3	2
2020-06-17	58	5	84	8	491	20	3	2

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
2020-06-18	52	5	75	8	449	19	3	2
2020-06-19	47	5	67	8	410	18	2	2
2020-06-20	42	5	60	7	373	17	2	1
2020-06-21	37	5	53	7	338	16	2	1
2020-06-22	34	4	47	6	306	15	2	1
2020-06-23	31	4	42	6	277	15	2	1
2020-06-24	28	4	38	6	250	14	1	1
2020-06-25	25	4	34	5	225	14	1	1
2020-06-26	23	4	30	5	202	13	1	1
2020-06-27	21	3	27	5	181	12	1	1
2020-06-28	19	3	24	4	162	12	1	1
2020-06-29	17	3	22	4	145	11	1	1
2020-06-30	15	3	20	4	130	10	1	1
2020-07-01	14	3	18	4	116	10	1	1
2020-07-02	13	3	16	4	104	9	1	1
2020-07-03	12	3	15	4	93	8	1	1
2020-07-04	11	3	13	3	83	8	1	1
2020-07-05	11	2	12	3	74	8	1	1
2020-07-06	10	2	11	3	66	7	1	1
2020-07-07	9	2	10	3	59	7	0	1
2020-07-08	9	2	10	3	53	6	1	1
2020-07-09	9	2	9	3	48	6	0	1
2020-07-10	8	2	8	3	43	6	0	1
2020-07-11	8	2	8	3	38	6	0	1
2020-07-12	8	2	7	2	34	6	0	1
2020-07-13	8	2	7	2	31	5	0	1
2020-07-14	7	2	6	2	28	5	0	1
2020-07-15	7	2	6	2	26	5	0	1
2020-07-16	6	2	5	2	23	4	0	1
2020-07-17	5	2	5	2	21	4	0	1
2020-07-18	5	2	4	2	19	4	0	0
2020-07-19	4	2	4	2	18	4	0	0
2020-07-20	4	1	3	2	16	4	0	0
2020-07-21	3	1	3	2	15	3	0	0
2020-07-22	3	1	3	2	13	3	0	0
2020-07-23	2	1	3	2	12	3	0	0
2020-07-24	2	1	3	1	11	3	0	0
2020-07-25	1	1	3	1	10	3	0	0
2020-07-26	1	1	2	1	9	3	0	0
2020-07-27	1	1	2	1	9	3	0	0
2020-07-28	1	1	2	1	8	2	0	0
2020-07-29	0	1	2	1	7	2	0	0
2020-07-30	0	1	2	1	7	2	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)*

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

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

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-10-25	0	0	0	0	0	0	0	0
2020-10-26	0	0	0	0	0	0	0	0
2020-10-27	0	0	0	0	0	0	0	0
2020-10-28	0	0	0	0	0	0	0	0
2020-10-29	0	0	0	0	0	0	0	0
2020-10-30	0	0	0	0	0	0	0	0
2020-10-31	0	0	0	0	0	0	0	0
2020-11-01	0	0	0	0	0	0	0	0
2020-11-02	0	0	0	0	0	0	0	0
2020-11-03	0	0	0	0	0	0	0	0
2020-11-04	0	0	0	0	0	0	0	0
2020-11-05	0	0	0	0	0	0	0	0
2020-11-06	0	0	0	0	0	0	0	0
2020-11-07	0	0	0	0	0	0	0	0
2020-11-08	0	0	0	0	0	0	0	0
2020-11-09	0	0	0	0	0	0	0	0
2020-11-10	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.

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

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-23	12	2	5	2	2	1	1	1
2020-03-24	13	2	6	2	2	1	1	1
2020-03-25	15	3	7	2	3	1	1	1
2020-03-26	18	3	8	2	3	2	1	1
2020-03-27	20	3	9	2	3	2	1	1
2020-03-28	23	3	10	3	4	2	1	1
2020-03-29	27	3	12	3	5	2	1	1
2020-03-30	31	4	14	3	5	2	2	1
2020-03-31	35	4	16	3	6	2	2	1
2020-04-01	41	4	18	4	7	2	2	1
2020-04-02	47	4	21	4	9	3	2	2
2020-04-03	55	5	24	4	10	3	3	2
2020-04-04	64	5	28	5	11	3	3	2
2020-04-05	74	5	32	5	13	3	4	2
2020-04-06	85	6	37	5	15	4	4	2
2020-04-07	98	6	43	6	18	4	5	2
2020-04-08	112	7	49	6	20	4	6	2
2020-04-09	130	7	57	6	24	4	7	3
2020-04-10	149	8	65	7	27	5	8	3
2020-04-11	171	9	75	7	31	5	9	3
2020-04-12	197	9	86	8	36	5	10	3
2020-04-13	225	10	99	8	42	6	11	3
2020-04-14	257	10	113	9	48	6	13	3
2020-04-15	294	11	129	10	55	6	15	4
2020-04-16	335	11	146	10	64	7	17	4
2020-04-17	380	12	167	11	73	8	19	4
2020-04-18	430	13	189	11	84	8	22	5
2020-04-19	485	14	214	12	96	9	25	5
2020-04-20	546	15	240	13	111	9	28	5
2020-04-21	610	16	269	14	126	10	31	5
2020-04-22	681	16	301	15	144	11	35	6
2020-04-23	756	17	336	16	164	12	39	6
2020-04-24	835	19	372	17	186	12	42	6
2020-04-25	919	20	410	19	211	13	47	7
2020-04-26	1005	20	448	19	238	14	51	7
2020-04-27	1094	22	489	19	268	15	57	8
2020-04-28	1181	23	530	20	301	16	61	8
2020-04-29	1267	24	572	21	337	16	65	8
2020-04-30	1352	24	613	22	375	17	70	8
2020-05-01	1432	25	655	22	417	18	75	8
2020-05-02	1506	26	694	23	461	19	78	9
2020-05-03	1573	27	733	23	507	20	82	9
2020-05-04	1631	27	769	23	555	22	84	9

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-05-05	1680	28	802	25	606	22	88	9
2020-05-06	1719	28	833	25	658	23	89	9
2020-05-07	1747	29	861	27	711	25	91	9
2020-05-08	1763	29	885	27	765	26	92	9
2020-05-09	1766	29	907	27	819	26	91	9
2020-05-10	1758	29	925	27	874	26	92	10
2020-05-11	1739	29	939	26	927	28	90	10
2020-05-12	1710	28	949	26	980	27	88	9
2020-05-13	1671	29	956	27	1031	28	86	9
2020-05-14	1624	28	959	28	1080	29	84	9
2020-05-15	1568	28	959	27	1127	30	81	8
2020-05-16	1505	27	954	27	1171	29	78	9
2020-05-17	1438	26	945	27	1213	30	73	9
2020-05-18	1366	26	934	28	1252	30	71	8
2020-05-19	1291	25	918	27	1287	31	66	8
2020-05-20	1215	25	899	26	1319	32	61	8
2020-05-21	1138	24	875	25	1346	32	58	8
2020-05-22	1062	23	849	25	1369	32	54	8
2020-05-23	986	22	819	26	1389	32	50	7
2020-05-24	912	22	787	25	1403	32	46	7
2020-05-25	840	20	752	26	1413	32	42	6
2020-05-26	772	21	717	24	1417	32	39	6
2020-05-27	706	19	680	23	1415	32	36	6
2020-05-28	644	19	643	22	1409	32	32	6
2020-05-29	586	18	605	22	1397	31	29	5
2020-05-30	532	18	567	20	1381	31	27	5
2020-05-31	482	17	528	20	1358	31	24	5
2020-06-01	436	17	492	19	1331	31	21	4
2020-06-02	393	15	456	19	1299	30	19	4
2020-06-03	353	15	420	18	1263	30	17	4
2020-06-04	318	14	387	18	1223	30	16	4
2020-06-05	285	14	355	17	1180	29	14	3
2020-06-06	255	13	324	16	1133	29	13	3
2020-06-07	228	12	295	16	1085	28	11	4
2020-06-08	204	12	269	15	1034	27	10	3
2020-06-09	182	11	244	14	981	26	9	3
2020-06-10	163	10	220	14	928	26	8	3
2020-06-11	145	10	199	13	874	25	7	2
2020-06-12	129	9	179	12	821	25	6	2
2020-06-13	116	8	161	12	768	23	5	2
2020-06-14	103	8	145	11	716	22	5	2
2020-06-15	92	7	131	11	664	22	5	2
2020-06-16	82	7	117	10	615	21	4	2

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-06-17	73	7	105	10	568	21	4	2
2020-06-18	65	6	94	9	522	20	3	2
2020-06-19	58	6	84	8	479	20	3	2
2020-06-20	52	6	75	9	439	20	3	2
2020-06-21	47	5	68	8	401	19	2	1
2020-06-22	42	5	60	7	365	18	2	2
2020-06-23	38	5	54	7	332	17	2	1
2020-06-24	34	4	48	7	301	16	2	1
2020-06-25	31	4	43	6	272	15	2	1
2020-06-26	28	4	38	6	246	14	1	1
2020-06-27	26	4	34	6	222	14	1	1
2020-06-28	24	4	31	5	200	14	1	1
2020-06-29	22	4	28	5	180	13	1	1
2020-06-30	20	3	25	5	161	12	1	1
2020-07-01	18	3	22	5	145	11	1	1
2020-07-02	16	3	20	4	130	11	1	1
2020-07-03	15	3	18	4	117	10	1	1
2020-07-04	14	3	16	4	104	10	1	1
2020-07-05	13	3	15	4	93	9	1	1
2020-07-06	12	3	13	3	83	8	1	1
2020-07-07	11	2	12	3	74	8	1	1
2020-07-08	11	2	12	3	67	8	1	1
2020-07-09	10	2	11	3	60	7	1	1
2020-07-10	10	2	10	3	54	7	0	1
2020-07-11	9	2	9	3	48	7	0	1
2020-07-12	9	2	9	3	43	6	0	1
2020-07-13	9	2	8	3	39	6	0	1
2020-07-14	8	2	8	3	35	5	0	1
2020-07-15	8	2	7	2	32	5	0	1
2020-07-16	8	2	7	2	29	5	0	1
2020-07-17	7	2	6	2	26	5	0	1
2020-07-18	7	2	6	2	24	4	0	1
2020-07-19	6	2	5	2	22	4	0	1
2020-07-20	5	2	5	2	20	4	0	1
2020-07-21	5	2	4	2	18	4	0	0
2020-07-22	4	2	4	2	17	4	0	0
2020-07-23	4	2	3	2	16	4	0	0
2020-07-24	3	1	3	2	14	3	0	0
2020-07-25	3	1	3	2	13	3	0	0
2020-07-26	2	1	3	2	12	3	0	0
2020-07-27	2	1	3	2	11	3	0	0
2020-07-28	1	1	3	1	10	3	0	0
2020-07-29	1	1	2	1	10	3	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
2020-07-30	1	1	2	1	9	3	0	0
2020-07-31	1	1	2	1	8	2	0	0
2020-08-01	0	1	2	1	8	2	0	0
2020-08-02	0	1	2	1	7	2	0	0
2020-08-03	0	0	1	1	6	2	0	0
2020-08-04	0	0	1	1	6	2	0	0
2020-08-05	0	0	1	1	6	2	0	0
2020-08-06	0	0	1	1	5	2	0	0
2020-08-07	0	0	1	1	5	2	0	0
2020-08-08	0	0	0	1	5	2	0	0
2020-08-09	0	0	0	1	4	2	0	0
2020-08-10	0	0	0	0	4	2	0	0
2020-08-11	0	0	0	0	3	2	0	0
2020-08-12	0	0	0	0	3	2	0	0
2020-08-13	0	0	0	0	3	1	0	0
2020-08-14	0	0	0	0	3	1	0	0
2020-08-15	0	0	0	0	2	1	0	0
2020-08-16	0	0	0	0	2	1	0	0
2020-08-17	0	0	0	0	2	1	0	0
2020-08-18	0	0	0	0	1	1	0	0
2020-08-19	0	0	0	0	1	1	0	0
2020-08-20	0	0	0	0	1	1	0	0
2020-08-21	0	0	0	0	1	1	0	0
2020-08-22	0	0	0	0	1	1	0	0
2020-08-23	0	0	0	0	1	1	0	0
2020-08-24	0	0	0	0	0	1	0	0
2020-08-25	0	0	0	0	0	1	0	0
2020-08-26	0	0	0	0	0	0	0	0
2020-08-27	0	0	0	0	0	0	0	0
2020-08-28	0	0	0	0	0	0	0	0
2020-08-29	0	0	0	0	0	0	0	0
2020-08-30	0	0	0	0	0	0	0	0
2020-08-31	0	0	0	0	0	0	0	0
2020-09-01	0	0	0	0	0	0	0	0
2020-09-02	0	0	0	0	0	0	0	0
2020-09-03	0	0	0	0	0	0	0	0
2020-09-04	0	0	0	0	0	0	0	0
2020-09-05	0	0	0	0	0	0	0	0
2020-09-06	0	0	0	0	0	0	0	0
2020-09-07	0	0	0	0	0	0	0	0
2020-09-08	0	0	0	0	0	0	0	0
2020-09-09	0	0	0	0	0	0	0	0
2020-09-10	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
2020-09-11	0	0	0	0	0	0	0	0
2020-09-12	0	0	0	0	0	0	0	0
2020-09-13	0	0	0	0	0	0	0	0
2020-09-14	0	0	0	0	0	0	0	0
2020-09-15	0	0	0	0	0	0	0	0
2020-09-16	0	0	0	0	0	0	0	0
2020-09-17	0	0	0	0	0	0	0	0
2020-09-18	0	0	0	0	0	0	0	0
2020-09-19	0	0	0	0	0	0	0	0
2020-09-20	0	0	0	0	0	0	0	0
2020-09-21	0	0	0	0	0	0	0	0
2020-09-22	0	0	0	0	0	0	0	0
2020-09-23	0	0	0	0	0	0	0	0
2020-09-24	0	0	0	0	0	0	0	0
2020-09-25	0	0	0	0	0	0	0	0
2020-09-26	0	0	0	0	0	0	0	0
2020-09-27	0	0	0	0	0	0	0	0
2020-09-28	0	0	0	0	0	0	0	0
2020-09-29	0	0	0	0	0	0	0	0
2020-09-30	0	0	0	0	0	0	0	0
2020-10-01	0	0	0	0	0	0	0	0
2020-10-02	0	0	0	0	0	0	0	0
2020-10-03	0	0	0	0	0	0	0	0
2020-10-04	0	0	0	0	0	0	0	0
2020-10-05	0	0	0	0	0	0	0	0
2020-10-06	0	0	0	0	0	0	0	0
2020-10-07	0	0	0	0	0	0	0	0
2020-10-08	0	0	0	0	0	0	0	0
2020-10-09	0	0	0	0	0	0	0	0
2020-10-10	0	0	0	0	0	0	0	0
2020-10-11	0	0	0	0	0	0	0	0
2020-10-12	0	0	0	0	0	0	0	0
2020-10-13	0	0	0	0	0	0	0	0
2020-10-14	0	0	0	0	0	0	0	0
2020-10-15	0	0	0	0	0	0	0	0
2020-10-16	0	0	0	0	0	0	0	0
2020-10-17	0	0	0	0	0	0	0	0
2020-10-18	0	0	0	0	0	0	0	0
2020-10-19	0	0	0	0	0	0	0	0
2020-10-20	0	0	0	0	0	0	0	0
2020-10-21	0	0	0	0	0	0	0	0
2020-10-22	0	0	0	0	0	0	0	0
2020-10-23	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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-10-24	0	0	0	0	0	0	0	0
2020-10-25	0	0	0	0	0	0	0	0
2020-10-26	0	0	0	0	0	0	0	0
2020-10-27	0	0	0	0	0	0	0	0
2020-10-28	0	0	0	0	0	0	0	0
2020-10-29	0	0	0	0	0	0	0	0
2020-10-30	0	0	0	0	0	0	0	0
2020-10-31	0	0	0	0	0	0	0	0
2020-11-01	0	0	0	0	0	0	0	0
2020-11-02	0	0	0	0	0	0	0	0
2020-11-03	0	0	0	0	0	0	0	0
2020-11-04	0	0	0	0	0	0	0	0
2020-11-05	0	0	0	0	0	0	0	0
2020-11-06	0	0	0	0	0	0	0	0
2020-11-07	0	0	0	0	0	0	0	0
2020-11-08	0	0	0	0	0	0	0	0
2020-11-09	0	0	0	0	0	0	0	0
2020-11-10	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.

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-07	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0
2020-03-10	1	0	0	0	0	0	0	0
2020-03-11	1	1	1	1	0	0	0	0
2020-03-12	2	1	1	1	0	0	0	0
2020-03-13	3	1	1	1	0	0	0	0
2020-03-14	3	1	1	1	0	0	0	0
2020-03-15	4	1	2	1	0	0	0	0
2020-03-16	4	1	2	1	0	1	0	1
2020-03-17	5	1	2	1	0	1	0	0
2020-03-18	5	1	2	1	1	1	0	1
2020-03-19	7	2	2	1	1	1	0	1
2020-03-20	8	2	3	1	1	1	0	1
2020-03-21	9	2	3	2	1	1	0	1

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-22	10	2	4	2	1	1	0	1
2020-03-23	12	2	5	2	2	1	1	1
2020-03-24	14	2	5	2	2	1	1	1
2020-03-25	16	2	6	2	2	1	1	1
2020-03-26	18	3	8	2	3	1	1	1
2020-03-27	21	3	9	3	3	2	1	1
2020-03-28	24	3	10	3	4	2	1	1
2020-03-29	27	3	12	3	4	2	1	1
2020-03-30	31	3	14	3	5	2	2	1
2020-03-31	36	4	16	4	6	2	2	1
2020-04-01	42	4	19	4	7	2	2	1
2020-04-02	49	4	22	4	8	3	2	2
2020-04-03	56	5	25	4	10	3	3	2
2020-04-04	65	5	29	5	11	3	3	2
2020-04-05	75	6	34	5	13	3	4	2
2020-04-06	87	6	39	5	15	4	4	2
2020-04-07	100	7	45	6	18	4	5	2
2020-04-08	116	7	51	6	21	4	6	2
2020-04-09	133	8	59	7	24	4	7	3
2020-04-10	153	8	67	7	28	5	8	3
2020-04-11	176	8	77	8	32	5	9	3
2020-04-12	202	9	88	8	37	5	10	3
2020-04-13	231	10	100	9	43	6	12	3
2020-04-14	264	10	115	9	50	6	13	4
2020-04-15	302	11	131	10	57	7	15	4
2020-04-16	343	11	149	10	66	8	18	4
2020-04-17	389	12	169	11	75	8	19	4
2020-04-18	441	13	191	12	86	9	22	5
2020-04-19	498	14	217	13	99	9	25	5
2020-04-20	559	15	244	14	113	10	28	5
2020-04-21	626	15	274	15	128	10	32	6
2020-04-22	697	16	308	16	147	11	35	6
2020-04-23	773	17	342	17	167	12	39	6
2020-04-24	855	19	378	17	190	12	43	6
2020-04-25	939	20	417	18	215	13	48	7
2020-04-26	1026	21	457	19	243	14	52	7
2020-04-27	1114	22	498	19	274	15	58	7
2020-04-28	1202	22	540	20	308	16	61	8
2020-04-29	1289	23	581	21	344	17	66	8
2020-04-30	1373	25	623	22	383	18	71	8
2020-05-01	1453	26	664	22	426	19	75	9
2020-05-02	1526	26	705	22	470	20	79	9
2020-05-03	1591	27	743	22	518	21	82	9

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-05-04	1649	27	779	23	567	21	86	9
2020-05-05	1696	27	812	24	618	22	89	9
2020-05-06	1732	28	843	25	670	23	89	9
2020-05-07	1757	28	871	26	724	23	91	9
2020-05-08	1771	29	896	26	779	24	92	9
2020-05-09	1773	28	916	26	834	25	93	10
2020-05-10	1762	29	932	26	888	25	91	9
2020-05-11	1740	30	946	27	942	26	89	9
2020-05-12	1708	30	955	27	994	27	88	9
2020-05-13	1666	30	961	28	1046	29	86	10
2020-05-14	1616	30	962	29	1096	29	83	9
2020-05-15	1559	29	960	28	1143	29	80	8
2020-05-16	1495	29	954	28	1187	29	77	8
2020-05-17	1424	28	945	29	1228	30	73	9
2020-05-18	1351	28	932	29	1267	31	69	8
2020-05-19	1275	27	914	28	1301	32	66	8
2020-05-20	1199	26	892	28	1331	32	61	8
2020-05-21	1121	25	869	26	1358	33	57	7
2020-05-22	1044	23	843	25	1380	34	53	7
2020-05-23	968	22	813	26	1396	33	50	7
2020-05-24	894	21	781	26	1409	33	45	7
2020-05-25	822	21	747	24	1417	33	42	6
2020-05-26	754	20	711	24	1420	33	38	6
2020-05-27	688	20	675	24	1417	34	34	6
2020-05-28	627	19	636	24	1410	32	31	5
2020-05-29	570	19	598	22	1397	33	28	5
2020-05-30	517	18	560	21	1378	33	26	5
2020-05-31	468	17	522	21	1355	33	23	5
2020-06-01	422	16	485	20	1327	33	21	4
2020-06-02	380	15	448	20	1293	33	19	4
2020-06-03	342	15	413	19	1257	33	17	4
2020-06-04	307	14	379	17	1216	32	15	4
2020-06-05	276	13	348	16	1172	31	14	4
2020-06-06	247	13	317	16	1124	30	12	3
2020-06-07	221	12	288	15	1075	30	11	3
2020-06-08	198	11	262	14	1023	29	10	3
2020-06-09	177	10	238	14	970	28	9	3
2020-06-10	158	10	215	13	917	27	8	3
2020-06-11	141	9	194	13	862	26	7	3
2020-06-12	126	9	174	12	808	25	6	2
2020-06-13	112	8	157	12	755	24	6	2
2020-06-14	100	8	141	11	703	24	5	2
2020-06-15	90	7	126	10	652	23	4	2

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-06-16	80	7	113	10	604	22	4	2
2020-06-17	72	7	102	9	557	21	4	2
2020-06-18	64	6	91	9	512	20	3	2
2020-06-19	58	6	81	8	469	19	3	2
2020-06-20	52	6	72	8	428	19	2	2
2020-06-21	47	5	65	7	390	17	2	2
2020-06-22	42	5	58	7	354	17	2	1
2020-06-23	37	5	52	7	321	16	2	1
2020-06-24	34	5	47	6	291	15	2	1
2020-06-25	31	4	42	6	264	14	2	1
2020-06-26	28	4	38	6	238	13	1	1
2020-06-27	25	4	34	5	215	13	1	1
2020-06-28	23	4	31	5	193	12	1	1
2020-06-29	21	3	27	5	174	12	1	1
2020-06-30	19	3	24	5	156	11	1	1
2020-07-01	17	3	22	4	140	11	1	1
2020-07-02	16	3	20	4	126	10	1	1
2020-07-03	14	3	18	4	113	10	1	1
2020-07-04	13	3	16	4	101	9	1	1
2020-07-05	12	3	15	4	90	9	1	1
2020-07-06	11	3	13	3	81	9	1	1
2020-07-07	11	2	12	3	72	8	1	1
2020-07-08	10	2	11	3	65	8	0	1
2020-07-09	10	2	10	3	59	7	0	1
2020-07-10	9	2	10	3	53	7	0	1
2020-07-11	9	2	9	3	47	6	0	1
2020-07-12	8	2	8	3	42	6	0	1
2020-07-13	8	2	8	3	38	6	0	1
2020-07-14	8	2	8	3	35	5	0	1
2020-07-15	8	2	7	2	31	5	0	1
2020-07-16	8	2	7	2	28	5	0	1
2020-07-17	7	2	6	2	26	5	0	1
2020-07-18	7	2	5	2	23	4	0	1
2020-07-19	6	2	5	2	21	4	0	1
2020-07-20	5	2	4	2	19	4	0	0
2020-07-21	5	2	4	2	18	4	0	1
2020-07-22	4	2	4	2	16	4	0	0
2020-07-23	4	1	3	2	15	4	0	0
2020-07-24	3	1	3	2	14	3	0	0
2020-07-25	3	1	3	2	13	3	0	0
2020-07-26	2	1	3	1	12	3	0	0
2020-07-27	2	1	3	1	11	3	0	0
2020-07-28	1	1	3	1	10	3	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)*

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

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

Date	ICU		HDU		Ward		Deaths	
	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD
2020-10-23	0	0	0	0	0	0	0	0
2020-10-24	0	0	0	0	0	0	0	0
2020-10-25	0	0	0	0	0	0	0	0
2020-10-26	0	0	0	0	0	0	0	0
2020-10-27	0	0	0	0	0	0	0	0
2020-10-28	0	0	0	0	0	0	0	0
2020-10-29	0	0	0	0	0	0	0	0
2020-10-30	0	0	0	0	0	0	0	0
2020-10-31	0	0	0	0	0	0	0	0
2020-11-01	0	0	0	0	0	0	0	0
2020-11-02	0	0	0	0	0	0	0	0
2020-11-03	0	0	0	0	0	0	0	0
2020-11-04	0	0	0	0	0	0	0	0
2020-11-05	0	0	0	0	0	0	0	0
2020-11-06	0	0	0	0	0	0	0	0
2020-11-07	0	0	0	0	0	0	0	0
2020-11-08	0	0	0	0	0	0	0	0
2020-11-09	0	0	0	0	0	0	0	0
2020-11-10	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.

Date	ICU		HDU		Ward		Deaths	
	Bed needs	SD	Bed needs	SD	Bed needs	SD	Average	SD
2020-03-07	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0
2020-03-10	1	0	0	0	0	0	0	0
2020-03-11	1	1	1	1	0	0	0	0
2020-03-12	2	1	1	1	0	0	0	0
2020-03-13	3	1	1	1	0	0	0	0
2020-03-14	3	1	1	1	0	0	0	0
2020-03-15	4	1	2	1	0	0	0	0
2020-03-16	4	1	2	1	0	0	0	0
2020-03-17	5	1	2	1	0	1	0	0
2020-03-18	5	1	2	1	1	1	0	1
2020-03-19	6	1	2	1	1	1	0	1
2020-03-20	7	2	3	1	1	1	0	1

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-21	8	2	3	2	1	1	0	1
2020-03-22	9	2	4	2	1	1	0	1
2020-03-23	10	2	4	2	2	1	0	1
2020-03-24	11	2	5	2	2	1	1	1
2020-03-25	13	2	5	2	2	1	1	1
2020-03-26	14	2	6	2	2	1	1	1
2020-03-27	16	3	7	2	3	2	1	1
2020-03-28	18	3	8	2	3	2	1	1
2020-03-29	20	3	9	3	4	2	1	1
2020-03-30	23	3	10	3	5	2	1	1
2020-03-31	25	3	11	3	5	2	1	1
2020-04-01	29	4	13	3	6	2	1	1
2020-04-02	33	4	15	3	7	2	2	1
2020-04-03	37	4	17	4	8	2	2	1
2020-04-04	42	4	19	4	9	3	2	1
2020-04-05	47	5	21	4	10	3	2	2
2020-04-06	53	5	24	4	11	3	3	2
2020-04-07	60	5	27	5	13	3	3	2
2020-04-08	67	6	30	5	15	4	3	2
2020-04-09	76	6	34	5	17	4	4	2
2020-04-10	85	6	38	5	19	4	4	2
2020-04-11	95	6	43	5	21	4	5	2
2020-04-12	107	6	49	6	24	5	5	2
2020-04-13	120	7	55	6	27	5	6	2
2020-04-14	135	8	62	7	31	5	7	3
2020-04-15	152	8	69	7	35	5	8	3
2020-04-16	171	8	78	7	39	5	9	3
2020-04-17	192	9	87	8	44	6	10	3
2020-04-18	214	9	97	9	50	6	11	3
2020-04-19	240	10	108	9	56	7	12	3
2020-04-20	268	11	121	10	63	7	14	4
2020-04-21	300	11	135	10	70	8	15	4
2020-04-22	334	12	151	11	79	8	17	4
2020-04-23	371	13	167	11	88	8	19	4
2020-04-24	412	13	185	12	99	8	21	5
2020-04-25	457	14	205	12	111	9	23	5
2020-04-26	504	14	227	13	124	9	26	5
2020-04-27	555	15	250	13	139	10	28	5
2020-04-28	609	16	275	14	155	11	31	6
2020-04-29	666	16	301	15	173	12	34	6
2020-04-30	726	18	329	15	192	12	37	6
2020-05-01	789	19	359	16	213	13	40	6
2020-05-02	853	19	390	17	236	14	44	6

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-05-03	919	19	422	18	261	15	47	7
2020-05-04	985	20	455	19	288	15	50	7
2020-05-05	1052	21	488	19	318	16	54	7
2020-05-06	1118	22	522	20	349	17	58	8
2020-05-07	1182	22	556	20	383	17	61	8
2020-05-08	1243	23	589	21	418	18	64	8
2020-05-09	1302	24	622	22	455	19	67	8
2020-05-10	1356	25	654	23	494	20	70	8
2020-05-11	1404	26	685	23	536	21	73	8
2020-05-12	1447	25	713	24	578	21	75	9
2020-05-13	1482	26	740	25	621	22	77	9
2020-05-14	1510	27	766	25	666	23	79	8
2020-05-15	1531	27	788	25	712	23	79	8
2020-05-16	1543	28	808	25	757	24	80	9
2020-05-17	1548	28	825	26	802	26	80	9
2020-05-18	1545	27	839	26	847	26	79	9
2020-05-19	1534	27	851	27	892	27	79	9
2020-05-20	1514	27	860	28	935	28	79	8
2020-05-21	1487	27	866	27	979	27	77	8
2020-05-22	1453	28	868	27	1019	28	75	8
2020-05-23	1413	27	868	27	1058	28	73	9
2020-05-24	1368	27	864	27	1096	28	70	8
2020-05-25	1319	27	856	26	1130	29	68	8
2020-05-26	1266	26	846	26	1162	30	65	8
2020-05-27	1210	25	833	26	1190	30	62	8
2020-05-28	1153	25	818	26	1216	32	59	8
2020-05-29	1092	25	800	26	1238	32	56	8
2020-05-30	1032	24	780	26	1256	33	52	7
2020-05-31	971	24	758	26	1272	33	50	7
2020-06-01	911	24	733	25	1283	32	46	7
2020-06-02	852	23	707	24	1289	32	43	7
2020-06-03	795	21	679	24	1291	32	41	6
2020-06-04	739	21	649	24	1291	32	38	6
2020-06-05	685	20	619	23	1285	31	35	6
2020-06-06	633	19	587	22	1275	31	32	5
2020-06-07	584	18	555	21	1261	31	30	6
2020-06-08	537	17	523	21	1243	30	27	5
2020-06-09	494	16	492	21	1221	31	25	5
2020-06-10	454	16	461	20	1196	31	23	4
2020-06-11	416	15	431	18	1168	30	21	5
2020-06-12	381	14	402	18	1136	31	19	4
2020-06-13	348	14	375	17	1101	30	17	4
2020-06-14	317	14	348	16	1063	30	16	4

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-06-15	289	13	323	15	1023	30	15	4
2020-06-16	263	12	298	16	981	28	13	3
2020-06-17	240	12	275	15	939	27	12	3
2020-06-18	218	11	254	14	895	27	11	3
2020-06-19	198	10	233	14	851	25	10	3
2020-06-20	180	10	214	13	807	24	9	3
2020-06-21	164	9	196	13	762	23	8	3
2020-06-22	149	9	179	12	718	23	7	3
2020-06-23	136	9	163	12	675	22	7	3
2020-06-24	123	9	149	11	632	21	6	2
2020-06-25	112	8	137	11	592	21	6	2
2020-06-26	101	8	124	10	552	20	5	2
2020-06-27	93	7	113	10	513	19	4	2
2020-06-28	84	7	102	9	477	18	4	2
2020-06-29	77	7	93	9	442	17	4	2
2020-06-30	70	6	85	8	408	17	4	2
2020-07-01	64	6	77	8	377	16	3	2
2020-07-02	58	6	70	8	347	15	3	2
2020-07-03	53	6	64	7	319	15	3	2
2020-07-04	48	5	58	7	293	15	2	1
2020-07-05	44	5	53	7	269	14	2	2
2020-07-06	41	5	48	6	246	14	2	1
2020-07-07	38	4	44	6	225	13	2	1
2020-07-08	35	4	40	6	206	13	2	1
2020-07-09	32	4	36	5	188	13	2	1
2020-07-10	29	4	33	5	171	12	1	1
2020-07-11	27	4	31	5	156	12	1	1
2020-07-12	25	4	28	5	142	11	1	1
2020-07-13	24	4	26	5	130	10	1	1
2020-07-14	22	4	24	4	118	10	1	1
2020-07-15	21	4	22	4	107	10	1	1
2020-07-16	19	3	20	4	98	9	1	1
2020-07-17	18	3	18	4	89	8	1	1
2020-07-18	16	3	17	4	81	8	1	1
2020-07-19	15	3	16	4	74	8	1	1
2020-07-20	14	3	14	4	68	7	1	1
2020-07-21	13	3	13	3	62	7	1	1
2020-07-22	12	3	12	3	56	7	1	1
2020-07-23	12	3	12	3	52	6	1	1
2020-07-24	11	2	11	3	47	6	1	1
2020-07-25	10	2	10	3	43	6	0	1
2020-07-26	10	2	10	3	39	6	0	1
2020-07-27	9	2	9	3	36	5	0	1

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)*

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

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-10-22	0	0	0	0	0	0	0	0
2020-10-23	0	0	0	0	0	0	0	0
2020-10-24	0	0	0	0	0	0	0	0
2020-10-25	0	0	0	0	0	0	0	0
2020-10-26	0	0	0	0	0	0	0	0
2020-10-27	0	0	0	0	0	0	0	0
2020-10-28	0	0	0	0	0	0	0	0
2020-10-29	0	0	0	0	0	0	0	0
2020-10-30	0	0	0	0	0	0	0	0
2020-10-31	0	0	0	0	0	0	0	0
2020-11-01	0	0	0	0	0	0	0	0
2020-11-02	0	0	0	0	0	0	0	0
2020-11-03	0	0	0	0	0	0	0	0
2020-11-04	0	0	0	0	0	0	0	0
2020-11-05	0	0	0	0	0	0	0	0
2020-11-06	0	0	0	0	0	0	0	0
2020-11-07	0	0	0	0	0	0	0	0
2020-11-08	0	0	0	0	0	0	0	0
2020-11-09	0	0	0	0	0	0	0	0
2020-11-10	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.

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-07	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0
2020-03-10	1	0	0	0	0	0	0	0
2020-03-11	1	1	1	1	0	0	0	0
2020-03-12	2	1	1	1	0	0	0	0
2020-03-13	3	1	1	1	0	0	0	0
2020-03-14	3	1	1	1	0	0	0	0
2020-03-15	4	1	2	1	0	0	0	0
2020-03-16	4	1	2	1	0	0	0	0
2020-03-17	5	1	2	1	0	1	0	1
2020-03-18	5	1	2	1	1	1	0	1
2020-03-19	6	2	2	1	1	1	0	1

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-20	6	2	2	1	1	1	0	1
2020-03-21	7	2	3	1	1	1	0	1
2020-03-22	8	2	3	2	1	1	0	1
2020-03-23	9	2	4	2	2	1	0	1
2020-03-24	10	2	4	2	2	1	0	1
2020-03-25	11	2	5	2	2	1	1	1
2020-03-26	12	2	5	2	2	1	1	1
2020-03-27	14	2	6	2	3	1	1	1
2020-03-28	15	2	7	2	3	2	1	1
2020-03-29	16	2	7	2	3	2	1	1
2020-03-30	18	3	8	3	4	2	1	1
2020-03-31	19	3	9	3	4	2	1	1
2020-04-01	22	3	10	3	5	2	1	1
2020-04-02	24	3	11	3	6	2	1	1
2020-04-03	26	3	12	3	7	2	1	1
2020-04-04	29	4	14	3	7	2	1	1
2020-04-05	32	4	15	3	8	3	2	1
2020-04-06	36	4	17	4	9	3	2	1
2020-04-07	40	4	19	4	10	3	2	1
2020-04-08	44	5	20	4	11	3	2	2
2020-04-09	49	5	23	4	13	3	2	2
2020-04-10	55	5	25	5	14	3	3	2
2020-04-11	61	5	28	5	16	4	3	2
2020-04-12	67	5	31	5	18	4	3	2
2020-04-13	75	6	35	5	19	4	4	2
2020-04-14	84	6	39	5	22	4	4	2
2020-04-15	93	6	43	6	24	4	5	2
2020-04-16	104	7	48	6	27	5	5	2
2020-04-17	115	7	53	6	30	5	6	2
2020-04-18	128	7	58	6	33	5	7	3
2020-04-19	142	8	64	7	37	5	7	3
2020-04-20	157	8	71	7	41	6	8	3
2020-04-21	174	9	79	8	45	6	9	3
2020-04-22	192	9	87	8	50	6	10	3
2020-04-23	212	10	96	9	56	7	11	3
2020-04-24	234	10	107	9	62	7	12	3
2020-04-25	258	11	118	9	68	7	13	4
2020-04-26	284	11	130	10	75	8	14	4
2020-04-27	313	12	143	10	84	8	16	4
2020-04-28	342	12	157	11	93	9	17	4
2020-04-29	374	12	172	11	103	9	19	4
2020-04-30	410	13	188	12	113	10	21	5
2020-05-01	446	15	206	13	125	10	22	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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-05-02	487	15	225	13	137	11	25	5
2020-05-03	529	16	245	14	152	11	27	5
2020-05-04	574	16	265	15	167	12	30	5
2020-05-05	619	17	288	15	183	12	31	5
2020-05-06	667	18	312	15	202	13	34	6
2020-05-07	717	18	336	16	221	13	37	6
2020-05-08	768	19	361	17	242	14	40	7
2020-05-09	819	19	387	18	265	14	42	7
2020-05-10	872	20	414	19	289	15	45	7
2020-05-11	926	21	442	19	315	16	48	7
2020-05-12	977	22	469	20	342	17	51	7
2020-05-13	1028	22	497	20	371	17	53	7
2020-05-14	1079	22	525	20	401	17	56	8
2020-05-15	1126	23	552	20	432	19	58	8
2020-05-16	1172	23	579	20	465	20	61	8
2020-05-17	1214	24	606	22	500	20	63	8
2020-05-18	1251	25	630	22	536	21	65	8
2020-05-19	1286	25	654	23	573	22	66	8
2020-05-20	1314	25	676	23	610	22	69	8
2020-05-21	1337	27	696	24	648	23	69	8
2020-05-22	1356	27	714	24	686	23	70	8
2020-05-23	1369	27	731	24	725	23	71	8
2020-05-24	1375	27	747	24	764	24	71	8
2020-05-25	1375	27	759	24	802	24	71	8
2020-05-26	1368	27	771	24	840	25	70	9
2020-05-27	1357	27	779	25	876	25	70	8
2020-05-28	1339	26	785	26	912	26	69	8
2020-05-29	1317	27	788	26	946	25	68	8
2020-05-30	1291	26	788	25	979	26	66	9
2020-05-31	1261	25	786	25	1011	27	65	8
2020-06-01	1225	25	781	26	1040	29	63	8
2020-06-02	1187	24	775	26	1066	29	61	8
2020-06-03	1145	24	765	27	1091	29	59	7
2020-06-04	1102	24	754	26	1113	29	57	7
2020-06-05	1055	25	741	26	1132	30	54	7
2020-06-06	1008	24	725	24	1148	30	51	7
2020-06-07	960	23	707	24	1160	30	49	7
2020-06-08	912	23	688	24	1170	31	46	7
2020-06-09	863	23	668	23	1176	31	44	7
2020-06-10	815	22	646	22	1180	32	42	6
2020-06-11	767	21	622	22	1181	32	39	6
2020-06-12	720	20	598	22	1178	32	37	6
2020-06-13	674	19	574	22	1171	32	34	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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-06-14	632	18	549	20	1160	31	32	6
2020-06-15	589	18	524	20	1147	32	30	6
2020-06-16	549	17	499	21	1131	30	28	5
2020-06-17	510	17	473	20	1111	30	26	5
2020-06-18	474	17	447	19	1089	30	24	5
2020-06-19	439	17	421	19	1064	28	22	5
2020-06-20	407	16	397	18	1037	29	20	5
2020-06-21	377	16	373	17	1008	28	19	4
2020-06-22	348	15	349	17	977	28	18	4
2020-06-23	321	14	327	17	945	26	16	4
2020-06-24	296	14	305	16	911	26	15	4
2020-06-25	273	13	285	16	876	25	14	4
2020-06-26	252	12	264	16	840	25	13	4
2020-06-27	232	11	246	15	803	25	12	3
2020-06-28	213	10	228	15	766	24	11	3
2020-06-29	196	11	211	14	728	24	10	3
2020-06-30	180	10	195	14	692	23	9	3
2020-07-01	166	10	180	13	655	23	8	3
2020-07-02	152	9	167	12	619	22	8	3
2020-07-03	140	9	154	11	583	22	7	3
2020-07-04	129	8	142	11	548	22	6	2
2020-07-05	119	8	131	10	514	21	6	2
2020-07-06	110	8	121	10	482	21	6	2
2020-07-07	101	7	111	10	450	20	5	2
2020-07-08	93	7	103	9	420	19	5	2
2020-07-09	86	7	94	9	392	19	4	2
2020-07-10	79	6	87	9	365	18	4	2
2020-07-11	73	6	80	9	339	18	4	2
2020-07-12	67	6	74	8	315	17	3	2
2020-07-13	62	6	68	8	292	16	3	2
2020-07-14	57	6	62	7	270	15	3	2
2020-07-15	53	6	58	7	250	14	3	2
2020-07-16	49	5	53	7	232	14	3	2
2020-07-17	46	5	49	6	214	13	2	2
2020-07-18	42	5	45	6	197	13	2	2
2020-07-19	39	5	42	6	182	12	2	1
2020-07-20	37	4	39	6	168	12	2	1
2020-07-21	35	4	36	6	155	11	2	1
2020-07-22	32	4	33	6	143	11	2	1
2020-07-23	30	4	31	5	132	10	2	1
2020-07-24	27	4	28	5	122	10	1	1
2020-07-25	26	4	26	5	112	10	1	1
2020-07-26	24	3	24	5	103	9	1	1

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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-07-27	23	4	23	4	95	9	1	1
2020-07-28	22	4	21	4	87	8	1	1
2020-07-29	21	3	20	4	81	8	1	1
2020-07-30	20	3	18	4	75	8	1	1
2020-07-31	18	3	17	4	69	7	1	1
2020-08-01	17	3	16	4	64	7	1	1
2020-08-02	16	3	15	4	59	7	1	1
2020-08-03	14	3	14	3	54	7	1	1
2020-08-04	12	3	12	3	50	6	1	1
2020-08-05	11	3	11	3	46	6	1	1
2020-08-06	9	2	10	3	43	6	0	1
2020-08-07	8	2	9	3	40	6	0	1
2020-08-08	7	2	8	3	37	6	0	1
2020-08-09	6	2	8	3	34	6	0	1
2020-08-10	5	2	7	3	32	5	0	0
2020-08-11	4	2	6	2	29	5	0	0
2020-08-12	3	2	6	2	27	5	0	0
2020-08-13	3	1	6	2	25	5	0	0
2020-08-14	2	1	5	2	23	5	0	0
2020-08-15	1	1	5	2	21	4	0	0
2020-08-16	1	1	4	2	20	4	0	0
2020-08-17	1	1	4	2	18	4	0	0
2020-08-18	1	1	3	2	17	4	0	0
2020-08-19	0	1	3	2	15	4	0	0
2020-08-20	0	0	2	1	14	3	0	0
2020-08-21	0	0	2	1	13	3	0	0
2020-08-22	0	0	1	1	12	3	0	0
2020-08-23	0	0	1	1	11	3	0	0
2020-08-24	0	0	1	1	10	3	0	0
2020-08-25	0	0	1	1	9	3	0	0
2020-08-26	0	0	0	1	8	3	0	0
2020-08-27	0	0	0	1	8	2	0	0
2020-08-28	0	0	0	0	7	2	0	0
2020-08-29	0	0	0	0	6	2	0	0
2020-08-30	0	0	0	0	5	2	0	0
2020-08-31	0	0	0	0	4	2	0	0
2020-09-01	0	0	0	0	4	2	0	0
2020-09-02	0	0	0	0	3	2	0	0
2020-09-03	0	0	0	0	3	2	0	0
2020-09-04	0	0	0	0	2	1	0	0
2020-09-05	0	0	0	0	2	1	0	0
2020-09-06	0	0	0	0	2	1	0	0
2020-09-07	0	0	0	0	1	1	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)*

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

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-10-21	0	0	0	0	0	0	0	0
2020-10-22	0	0	0	0	0	0	0	0
2020-10-23	0	0	0	0	0	0	0	0
2020-10-24	0	0	0	0	0	0	0	0
2020-10-25	0	0	0	0	0	0	0	0
2020-10-26	0	0	0	0	0	0	0	0
2020-10-27	0	0	0	0	0	0	0	0
2020-10-28	0	0	0	0	0	0	0	0
2020-10-29	0	0	0	0	0	0	0	0
2020-10-30	0	0	0	0	0	0	0	0
2020-10-31	0	0	0	0	0	0	0	0
2020-11-01	0	0	0	0	0	0	0	0
2020-11-02	0	0	0	0	0	0	0	0
2020-11-03	0	0	0	0	0	0	0	0
2020-11-04	0	0	0	0	0	0	0	0
2020-11-05	0	0	0	0	0	0	0	0
2020-11-06	0	0	0	0	0	0	0	0
2020-11-07	0	0	0	0	0	0	0	0
2020-11-08	0	0	0	0	0	0	0	0
2020-11-09	0	0	0	0	0	0	0	0
2020-11-10	0	0	0	0	0	0	0	0

Table 7: Model output from 500 model runs for the 73% 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.

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-07	0	0	0	0	0	0	0	0
2020-03-08	0	0	0	0	0	0	0	0
2020-03-09	0	0	0	0	0	0	0	0
2020-03-10	1	0	0	0	0	0	0	0
2020-03-11	1	1	1	1	0	0	0	0
2020-03-12	2	1	1	1	0	0	0	0
2020-03-13	3	1	1	1	0	0	0	0
2020-03-14	3	1	1	1	0	0	0	0
2020-03-15	4	1	2	1	0	0	0	0
2020-03-16	4	1	2	1	0	0	0	0
2020-03-17	5	1	2	1	0	1	0	0
2020-03-18	5	1	2	1	1	1	0	1

Table 7: Model output from 500 model runs for the 73% 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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-03-19	6	1	2	1	1	1	0	1
2020-03-20	6	2	2	1	1	1	0	1
2020-03-21	6	2	3	1	1	1	0	1
2020-03-22	8	2	3	1	1	1	0	1
2020-03-23	9	2	3	2	2	1	0	1
2020-03-24	9	2	4	2	2	1	0	1
2020-03-25	10	2	4	2	2	1	1	1
2020-03-26	11	2	5	2	2	1	1	1
2020-03-27	12	2	5	2	3	1	1	1
2020-03-28	13	2	6	2	3	1	1	1
2020-03-29	14	2	7	2	3	2	1	1
2020-03-30	15	3	7	2	4	2	1	1
2020-03-31	16	3	8	2	4	2	1	1
2020-04-01	18	3	8	2	5	2	1	1
2020-04-02	20	3	9	3	5	2	1	1
2020-04-03	21	3	10	3	6	2	1	1
2020-04-04	23	3	11	3	7	2	1	1
2020-04-05	25	3	12	3	7	3	1	1
2020-04-06	27	3	13	3	8	3	1	1
2020-04-07	30	4	14	3	9	3	1	1
2020-04-08	32	4	15	3	10	3	2	1
2020-04-09	35	4	16	4	11	3	2	1
2020-04-10	38	4	18	4	12	3	2	1
2020-04-11	41	4	20	4	13	3	2	1
2020-04-12	44	4	21	4	14	3	2	1
2020-04-13	48	5	23	4	15	3	2	2
2020-04-14	52	5	25	4	17	4	3	2
2020-04-15	56	5	27	4	18	4	3	2
2020-04-16	61	5	29	5	20	4	3	2
2020-04-17	66	5	31	5	22	4	3	2
2020-04-18	71	6	34	5	23	4	4	2
2020-04-19	77	6	37	5	25	4	4	2
2020-04-20	83	6	40	6	28	5	4	2
2020-04-21	90	6	43	6	30	5	5	2
2020-04-22	97	7	47	6	33	5	5	2
2020-04-23	105	7	51	6	35	5	5	2
2020-04-24	114	7	54	7	38	6	6	2
2020-04-25	123	8	59	7	42	6	6	3
2020-04-26	133	8	64	7	45	6	7	3
2020-04-27	143	8	69	7	49	6	7	3
2020-04-28	154	9	74	8	52	7	8	3
2020-04-29	166	9	81	8	57	7	8	3
2020-04-30	180	9	87	8	62	7	9	3

Table 7: Model output from 500 model runs for the 73% 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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-05-01	193	9	93	9	67	8	10	3
2020-05-02	208	9	101	9	72	8	11	3
2020-05-03	225	10	108	9	78	8	12	3
2020-05-04	241	10	116	10	85	9	12	3
2020-05-05	260	10	125	10	91	9	13	4
2020-05-06	279	11	134	10	98	9	14	4
2020-05-07	298	11	143	11	106	9	15	4
2020-05-08	320	12	154	11	115	10	16	4
2020-05-09	342	12	164	11	123	10	17	4
2020-05-10	366	13	176	12	133	10	19	4
2020-05-11	390	13	188	11	143	10	20	4
2020-05-12	414	14	201	12	153	11	21	5
2020-05-13	441	15	214	14	165	11	23	5
2020-05-14	468	16	228	14	177	12	24	5
2020-05-15	496	15	243	14	190	12	25	5
2020-05-16	525	16	258	14	204	13	27	5
2020-05-17	555	16	273	15	219	13	29	5
2020-05-18	586	17	289	14	234	13	30	5
2020-05-19	617	17	305	15	250	14	31	5
2020-05-20	648	17	322	15	267	15	34	6
2020-05-21	680	18	339	16	285	16	35	6
2020-05-22	711	18	357	17	303	16	37	6
2020-05-23	742	17	375	17	322	17	38	6
2020-05-24	773	19	393	18	342	17	40	6
2020-05-25	803	19	410	19	363	17	41	6
2020-05-26	833	20	428	19	385	17	43	7
2020-05-27	861	20	446	19	408	18	45	7
2020-05-28	888	21	462	20	432	18	46	7
2020-05-29	914	21	479	20	456	19	47	7
2020-05-30	938	21	494	20	481	20	48	7
2020-05-31	960	22	509	21	505	22	49	7
2020-06-01	981	21	524	21	530	21	51	7
2020-06-02	998	21	539	20	556	21	51	7
2020-06-03	1013	21	552	21	581	22	53	7
2020-06-04	1026	22	564	21	606	22	53	7
2020-06-05	1035	21	576	22	632	23	53	7
2020-06-06	1042	22	586	22	657	23	54	8
2020-06-07	1046	22	595	23	682	23	54	7
2020-06-08	1047	22	604	22	707	24	54	7
2020-06-09	1046	22	610	23	731	23	54	7
2020-06-10	1041	21	615	22	755	23	54	7
2020-06-11	1033	22	619	23	777	24	53	7
2020-06-12	1023	23	621	23	799	24	53	7

Table 7: Model output from 500 model runs for the 73% 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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-06-13	1010	22	621	22	819	25	52	7
2020-06-14	995	21	621	23	839	25	51	7
2020-06-15	978	21	619	23	856	26	50	7
2020-06-16	959	21	616	22	873	27	50	7
2020-06-17	937	20	612	22	889	27	49	7
2020-06-18	914	21	604	23	902	27	46	7
2020-06-19	890	21	597	22	914	27	46	7
2020-06-20	864	21	588	22	924	27	44	7
2020-06-21	838	21	578	22	933	27	43	7
2020-06-22	810	21	567	21	939	26	41	6
2020-06-23	783	21	554	21	944	27	40	6
2020-06-24	754	21	541	21	946	27	39	6
2020-06-25	724	20	528	20	947	28	37	6
2020-06-26	695	19	514	20	944	28	36	6
2020-06-27	666	19	499	19	940	28	33	6
2020-06-28	637	17	485	19	934	27	32	6
2020-06-29	609	17	469	20	925	27	31	6
2020-06-30	580	17	454	19	915	26	29	5
2020-07-01	553	17	439	19	905	25	28	5
2020-07-02	525	16	422	19	892	24	27	5
2020-07-03	499	16	405	19	878	25	25	5
2020-07-04	474	16	389	18	862	25	24	5
2020-07-05	448	16	373	17	845	26	23	5
2020-07-06	424	15	357	17	826	25	22	5
2020-07-07	401	15	342	17	807	25	20	4
2020-07-08	379	14	327	16	786	25	19	4
2020-07-09	358	14	311	16	764	25	18	4
2020-07-10	337	13	297	16	743	25	17	4
2020-07-11	318	13	282	16	721	24	16	4
2020-07-12	299	13	268	15	698	24	15	4
2020-07-13	282	13	254	14	674	24	14	4
2020-07-14	266	12	240	15	650	23	14	4
2020-07-15	250	12	227	14	626	22	13	3
2020-07-16	235	11	215	14	602	22	12	3
2020-07-17	222	11	203	13	578	21	11	3
2020-07-18	209	11	191	12	555	21	11	3
2020-07-19	197	11	179	12	531	20	10	3
2020-07-20	185	11	169	12	508	19	9	3
2020-07-21	174	10	159	11	484	20	9	3
2020-07-22	164	10	150	11	461	19	8	3
2020-07-23	154	9	142	10	439	19	8	3
2020-07-24	145	9	133	10	418	18	7	3
2020-07-25	137	9	125	10	397	17	7	3

Table 7: Model output from 500 model runs for the 73% 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
2020-07-26	128	9	118	10	376	17	6	2
2020-07-27	121	8	111	10	357	17	6	2
2020-07-28	114	8	105	9	338	17	6	2
2020-07-29	107	8	99	9	319	16	5	2
2020-07-30	101	7	93	9	302	15	5	2
2020-07-31	95	7	88	9	285	15	5	2
2020-08-01	89	7	82	9	269	14	5	2
2020-08-02	84	7	78	8	254	14	4	2
2020-08-03	79	6	73	8	239	14	4	2
2020-08-04	74	7	69	7	226	13	4	2
2020-08-05	70	6	65	7	213	13	4	2
2020-08-06	66	6	61	7	200	13	3	2
2020-08-07	62	6	57	7	189	13	3	2
2020-08-08	59	6	54	7	178	13	3	2
2020-08-09	56	6	51	7	167	12	3	2
2020-08-10	52	6	48	6	158	12	3	2
2020-08-11	49	5	45	6	149	12	3	2
2020-08-12	47	5	42	6	140	11	2	2
2020-08-13	45	5	40	6	132	11	2	1
2020-08-14	42	5	38	6	124	10	2	1
2020-08-15	40	5	35	6	117	10	2	1
2020-08-16	38	5	34	5	110	10	2	1
2020-08-17	36	5	32	5	104	10	2	1
2020-08-18	34	4	30	5	97	9	2	1
2020-08-19	33	4	28	5	92	9	2	1
2020-08-20	31	4	27	5	86	8	2	1
2020-08-21	29	4	25	4	81	8	1	1
2020-08-22	28	4	24	4	77	8	1	1
2020-08-23	26	4	23	4	72	8	1	1
2020-08-24	25	4	21	4	68	7	1	1
2020-08-25	23	3	20	4	64	7	1	1
2020-08-26	22	3	19	4	60	7	1	1
2020-08-27	21	3	18	4	57	7	1	1
2020-08-28	20	3	17	4	54	6	1	1
2020-08-29	19	3	17	4	50	6	1	1
2020-08-30	19	3	16	4	48	6	1	1
2020-08-31	18	3	15	4	45	6	1	1
2020-09-01	17	3	15	3	43	6	1	1
2020-09-02	16	3	14	3	40	6	1	1
2020-09-03	15	3	13	3	38	6	1	1
2020-09-04	14	3	12	3	36	5	1	1
2020-09-05	13	3	11	3	35	5	1	1
2020-09-06	13	3	11	3	33	5	1	1

Table 7: Model output from 500 model runs for the 73% 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)*

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

Table 7: Model output from 500 model runs for the 73% 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)*

Date	ICU Bed needs	SD	HDU Bed needs	SD	Ward Bed needs	SD	Deaths Average	SD
2020-10-20	0	0	1	1	4	2	0	0
2020-10-21	0	0	0	1	4	2	0	0
2020-10-22	0	0	0	1	4	2	0	0
2020-10-23	0	0	0	0	3	2	0	0
2020-10-24	0	0	0	0	3	2	0	0
2020-10-25	0	0	0	0	3	1	0	0
2020-10-26	0	0	0	0	2	1	0	0
2020-10-27	0	0	0	0	2	1	0	0
2020-10-28	0	0	0	0	2	1	0	0
2020-10-29	0	0	0	0	2	1	0	0
2020-10-30	0	0	0	0	1	1	0	0
2020-10-31	0	0	0	0	1	1	0	0
2020-11-01	0	0	0	0	1	1	0	0
2020-11-02	0	0	0	0	1	1	0	0
2020-11-03	0	0	0	0	1	1	0	0
2020-11-04	0	0	0	0	1	1	0	0
2020-11-05	0	0	0	0	0	1	0	0
2020-11-06	0	0	0	0	0	1	0	0
2020-11-07	0	0	0	0	0	0	0	0
2020-11-08	0	0	0	0	0	0	0	0
2020-11-09	0	0	0	0	0	0	0	0
2020-11-10	0	0	0	0	0	0	0	0