Table S1. Model-generated statewide estimates of occupied ICU beds and CKRT demand and capacity before the pandemic[a]

State	Total ICU beds[b]	Available ICU beds[b]	Occupied ICU beds[c]	Pre-COVID-19 CKRT demand[d]	CKRT capacity[e]
Alabama	1,870	606	1,264	111	167
Alaska	130	55	75	7	10
Arizona	1,742	814	928	82	122
Arkansas	856	362	494	43	65
California	8,131	3,381	4,750	418	627
Colorado	1,264	500	764	67	101
Connecticut	731	285	446	39	59
Delaware	249	63	186	16	25
District of Columbia	401	159	242	21	32
Florida	6,226	2,044	4,182	368	552
Georgia	2,703	752	1,951	172	258
Hawaii	219	73	146	13	19
Idaho	333	155	178	16	23
Illinois	3,426	1,410	2,016	177	266
Indiana	2,358	974	1,384	122	183
Iowa	622	293	329	29	43
Kansas	878	391	487	43	64
Kentucky	1,447	504	943	83	124
Louisiana	1,518	632	886	78	117
Maine	288	107	181	16	24
Maryland	1,227	422	805	71	106
Massachusetts	1,555	571	984	87	130
Michigan	2,749	976	1,773	156	234
Minnesota	1,277	452	825	73	109
Mississippi	931	392	539	47	71
Missouri	2,092	874	1,218	107	161
Montana	248	113	135	12	18
Nebraska	548	202	346	30	46
Nevada	1,118	248	870	77	115
New Hampshire	252	110	142	12	19
New Jersey	1,891	846	1,045	92	138
New Mexico	460	188	272	24	36
New York	4,420	1,670	2,750	242	363

Table S1. Model-generated statewide estimates of occupied ICU beds and CKRT demand and capacity before the pandemic[a] (continued)

State	Total ICU beds[b]	Available ICU beds[b]	Occupied ICU beds[c]	Pre-COVID-19 CKRT demand[d]	CKRT capacity[e]
North Carolina	3,168	911	2,257	199	298
North Dakota	278	95	183	16	24
Ohio	3,622	1,297	2,325	205	307
Oklahoma	1,164	427	737	65	97
Oregon	837	336	501	44	66
Pennsylvania	3,643	1,427	2,216	195	293
Rhode Island	279	77	202	18	27
South Carolina	1,459	469	990	87	131
South Dakota	150	75	75	7	10
Tennessee	2,309	603	1,706	150	225
Texas	7,149	2,573	4,576	403	604
Utah	687	328	359	32	47
Vermont	94	52	42	4	6
Virginia	2,007	698	1,309	115	173
Washington	1,493	525	968	85	128
West Virginia	643	223	420	37	55
Wisconsin	1,506	676	830	73	110
Wyoming	102	65	37	3	5
US	**84,750**	**31,481**	**53,269**	**4,688**	**7,032**

Abbreviations: ICU, intensive care unit; COVID-19, coronavirus disease 2019; CKRT, continuous kidney replacement therapy; AKI 3D, acute kidney injury stage 3 requiring dialysis.

[a]This table demonstrates how we estimated pre-COVID-19 CKRT demand and CKRT capacity using data on total ICU beds and average daily occupancy rates. The unit for demand and capacity is CKRT machines. Minor discrepancies in numerical values in the table are due to rounding.

[b]These estimates represent a cross-section of time prior to the COVID-19 pandemic based on data from the Harvard Global Health Institute model, the 2018 American Hospital Association database, and the American Hospital Directory.[1-3]

[c]Occupied ICU beds = (Total ICU beds) – (Available ICU beds)

[d]Pre-COVID-19 CKRT demand = (Occupied ICU beds) * (Prevalence of AKI 3D among ICU patients pre-COVID-19)

[e]CKRT capacity = (Pre-COVID-19 CKRT demand) * (CKRT capacity multiplier)

Table S2. Model-generated initial CKRT shortage date in the base-case, best-case, and worst-case scenarios during the initial wave of the pandemic[a]

State	Initial CKRT Shortage Date[b]		
	Base-case[c]	Best-case[d]	Worst-case[e]
Alabama	-	-	-
Alaska	-	-	-
Arizona	-	-	4/24/2020
Arkansas	-	-	7/30/2020
California	-	-	4/15/2020
Colorado	-	-	4/5/2020
Connecticut	4/10/2020	4/18/2020	3/31/2020
Delaware	-	-	4/11/2020
District of Columbia	-	-	4/8/2020
Florida	-	-	-
Georgia	-	-	4/7/2020
Hawaii	-	-	-
Idaho	-	-	-
Illinois	-	-	4/5/2020
Indiana	-	-	4/9/2020
Iowa	-	-	4/18/2020
Kansas	-	-	-
Kentucky	-	-	-
Louisiana	4/15/2020	-	3/27/2020
Maine	-	-	7/29/2020
Maryland	4/19/2020	-	4/5/2020
Massachusetts	4/21/2020	-	4/6/2020
Michigan	4/14/2020	-	3/31/2020
Minnesota	-	-	4/22/2020
Mississippi	-	-	4/12/2020
Missouri	-	-	-
Montana	-	-	-
Nebraska	-	-	7/30/2020
Nevada	-	-	-
New Hampshire	-	-	4/12/2020
New Jersey	4/6/2020	4/13/2020	3/28/2020
New Mexico	-	-	4/18/2020
New York	4/2/2020	4/9/2020	3/25/2020

Table S2. Model-generated initial CKRT shortage date in the base-case, best-case, and worst-case scenarios during the initial wave of the pandemic[a] (continued)

State	Initial CKRT Shortage Date[b]		
	Base-case[c]	Best-case[d]	Worst-case[e]
North Carolina	-	-	-
North Dakota	-	-	-
Ohio	-	-	4/20/2020
Oklahoma	-	-	-
Oregon	-	-	-
Pennsylvania	-	-	4/9/2020
Rhode Island	-	-	4/7/2020
South Carolina	-	-	6/20/2020
South Dakota	-	-	5/5/2020
Tennessee	-	-	-
Texas	-	-	-
Utah	-	-	8/3/2020
Vermont	-	-	3/27/2020
Virginia	-	-	4/16/2020
Washington	-	-	3/25/2020
West Virginia	-	-	-
Wisconsin	-	-	4/14/2020
Wyoming	-	-	5/23/2020

Abbreviations: CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019; AKI 3D, acute kidney injury stage 3 requiring dialysis;

[a]This table demonstrates the model-generated initial CKRT shortage date by state, which is the first date when CKRT demand (according to point estimates) exceeds CKRT capacity in the scenarios listed. However, as the COVID-19 pandemic is dynamic, the projected timeline of the epidemic depends on changing events - such as the successful implementation of social distancing policies - and can be imprecise.[4] Short-term quantitative projections, such as the number of machines in shortage may be more reliable than temporal projections, such as the initial CKRT shortage date.[5]

[c]The base-case scenario projected by the model is obtained using the base-case values of the input parameters listed in Table 1.

[d]The best-case scenario projected by the model is obtained when the input parameters are varied simultaneously as follows:

i. Incidence of AKI 3D requiring CKRT among hospitalized patients with COVID-19: 4.8%
ii. Time from hospitalization to AKI 3D: 10 days
iii. Duration of CKRT: 6 days
iv. Non-COVID-19 CKRT demand multiplier during the initial wave of the COVID-19 pandemic: 0.25
v. Prevalence of AKI 3D among ICU patients pre-COVID-19: 11.0%
vi. CKRT capacity multiplier: 1.75

[e]The worst-case scenario projected by the model is obtained when the input parameters are varied simultaneously as follows:

i. Incidence of AKI 3D requiring CKRT among hospitalized patients with COVID-19: 6.9%
ii. Time from hospitalization to AKI 3D: 5 days
iii. Duration of CKRT: 9 days
iv. Non-COVID-19 CKRT demand multiplier during the initial wave of the COVID-19 pandemic: 0.75
v. Prevalence of AKI 3D among ICU patients pre-COVID-19: 6.6%
vi. CKRT capacity multiplier: 1.25

Table S3. Effect of varying the incidence of AKI 3D requiring CKRT among hospitalized patients with COVID-19 on a) nationwide CKRT shortage at peak resource use in each state and b) number of states projected to encounter CKRT shortage during the initial wave of the pandemic[a]

Incidence of AKI 3D requiring CKRT among hospitalized patients with COVID-19 (%)	Nationwide CKRT shortage at peak resource use in each state (95% UI)[b]	Number of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic	List of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic
4.8	945 (795 – 1,359)	4	CT, MA, NJ, NY
5.2 (base-case)	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
6.9	1,723 (1,474 – 2,538)	8	CT, LA, MD, MA, MI, NJ, NY, RI

Abbreviations: AKI 3D, acute kidney injury stage 3 requiring dialysis; CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019; UI: uncertainty interval.

[a]This table demonstrates the results when the incidence of AKI 3D requiring CKRT among hospitalized patients with COVID-19 is varied between 4.8% and 6.9%, as based on published data.[6-10]

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S4. Effect of varying the non-COVID-19 CKRT demand multiplier during the COVID-19 pandemic on model-generated a) nationwide CKRT shortage at peak resource use in each state and b) number of states projected to encounter CKRT shortage during the initial wave of the pandemic[a]

Non-COVID-19 CKRT demand multiplier during the COVID-19 pandemic	Nationwide CKRT shortage at peak resource use in each state (95% UI)[b]	Number of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic	List of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic
0.25	986 (835 – 1,415)	4	CT, MA, NJ, NY
0.40 (base-case)	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
0.75	1,388 (1,172 – 2,042)	8	CT, LA, MD, MA, MI, NJ, NY, RI

Abbreviations: COVID-19, coronavirus disease 2019; CKRT, continuous kidney replacement therapy; UI: uncertainty interval.

[a]This table demonstrates the results when the non-COVID-19 CKRT demand multiplier is varied between 0.25 and 0.75. This range was informed by the Harvard Global Health Institute Model and expert opinion from nephrologists at two hospitals.[1]

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S5. Effect of varying the duration of CKRT among hospitalized patients with COVID-19 on a) nationwide CKRT shortage at peak resource use in each state and b) number of states projected to encounter CKRT shortage during the initial wave of the pandemic[a]

Duration of CKRT among hospitalized patients with COVID-19 (Days)	Nationwide CKRT shortage at peak resource use in each state (95% UI)[b]	Number of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic	List of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic
6 (base-case)	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
9	2,067 (1,738 – 3,033)	8	CT, LA, MD, MA, MI, NJ, NY, RI

Abbreviations: CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019; UI: uncertainty interval.

[a]This table demonstrates the results when the duration of CKRT is varied between 6 and 9 days. This range was informed by expert opinion from nephrologists at two hospitals and peer review.[6,13]

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S6. Effect of varying the time from hospitalization to AKI 3D requiring CKRT among hospitalized patients with COVID-19 on a) nationwide CKRT shortage at peak resource use in each state and b) number of states projected to encounter CKRT shortage during the initial wave of the pandemic[a]

Time from hospitalization to AKI 3D requiring CKRT among hospitalized patients with COVID-19 (days)	Nationwide CKRT shortage at peak resource use in each state (95% UI)[b]	Number of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic	List of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic
5	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
7 (base-case)	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
10	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY

Abbreviations: AKI 3D, acute kidney injury stage 3 requiring dialysis; CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019; UI: uncertainty interval.

[a]This table demonstrates the results when the time from hospitalization to AKI 3D requiring CKRT among hospitalized patients with COVID-19 is varied between 5 and 10 days. This range was informed by the time to hospitalization, time to ICU admission and time to AKI 3D from a study by Zhou et al. and expert opinion.[12]

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S7. Effect of varying the prevalence of AKI 3D among ICU patients pre-COVID-19 on model-generated a) nationwide CKRT shortage at peak resource use in each state and b) number of states projected to encounter CKRT shortage during the initial wave of the pandemic[a]

Prevalence of AKI 3D among ICU patients pre-COVID-19 (%)	Nationwide CKRT shortage at peak resource use in each state (95% UI)[b]	Number of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic	List of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic
6.6	1,302 (1,114 – 1,919)	8	CT, LA, MD, MA, MI, NJ, NY, RI
8.8 (base-case)	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
11.0	919 (785 – 1,303)	3	CT, NJ, NY

Abbreviations: AKI 3D, acute kidney injury stage 3 requiring dialysis; ICU, intensive care unit; COVID-19, coronavirus disease 2019; CKRT, continuous kidney replacement therapy.

[a]This table demonstrates the results when the prevalence of AKI 3D among ICU patients pre-COVID-19 is varied between 6.6% and 11.0%. This range was informed by expert opinion from nephrologists at two hospitals.[14] Based on model assumptions, a higher AKI 3D prevalence among ICU patients pre-COVID-19 would result in a higher estimate for CKRT capacity.

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S8. Effect of varying the CKRT capacity multiplier on a) nationwide CKRT shortage at peak resource use in each state and b) number of states projected to encounter CKRT shortage during the initial wave of the pandemic[a]

CKRT capacity multiplier	Nationwide CKRT shortage at peak resource use in each state (95% UI)[b]	Number of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic	List of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic
1.25	1,282 (1,094 – 1,880)	8	CT, LA, MD, MA, MI, NJ, NY, RI
1.5 (base-case)	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
1.75	933 (794 – 1,325)	3	CT, NJ, NY

Abbreviations: CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019.

[a]This table demonstrates the results when the CKRT capacity multiplier is varied between 1.25 and 1.75. This range was informed by expert opinion from nephrologists at two hospitals.

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S9. Effect of varying the IHME model version on a) nationwide CKRT shortage at peak resource use in each state and b) number of states projected to encounter CKRT shortage during the initial wave of the pandemic[a]

IHME model version	Nationwide CKRT shortage at peak resource use in each state (95% UI)[b]	Number of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic	List of states projected to encounter CKRT shortage during the initial wave of the COVID-19 pandemic
06/10/2020 (base-case)	1,088 (910 – 1,568)	6	CT, MD, MA, MI, NJ, NY
04/22/2020	1,239 (1,039 – 3,365)	7	CT, LA, MD, MA, MI, NJ, NY

Abbreviations: IHME: Institute for Health Metrics and Evaluation; AKI 3D, acute kidney injury stage 3 requiring dialysis; CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019; UI: uncertainty interval.

[a]This table demonstrates the results when the IHME model estimates are varied between the 06/10/2020 version and the 04/22/2020.[11] The 04/22/2020 version estimated hospitalizations using a combination of death rates from COVID-19 and assumptions about the effect of social interventions on the spread of COVID-19. This older version has been criticized as it did not specifically account for COVID-19 infection transmission characteristics – traditionally modeled under a susceptible, exposed, infectious, recovered (SEIR) framework.[5] IHME has since updated its model and the 06/10/2020 IHME version utilizes a multi-stage hybrid model incorporating COVID-19 transmission characteristics, death rates, and the impact of social interventions.[11]

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S10. Multi-way sensitivity analysis assessing CKRT demand, capacity, and shortage at peak resource use during the initial wave of the COVID-19 pandemic; best-case scenario[a]

State	CKRT demand at peak resource use (95% UI)[b]	CKRT capacity	Projected CKRT shortage	CKRT shortage at peak resource use (95% UI)[b]
Alabama	48 (46-51)	243	No	-
Alaska	3 (3-3)	14	No	-
Arizona	*68 (49-207)*	*179*	*Possible*	*0 (0-28)*
Arkansas	22 (16-51)	95	No	-
California	229 (215-246)	914	No	-
Colorado	*51 (45-214)*	*147*	*Possible*	*0 (0-67)*
Connecticut	**130 (115-148)**	**86**	**Yes**	**44 (29-62)**
Delaware	16 (14-18)	36	No	-
District of Columbia	21 (19-23)	47	No	-
Florida	172 (163-196)	805	No	-
Georgia	107 (96-173)	376	No	-
Hawaii	5 (5-6)	28	No	-
Idaho	7 (7-8)	34	No	-
Illinois	190 (173-209)	388	No	-
Indiana	89 (83-95)	266	No	-
Iowa	25 (23-30)	63	No	-
Kansas	20 (18-21)	94	No	-
Kentucky	37 (36-40)	182	No	-
Louisiana	105 (96-115)	171	No	-
Maine	8 (7-18)	35	No	-
Maryland	116 (99-135)	155	No	-
Massachusetts	141 (130-154)	189	No	-
Michigan	227 (208-247)	341	No	-
Minnesota	47 (43-51)	159	No	-
Mississippi	36 (33-40)	104	No	-
Missouri	52 (50-55)	234	No	-
Montana	4 (4-4)	26	No	-
Nebraska	16 (13-43)	67	No	-
Nevada	35 (33-37)	167	No	-
New Hampshire	12 (11-15)	27	No	-
New Jersey	**373 (347-403)**	**201**	**Yes**	**172 (145-202)**
New Mexico	19 (17-38)	52	No	-
New York	**927 (853-1,005)**	**529**	**Yes**	**398 (324-476)**

Table S10. Multi-way sensitivity analysis assessing CKRT demand, capacity, and shortage at peak resource use during the initial wave of the COVID-19 pandemic; best-case scenario[a] (continued)

State	CKRT demand at peak resource use (95% UI)[b]	CKRT capacity	Projected CKRT shortage	CKRT shortage at peak resource use (95% UI)[b]
North Carolina	84 (79-118)	434	No	-
North Dakota	7 (6-15)	35	No	-
Ohio	118 (110-126)	448	No	-
Oklahoma	29 (28-31)	142	No	-
Oregon	18 (17-19)	96	No	-
Pennsylvania	209 (193-228)	427	No	-
Rhode Island	23 (20-25)	39	No	-
South Carolina	48 (37-115)	191	No	-
South Dakota	4 (4-5)	14	No	-
Tennessee	66 (53-129)	328	No	-
Texas	168 (161-177)	881	No	-
Utah	15 (12-29)	69	No	-
Vermont	2 (2-3)	8	No	-
Virginia	76 (71-80)	252	No	-
Washington	54 (51-56)	186	No	-
West Virginia	14 (13-15)	81	No	-
Wisconsin	36 (34-41)	160	No	-
Wyoming	2 (2-5)	7	No	-

Abbreviations: CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019; UI, uncertainty interval; AKI 3D, acute kidney injury stage 3 requiring dialysis.

[a]This table demonstrates the lowest shortage in CKRT projected by the model (within the model assumptions) when the input parameters are as follows:

i. Incidence of AKI 3D requiring CKRT among hospitalized patients with COVID-19: 4.8%
ii. Time from hospitalization to AKI 3D: 10 days
iii. Duration of CKRT: 6 days
iv. Non-COVID-19 CKRT demand multiplier during the initial wave of the COVID-19 pandemic: 0.25
v. Prevalence of AKI 3D among ICU patients pre-COVID-19: 11.0%
vi. CKRT capacity multiplier: 1.75

The unit for demand and capacity is CKRT machines. CKRT capacity is derived from average daily ICU bed occupancy rates (see Table S1). The bolded rows represent states that are projected to encounter a shortage (where CKRT capacity is below the 95% UI of CKRT demand). The italicized rows represent states that could encounter a possible shortage (where CKRT capacity is within the 95% UI of CKRT demand). Minor discrepancies in numerical values in the table are due to rounding.

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Table S11. Multi-way sensitivity analysis assessing CKRT demand, capacity, and shortage at peak resource use during the initial wave of the COVID-19 pandemic; worst-case scenario[a]

State	CKRT demand at peak resource use (95% UI)[b]	CKRT capacity	Projected CKRT shortage	CKRT shortage at peak resource use (95% UI)[b]
Alabama	91 (87-98)	104	No	-
Alaska	5 (4-5)	6	No	-
Arizona	**137 (95-446)**	**77**	**Yes**	**60 (19-370)**
Arkansas	*44 (29-117)*	*41*	*Possible*	*3 (0-77)*
California	**447 (415-483)**	**392**	**Yes**	**55 (23-91)**
Colorado	**102 (89-469)**	**63**	**Yes**	**39 (26-406)**
Connecticut	**274 (242-311)**	**37**	**Yes**	**237 (205-275)**
Delaware	**32 (29-35)**	**15**	**Yes**	**16 (13-20)**
District of Columbia	**43 (39-48)**	**20**	**Yes**	**23 (19-28)**
Florida	*330 (309-391)*	*345*	*Possible*	*0 (0-46)*
Georgia	**211 (188-366)**	**161**	**Yes**	**50 (27-205)**
Hawaii	10 (9-11)	12	No	-
Idaho	*14 (13-16)*	*15*	*Possible*	*0 (0-2)*
Illinois	**389 (353-431)**	**166**	**Yes**	**223 (186-265)**
Indiana	**178 (166-192)**	**114**	**Yes**	**64 (52-78)**
Iowa	**50 (46-63)**	**27**	**Yes**	**23 (18-36)**
Kansas	37 (34-40)	40	No	-
Kentucky	71 (68-78)	78	No	-
Louisiana	**216 (197-238)**	**73**	**Yes**	**143 (124-164)**
Maine	*17 (13-41)*	*15*	*Possible*	*2 (0-26)*
Maryland	**241 (204-283)**	**66**	**Yes**	**174 (138-216)**
Massachusetts	**293 (269-320)**	**81**	**Yes**	**212 (187-239)**
Michigan	**467 (428-510)**	**146**	**Yes**	**321 (281-364)**
Minnesota	**93 (86-101)**	**68**	**Yes**	**25 (18-33)**
Mississippi	**70 (65-80)**	**44**	**Yes**	**26 (20-36)**
Missouri	*100 (96-106)*	*100*	*Possible*	*0 (0-5)*
Montana	7 (7-7)	11	No	-
Nebraska	*32 (25-105)*	*29*	*Possible*	*4 (0-77)*
Nevada	66 (63-70)	72	No	-
New Hampshire	**25 (22-31)**	**12**	**Yes**	**13 (10-19)**
New Jersey	**789 (731-852)**	**86**	**Yes**	**702 (644-765)**
New Mexico	**38 (34-83)**	**22**	**Yes**	**15 (11-61)**
New York	**1,934 (1,777-2,104)**	**227**	**Yes**	**1,708 (1,550-1,877)**

Table S11. Multi-way sensitivity analysis assessing CKRT demand, capacity, and shortage at peak resource use during the initial wave of the COVID-19 pandemic; worst-case scenario[a] (continued)

State	CKRT demand at peak resource use (95% UI)[b]	CKRT capacity	Projected CKRT shortage	CKRT shortage at peak resource use (95% UI)[b]
North Carolina	*162 (147-244)*	*186*	*Possible*	*0 (0-57)*
North Dakota	*13 (12-32)*	*15*	*Possible*	*0 (0-17)*
Ohio	**230 (215-248)**	**192**	**Yes**	**38 (23-56)**
Oklahoma	56 (53-59)	61	No	-
Oregon	34 (32-36)	41	No	-
Pennsylvania	**429 (393-469)**	**183**	**Yes**	**246 (210-286)**
Rhode Island	**47 (42-52)**	**17**	**Yes**	**30 (25-35)**
South Carolina	*95 (71-253)*	*82*	*Possible*	*13 (0-171)*
South Dakota	**9 (8-11)**	**6**	**Yes**	**3 (1-5)**
Tennessee	*128 (97-285)*	*141*	*Possible*	*0 (0-144)*
Texas	318 (302-337)	378	No	-
Utah	*31 (23-65)*	*30*	*Possible*	*1 (0-36)*
Vermont	**5 (4-6)**	**3**	**Yes**	**1 (1-3)**
Virginia	**150 (141-160)**	**108**	**Yes**	**42 (33-52)**
Washington	**105 (100-111)**	**80**	**Yes**	**26 (20-32)**
West Virginia	26 (25-28)	35	No	-
Wisconsin	*70 (65-80)*	*68*	*Possible*	*1 (0-12)*
Wyoming	*4 (3-11)*	*3*	*Possible*	*1 (0-8)*

Abbreviations: CKRT, continuous kidney replacement therapy; COVID-19, coronavirus disease 2019; UI, uncertainty interval; AKI 3D, acute kidney injury stage 3 requiring dialysis.

[a]This table demonstrates the greatest shortage in CKRT projected by the model (within the model assumptions) when the input parameters are as follows:

i. Incidence of AKI 3D requiring CKRT among hospitalized patients with COVID-19: 6.9%
ii. Time from hospitalization to AKI 3D: 5 days
iii. Duration of CKRT: 9 days
iv. Non-COVID-19 CKRT demand multiplier during the initial wave of the COVID-19 pandemic: 0.75
v. Prevalence of AKI 3D among ICU patients pre-COVID-19: 6.6%
vi. CKRT capacity multiplier: 1.25

The unit for demand and capacity is CKRT machines. CKRT capacity is derived from average daily ICU bed occupancy rates (see Table S1). The bolded rows represent states that are projected to encounter a shortage (where CKRT capacity is below the 95% UI of CKRT demand). The italicized rows represent states that could encounter a possible shortage (where CKRT capacity is within the 95% UI of CKRT demand). Minor discrepancies in numerical values in the table are due to rounding.

[b]We derived these estimates from the Institute for Health Metrics and Evaluation model and present them as means with 95% UI.[11]

Supplementary References

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