

**Introduction:** Welcome to the 2019 National and State HAI Progress Report using the 2015 bas by comparing the number of observed device days to the number of predicted dev This report is created by CDC staff with the National Healthcare Safety Network (N

**Scope of report:**

Device Days Types
Central line days (CLDs) by locations
Urinary catheter days (UCDs) by locations
Ventilator days (VDs) by locations

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# National and State HAI Progress Report

## Standardized Utilization Ratios

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<h3>Acute Care Hospitals</h3>
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eline and risk adjustment calculations. Standardized utilization ratios (SURs) are used to describe device  
ice days.  
IHSN).

ACH	
National	State
p	p
p	p
p	p

]

» utilization

## Development of the NHSN Standardized Utilization Ratio (SUR): Methodology

### **Rationale**

Traditionally, NHSN has been providing a crude measure of device utilization rate to the healthcare facilities. To make these rates standardized to compare with a reference baseline population as well as over time. Accordingly, CDC has developed

### **Development of SUR models**

SUR models were developed for the following measures: central line days, urinary catheter days and ventilator days in inpatient rehabilitation facilities (IRF), long-term acute care hospitals (LTACH) (and NICU for central line days). Using the NHSN data (2019) in sync with rebaseline work, CDC has developed multivariable logistic regression models (“Extra-binomial Variation in Logistic Linear Models,” Applied Statistics, 31, 144–148.). Unit of analysis in all the SUR

### **STEPS to compute SUR at the location level**

1: First, calculate the logit scale value of  $p_{hat}$ , using parameter estimates of corresponding SUR model.

Logit  $p_{hat}$  = intercept +  $x_1$  +  $x_2$  +  $x_3$  + .....

(Risk factors are provided in appendices for individual matrix of measure and healthcare setting)

2: Then, compute the probability of device use

$$p_{hat} = \frac{e^{\text{logit}(p_{hat})}}{1 + e^{\text{logit}(p_{hat})}}$$

3: Calculate predicted device days as follows:

$$\text{Predicted Device Days} = p_{hat} * \text{In-patient days}$$

4: Finally, derive SUR value at the location by dividing number of observed device days with number of predicted device days

$$\text{SUR} = \frac{\text{Observed Device Days}}{\text{Predicted Device Days}}$$

Note that SUR will not be calculated if Predicted Device Days is  $< 1$  due to minimum precision criteria of 1.0.

### **STEPS to compute SUR at higher level above location**

Do the same computation as in step 1, 2, 3 at location level.

Sum the observed device days and predicted device days up to the level of aggregation desired (e.g., facility-level)

Then, derive SUR value at the desired aggregate level by dividing number of observed device days with number of predicted device days

SUR Guide: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sur-guide-508.pdf>

monitor the progress of healthcare acquired infections (HAI) prevention efforts, device utilization in any healthcare setting. Poisson and negative binomial statistical models to make SUR values available for different measures (e.g., central line days, urinary catheter

days. They were available for the healthcare setting of acute care hospitals (ACH), critical access hospitals (CAH)

models that correct over dispersion by the Williams' method (Reference: Williams, D. A. (1982), Poisson and negative binomial models are at the location level.

device days;

l).  
of predicted device days.

e setting/location needs to be  
after days) at various healthcare settings.

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**2019 Annual National and State HAI Progress Report**  
**Acute Care Hospitals: Full series of tables for all national and state data**

**Table 1**                      **National standardized utilization ratios (SURs) and facility-specific summary**  
Central line days (CLDs)  
Urinary catheter days (UCDs)  
Ventilator days (VDs)

**Table 2**                      **State-specific SURs for CLDs from Acute Care Hospitals**  
2a. All locations combined  
2b. Critical care locations only  
2c. Ward (non-critical care) locations only  
2d. Neonatal critical care locations only

**Table 3**                      **State-specific SURs for UCDs from Acute Care Hospitals**  
3a. All locations combined  
3b. Critical care locations only  
3c. Ward (non-critical care) locations only

**Table 4**                      **State-specific SURs for VDs from Acute Care Hospitals**  
4a. All locations combined  
4b. Critical care locations only  
4c. Ward (non-critical care) locations only

**Table 5**                      **Changes in national SURs, 2019 compared to 2018**  
Central Line Days (CLDs)  
Urinary Catheter Days (UCDs)  
Ventilator days (VDs)

**Table 6**                      **Changes in state SURs, 2019 compared to 2018**  
6a. Central Line Days (CLDs)  
6b. Urinary Catheter Days (UCDs)  
6c. Ventilator Days (VDs)

**Appendix A**                      Factors used in NHSN risk-adjusted SUR calculation of the device utilization in :

**Additional Resources**                      Technical Appendix  
HAI Progress Report Home Page  
SUR Guide: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nh>

ry SURs

acute care hospitals (ACHs)

isn-sur-guide-508.pdf



Device and Patient Population	No. of Facilities	
	Reporting <sup>1</sup>	Observed
<b>Central line days, all<sup>4</sup></b>	3,718	26,005,047
<b>ICUs<sup>5</sup></b>	3,091	8,498,499
<b>Wards<sup>6</sup></b>	3,680	16,183,778
<b>NICUs<sup>7</sup></b>	1,037	1,322,770
<b>Urinary catheter days, all<sup>8</sup></b>	3,716	23,157,990
	3,088	9,249,428
<b>Wards<sup>6</sup></b>	3,686	13,908,562
<b>Ventilator days, all<sup>8</sup></b>	2,068	3,624,557
	2,011	3,441,577
	447	182,980

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated w
2. Percent of facilities with at least one predicted device day that had an SUR significantly grea
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted num
4. Data from all ICUs, wards (and other non-critical care locations), and NICUs. Data contained
5. Data from all ICUs; excludes wards (and other non-critical care locations), and NICUs. Data
6. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty
7. Data from all NICU locations, including Level II/III and Level III nurseries.
8. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. [

**Table 1. National standardized utilization ratios (SURs) and facility-specific summary SURs**  
**Table 1a. Central line days (**

<u>Device days</u>		<u>95% CI for SUR</u>		<u>Facility-specific SURs</u>		
<b>Predicted</b>	<b>SUR</b>	<b>Lower</b>	<b>Upper</b>	<b>No. Facilities with ≥1</b>	<b>No. Facilities with SUR</b>	
				<b>Predicted Device Days</b>	<b>Significantly &gt; National SUR</b>	
					<b>N</b>	<b>%<sup>2</sup></b>
29,710,550.6792	0.8753	0.8749	0.8756	3,716	1,426	38%
9,334,152.9632	0.9105	0.9098	0.9111	3,085	1,188	39%
18,853,134.0079	0.8584	0.8580	0.8588	3,678	1,469	40%
1,523,263.7080	0.8684	0.8669	0.8698	1,036	288	28%
29,416,083.5355	0.7873	0.7869	0.7876	3,714	1,733	47%
10,674,752.5625	0.8665	0.8659	0.8670	3,086	1,272	41%
18,741,330.9731	0.7421	0.7417	0.7425	3,684	1,805	49%
3,945,152.1804	0.9187	0.9178	0.9197	2,061	737	36%
3,720,116.2100	0.9251	0.9241	0.9261	2,007	739	37%
225,035.9704	0.8131	0.8094	0.8168	438	131	30%

When there are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to the number of facilities that are greater than or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had a predicted number of device days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was not calculated. Data contained in this table are reported from acute care hospitals; as such, data from CAHs, IRFs and LTACHs are excluded. Data contained in this table are reported from acute care hospitals; as such, data from CAHs, IRFs and LTACHs are excluded. Data contained in this table are reported from acute care hospitals; as such, data from CAHs, IRFs and LTACHs are excluded.

Data contained in this table are reported from acute care hospitals; as such, data from CAHs, IRFs and LTACHs are excluded.

using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by device type and facility size (CLDs), urinary catheter days (UCDs), and ventilator days (VDs).

<b>JRs</b>								
<b>No. Facilities with SUR</b>								
<b>Significantly &lt; National SUR</b>		<b>5%</b>	<b>10%</b>	<b>15%</b>	<b>20%</b>	<b>25%</b>	<b>30%</b>	<b>35%</b>
<b>N</b>								
1,934	52%	0.1319	0.3499	0.4664	0.5379	0.5903	0.6394	0.6869
1,544	50%	0.2841	0.4177	0.5064	0.5811	0.6433	0.6929	0.7346
1,832	50%	0.1317	0.3410	0.4387	0.5090	0.5641	0.6198	0.6686
603	58%	0.0799	0.2018	0.2986	0.3627	0.4316	0.4856	0.5546
1,650	44%	0.3441	0.4735	0.5410	0.5860	0.6254	0.6632	0.6963
1,358	44%	0.4115	0.5025	0.5811	0.6339	0.6779	0.7203	0.7579
1,537	42%	0.3174	0.4268	0.4917	0.5351	0.5805	0.6204	0.6554
1,093	53%	0.0989	0.2636	0.3888	0.4744	0.5508	0.6183	0.6802
1,032	51%	0.1514	0.3065	0.4222	0.5038	0.5845	0.6533	0.7057
269	61%	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0219

to exclusion and inclusion criteria. Refer to the technical appendix for details.

≥ 1.0 predicted device days in 2019.

s neither calculated nor included in the distribution of facility-specific SURs.

ed.

re excluded.

ed from acute care hospitals; as such, data from CAHs, IRFs and LTACHs are excluded.

Hs are excluded.

d patient population:

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**Percentile Distribution of Facility-specific SURs<sup>3</sup>**

<b>Median</b>									
<b>40%</b>	<b>45%</b>	<b>50%</b>	<b>55%</b>	<b>60%</b>	<b>65%</b>	<b>70%</b>	<b>75%</b>	<b>80%</b>	<b>85%</b>
0.7333	0.7744	0.8172	0.8577	0.8987	0.9477	0.9997	1.0711	1.1565	1.2465
0.7780	0.8168	0.8585	0.9001	0.9457	0.9902	1.0331	1.0866	1.1609	1.2335
0.7173	0.7604	0.8101	0.8556	0.9032	0.9648	1.0307	1.1161	1.2183	1.3414
0.6069	0.6592	0.7076	0.7630	0.8114	0.8543	0.9040	0.9747	1.0380	1.1356
0.7293	0.7612	0.7955	0.8291	0.8624	0.9024	0.9522	1.0001	1.0711	1.1485
0.7942	0.8269	0.8590	0.8873	0.9212	0.9570	0.9887	1.0237	1.0655	1.1153
0.6936	0.7322	0.7711	0.8119	0.8521	0.9028	0.9642	1.0371	1.1231	1.2282
0.7234	0.7721	0.8199	0.8738	0.9379	0.9864	1.0518	1.1128	1.2110	1.3078
0.7493	0.7984	0.8429	0.9032	0.9584	1.0042	1.0617	1.1385	1.2318	1.3305
0.1032	0.1947	0.2881	0.3978	0.5224	0.6803	0.9031	1.0986	1.5888	2.2855

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**90%**

**95%**

1.4042

1.7614

1.3345

1.5362

1.5198

1.9797

1.3107

1.5388

1.2691

1.5507

1.1750

1.2542

1.3810

1.7558

1.4846

1.7506

1.4809

1.7093

3.3812

5.5873

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**Table 2. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 2a. Central line days (CL**

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	87	466,748	579,454.7274	0.8055	0.8032
Alaska	9	38,627	37,645.4899	1.0261	1.0158
Arizona	66	531,460	562,729.9440	0.9444	0.9419
Arkansas	51	251,592	283,064.0956	0.8888	0.8853
California	346	2,671,241	2,851,734.2044	0.9367	0.9356
Colorado	55	345,118	361,253.5827	0.9553	0.9522
Connecticut	33	271,149	324,354.1169	0.8360	0.8328
D.C.	8	140,323	168,176.4793	0.8344	0.8300
Delaware	8	89,802	111,163.4811	0.8078	0.8026
Florida	215	1,973,344	2,386,972.7552	0.8267	0.8256
Georgia	107	820,223	949,608.5944	0.8637	0.8619
Guam	2	.	.	.	.
Hawaii	17	116,364	103,861.4528	1.1204	1.1139
Idaho	16	72,853	78,714.2777	0.9255	0.9188
Illinois	134	960,785	1,164,921.0473	0.8248	0.8231
Indiana	95	587,147	607,970.2876	0.9657	0.9633
Iowa	37	203,305	215,430.3767	0.9437	0.9396
Kansas	57	217,150	229,133.4348	0.9477	0.9437
Kentucky	71	443,880	502,565.1588	0.8832	0.8806
Louisiana	102	411,355	444,221.8576	0.9260	0.9232
Maine	19	82,209	94,974.7944	0.8656	0.8597
Maryland	48	449,351	522,773.4030	0.8596	0.8571
Massachusetts	69	582,549	668,150.5113	0.8719	0.8696
Michigan	99	671,101	900,142.7524	0.7455	0.7438
Minnesota	51	344,871	329,274.9553	1.0474	1.0439
Mississippi	60	257,087	307,667.6667	0.8356	0.8324
Missouri	78	694,947	739,319.7295	0.9400	0.9378
Montana	14	40,263	59,997.0819	0.6711	0.6646
Nebraska	26	161,136	165,838.8136	0.9716	0.9669
Nevada	28	291,615	319,953.4931	0.9114	0.9081
New Hampshire	13	79,410	90,548.6970	0.8770	0.8709
New Jersey	72	632,423	805,002.7442	0.7856	0.7837
New Mexico	32	119,641	133,160.9555	0.8985	0.8934
New York	169	1,625,584	2,195,599.6580	0.7404	0.7392
North Carolina	98	786,754	876,577.1271	0.8975	0.8955
North Dakota	9	63,139	61,611.8245	1.0248	1.0168
Ohio	147	1,161,544	1,314,511.1844	0.8836	0.8820
Oklahoma	82	378,701	321,261.4915	1.1788	1.1750
Oregon	35	230,910	280,725.4745	0.8225	0.8192
Pennsylvania	179	1,250,058	1,514,723.5033	0.8253	0.8238
Puerto Rico	13	80,756	110,058.1750	0.7338	0.7287
Rhode Island	10	78,316	90,579.7321	0.8646	0.8585
South Carolina	63	374,003	492,244.4312	0.7598	0.7574

South Dakota	20	61,848	66,148.3940	0.9350	0.9276
Tennessee	100	709,173	782,214.4340	0.9066	0.9045
Texas	366	2,220,217	2,422,726.0225	0.9164	0.9152
Utah	36	134,253	159,168.6458	0.8435	0.8390
Vermont	6	26,765	34,242.5254	0.7816	0.7723
Virgin Islands	2	.	.	.	.
Virginia	83	585,651	696,046.8349	0.8414	0.8392
Washington	59	541,339	512,394.3581	1.0565	1.0537
West Virginia	31	219,577	218,053.4512	1.0070	1.0028
Wisconsin	73	432,808	437,417.5359	0.9895	0.9865
Wyoming	12	15,446	17,728.8314	0.8712	0.8576
<b>All US</b>	<b>3,718</b>	<b>26,005,047</b>	<b>29,710,550.6792</b>	<b>0.8753</b>	<b>0.8749</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there a
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than or le
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of device
4. Data from all ICUs, wards (and other non-critical care locations), and NICUs. Data contained in this table

γ SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by dev  
 .Ds), all locations<sup>4</sup>

for SUR	Facility-specific SURs						10%
	Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR	10%	
			Significantly > National SUR	Significantly < National SUR			
		N	N				
0.8078	87	19	22%	63	72%	0.0247	
1.0363	9	.	.	.	.	.	
0.9470	66	36	55%	26	39%	0.3704	
0.8923	51	11	22%	32	63%	0.2182	
0.9378	346	184	53%	134	39%	0.5347	
0.9585	55	31	56%	21	38%	0.3949	
0.8391	33	10	30%	21	64%	0.5065	
0.8388	8	.	.	.	.	.	
0.8131	8	.	.	.	.	.	
0.8279	215	74	34%	126	59%	0.4936	
0.8656	107	42	39%	59	55%	0.2415	
.	.	.	.	.	.	.	
1.1268	17	13	76%	3	18%	.	
0.9323	16	7	44%	7	44%	.	
0.8264	134	41	31%	71	53%	0.4387	
0.9682	95	51	54%	38	40%	0.5460	
0.9478	37	15	41%	15	41%	0.4741	
0.9517	57	22	39%	29	51%	0.0421	
0.8858	71	28	39%	35	49%	0.4379	
0.9289	102	41	40%	48	47%	0.2763	
0.8715	19	9	47%	8	42%	.	
0.8620	48	17	35%	26	54%	0.5503	
0.8741	69	18	26%	46	67%	0.3557	
0.7474	99	16	16%	76	77%	0.3789	
1.0509	51	21	41%	24	47%	0.4237	
0.8388	60	18	30%	37	62%	0.0000	
0.9422	78	34	44%	34	44%	0.4061	
0.6777	14	5	36%	6	43%	.	
0.9764	26	12	46%	10	38%	0.2946	
0.9147	28	15	54%	10	36%	0.3416	
0.8831	13	3	23%	7	54%	.	
0.7876	72	24	33%	45	63%	0.4299	
0.9036	32	6	19%	18	56%	0.1671	
0.7415	169	38	22%	121	72%	0.3401	
0.8995	98	35	36%	52	53%	0.4959	
1.0328	9	.	.	.	.	.	
0.8852	146	59	40%	75	51%	0.4234	
1.1826	82	48	59%	23	28%	0.3511	
0.8259	35	11	31%	21	60%	0.5591	
0.8267	179	47	26%	122	68%	0.1472	
0.7388	13	2	15%	9	69%	.	
0.8707	10	4	40%	4	40%	.	
0.7622	63	15	24%	40	63%	0.3572	



0.9424	20	5	25%	12	60%	0.0000
0.9088	100	34	34%	51	51%	0.3320
0.9176	365	145	40%	180	49%	0.1257
0.8480	36	11	31%	20	56%	0.3528
0.7910	6	.	.	.	.	.
.	.	.	.	.	.	.
0.8435	83	31	37%	46	55%	0.4388
1.0593	59	38	64%	17	29%	0.5480
1.0112	31	18	58%	12	39%	0.4130
0.9924	73	38	52%	29	40%	0.5163
0.8850	12	4	33%	6	50%	.
<b>0.8756</b>	<b>3,716</b>	<b>1,426</b>	<b>38%</b>	<b>1,934</b>	<b>52%</b>	<b>0.3499</b>

re less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusio  
ess than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  predi  
e days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was neither c  
are reported from acute care hospitals.

**rice type and patient population:**

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.3499	0.6216	0.8455	1.0992
.	.	.	.
0.6273	0.9401	1.1241	1.2960
0.3809	0.7539	0.8999	1.1852
0.6855	0.9237	1.1760	1.5347
0.6732	0.9460	1.3242	2.0038
0.6237	0.7337	1.0096	1.3221
.	.	.	.
.	.	.	.
0.6326	0.7857	1.0155	1.2169
0.6394	0.8337	1.0430	1.4012
.	.	.	.
.	.	.	.
.	.	.	.
0.6735	0.8144	0.9998	1.2859
0.6937	0.9621	1.2662	1.6324
0.6286	0.8930	1.0696	1.2774
0.5597	0.7950	1.2804	2.0200
0.6216	0.8251	1.1483	1.5173
0.5926	0.8294	1.2515	1.7637
.	.	.	.
0.6614	0.8361	1.1924	1.6513
0.5174	0.6811	0.9021	1.1127
0.5227	0.6536	0.8022	1.1323
0.6605	0.8284	1.1406	1.4890
0.4571	0.7172	0.9835	1.3468
0.6964	0.8712	1.0946	1.3361
.	.	.	.
0.7470	0.8966	1.1809	2.1842
0.6744	0.9793	1.1406	1.9913
.	.	.	.
0.5475	0.7785	1.0041	1.1955
0.5611	0.7614	0.9039	1.3297
0.4761	0.6567	0.8766	1.0767
0.6008	0.8086	1.0071	1.2607
.	.	.	.
0.5521	0.8199	1.0205	1.2734
0.7234	1.1594	1.6687	2.0372
0.6369	0.8026	1.0046	1.2606
0.5067	0.6963	0.9518	1.1624
.	.	.	.
.	.	.	.
0.4903	0.6486	0.9425	1.3029

0.2716	0.5749	1.0823	1.8403
0.6235	0.8149	1.0400	1.3242
0.5723	0.8371	1.0740	1.5351
0.5107	0.7446	0.9546	1.1270
.	.	.	.
.	.	.	.
0.5670	0.8090	1.0095	1.3823
0.8168	1.0641	1.2997	1.7305
0.7484	0.9652	1.0757	1.2024
0.7172	0.9277	1.1265	1.5038
.	.	.	.
<b>0.5903</b>	<b>0.8172</b>	<b>1.0711</b>	<b>1.4042</b>

n and inclusion criteria. Refer to the technical appendix for details.  
 icted device days in 2019.  
 alculated nor included in the distribution of facility-specific SURs.

**Table 2. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 2b. Central line days (CLDs),**

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	70	175,038	224,045.4429	0.7813	0.7776
Alaska	7	8,062	10,343.3381	0.7794	0.7626
Arizona	51	174,503	182,231.1499	0.9576	0.9531
Arkansas	41	84,244	97,602.0479	0.8631	0.8573
California	315	868,473	860,931.3915	1.0088	1.0066
Colorado	46	102,319	109,535.2970	0.9341	0.9284
Connecticut	27	82,608	86,576.8156	0.9542	0.9476
D.C.	7	44,701	54,316.0874	0.8230	0.8154
Delaware	8	23,937	28,085.9920	0.8523	0.8415
Florida	200	684,798	775,795.6937	0.8827	0.8806
Georgia	91	289,182	317,025.6567	0.9122	0.9089
Guam	2	.	.	.	.
Hawaii	15	32,821	28,085.5137	1.1686	1.1561
Idaho	12	22,145	25,280.0626	0.8760	0.8645
Illinois	125	304,243	375,677.3131	0.8099	0.8070
Indiana	73	200,318	203,088.8604	0.9864	0.9821
Iowa	32	59,238	61,375.9742	0.9652	0.9574
Kansas	37	65,684	82,849.9387	0.7928	0.7868
Kentucky	64	154,920	178,028.5172	0.8702	0.8659
Louisiana	73	142,475	148,147.9998	0.9617	0.9567
Maine	13	19,469	23,443.5286	0.8305	0.8189
Maryland	43	129,776	150,885.7243	0.8601	0.8554
Massachusetts	62	186,383	186,864.0077	0.9974	0.9929
Michigan	84	250,359	295,264.8154	0.8479	0.8446
Minnesota	35	98,160	93,092.5206	1.0544	1.0479
Mississippi	42	85,539	97,355.5926	0.8786	0.8727
Missouri	70	204,859	215,741.7501	0.9496	0.9454
Montana	10	13,348	16,295.3520	0.8191	0.8053
Nebraska	17	45,875	46,651.4177	0.9834	0.9744
Nevada	20	109,447	116,287.2831	0.9412	0.9356
New Hampshire	13	23,268	24,564.2025	0.9472	0.9351
New Jersey	72	192,534	220,918.9997	0.8715	0.8676
New Mexico	26	45,701	47,057.7427	0.9712	0.9623
New York	159	489,404	593,581.6859	0.8245	0.8222
North Carolina	83	259,365	282,844.4854	0.9170	0.9134
North Dakota	6	18,443	15,845.9756	1.1639	1.1472
Ohio	124	393,686	425,449.6186	0.9253	0.9224
Oklahoma	50	130,013	110,597.6199	1.1755	1.1692
Oregon	32	64,220	79,521.5203	0.8076	0.8013
Pennsylvania	144	419,881	474,063.7991	0.8857	0.8830

Puerto Rico	12	25,306	28,129.8594	0.8996	0.8886
Rhode Island	9	24,759	22,937.1374	1.0794	1.0660
South Carolina	56	122,234	151,387.5538	0.8074	0.8029
South Dakota	10	11,149	14,540.3828	0.7668	0.7526
Tennessee	82	236,693	268,012.0234	0.8831	0.8796
Texas	256	773,181	825,331.6010	0.9368	0.9347
Utah	30	50,590	61,746.1299	0.8193	0.8122
Vermont	4	.	.	.	.
Virgin Islands	2	.	.	.	.
Virginia	76	183,098	214,829.5917	0.8523	0.8484
Washington	48	153,545	149,291.0636	1.0285	1.0233
West Virginia	29	76,466	80,596.4947	0.9488	0.9420
Wisconsin	66	128,205	134,767.8209	0.9513	0.9461
Wyoming	10	3,836	4,568.4905	0.8397	0.8134
<b>All US</b>	<b>3,091</b>	<b>8,498,499</b>	<b>9,334,152.9632</b>	<b>0.9105</b>	<b>0.9098</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there :
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than or l
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of devic
4. Data from all ICUs; excludes wards (and other non-critical care locations), and NICUs. Data contained in

y SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by de critical care locations<sup>4</sup>

for SUR	Facility-specific SURs						
	Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR		10%
			Significantly > National SUR	Significantly < National SUR	Significantly > National SUR	Significantly < National SUR	
			N	N	N	N	
0.7849	70	9	13%	56	80%	0.1481	
0.7966	7	.	.	.	.	.	
0.9621	50	28	56%	18	36%	0.5474	
0.8690	41	10	24%	26	63%	0.1663	
1.0109	314	188	60%	90	29%	0.6348	
0.9399	46	23	50%	19	41%	0.4028	
0.9607	27	11	41%	16	59%	0.5400	
0.8306	7	.	.	.	.	.	
0.8631	8	.	.	.	.	.	
0.8848	200	82	41%	97	49%	0.4933	
0.9155	91	39	43%	46	51%	0.3630	
.	.	.	.	.	.	.	
1.1813	15	12	80%	2	13%	.	
0.8876	12	5	42%	4	33%	.	
0.8128	125	31	25%	78	62%	0.4041	
0.9907	73	42	58%	27	37%	0.4422	
0.9730	32	11	34%	19	59%	0.3156	
0.7989	37	10	27%	21	57%	0.2841	
0.8745	64	18	28%	40	63%	0.3258	
0.9667	71	31	44%	24	34%	0.4394	
0.8422	13	3	23%	7	54%	.	
0.8648	43	20	47%	18	42%	0.5664	
1.0020	62	31	50%	25	40%	0.4857	
0.8513	84	17	20%	53	63%	0.4379	
1.0611	35	11	31%	22	63%	0.1609	
0.8845	42	12	29%	24	57%	0.3832	
0.9537	70	34	49%	29	41%	0.3098	
0.8331	10	5	50%	3	30%	.	
0.9924	17	8	47%	6	35%	.	
0.9467	20	9	45%	8	40%	0.6296	
0.9595	13	4	31%	5	38%	.	
0.8754	72	29	40%	35	49%	0.4730	
0.9801	25	10	40%	13	52%	0.3720	
0.8268	159	37	23%	104	65%	0.4267	
0.9205	83	23	28%	50	60%	0.3593	
1.1808	6	.	.	.	.	.	
0.9283	124	49	40%	67	54%	0.3343	
1.1819	50	25	50%	15	30%	0.3081	
0.8139	32	6	19%	24	75%	0.4300	
0.8884	144	37	26%	85	59%	0.4345	

0.9107	12	4	33%	7	58%	.
1.0930	9	.	.	.	.	.
0.8120	55	14	25%	36	65%	0.3054
0.7811	10	1	10%	8	80%	.
0.8867	82	22	27%	47	57%	0.4308
0.9389	256	113	44%	113	44%	0.4231
0.8265	30	5	17%	20	67%	0.2655
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.8562	76	21	28%	48	63%	0.3362
1.0336	48	30	63%	14	29%	0.6455
0.9555	29	8	28%	17	59%	0.3221
0.9565	66	28	42%	29	44%	0.4078
0.8666	10	2	20%	8	80%	.
<b>0.9111</b>	<b>3,085</b>	<b>1,188</b>	<b>39%</b>	<b>1,544</b>	<b>50%</b>	<b>0.4177</b>

are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusions less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  pre-emption days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was neither reported in this table nor from acute care hospitals.

vice type and patient population:

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.4033	0.6098	0.8558	0.9997
.	.	.	.
0.7683	1.0038	1.3142	1.4609
0.3263	0.7325	0.9419	1.0829
0.8245	1.0284	1.2581	1.5490
0.7473	0.9837	1.2673	1.4666
0.7511	0.8342	1.0535	1.2139
.	.	.	.
.	.	.	.
0.6736	0.8807	1.0906	1.2937
0.6391	0.8631	1.0709	1.2173
.	.	.	.
.	.	.	.
0.6047	0.7545	0.9681	1.1564
0.6868	0.9983	1.2131	1.4523
0.5024	0.7707	1.1019	1.1909
0.6104	0.8427	1.0264	1.6721
0.5141	0.7634	0.9936	1.3428
0.7346	0.9268	1.2011	1.4528
.	.	.	.
0.7001	0.9492	1.0778	1.3827
0.6515	0.9296	1.1208	1.2697
0.5786	0.7759	0.9234	1.2744
0.3477	0.7592	0.9839	1.1567
0.6086	0.8264	1.0565	1.3509
0.6832	0.9384	1.1116	1.2605
.	.	.	.
.	.	.	.
0.7323	0.9319	1.0600	1.5198
.	.	.	.
0.6503	0.8751	1.0983	1.3169
0.6181	0.8432	1.1559	1.2646
0.5891	0.7522	0.9414	1.1818
0.5994	0.7893	0.9907	1.2091
.	.	.	.
0.6392	0.7925	1.0825	1.2678
0.7069	1.0022	1.3708	1.7241
0.5860	0.7842	0.8747	1.1842
0.6090	0.7892	0.9674	1.1590



.	.	.	.
0.4394	0.7078	0.9918	1.2352
.	.	.	.
0.6171	0.8008	0.9871	1.1994
0.7258	0.9098	1.1788	1.4459
0.4467	0.7741	0.9362	1.1399
.	.	.	.
0.5273	0.8125	0.9804	1.1631
0.8249	1.0442	1.2681	1.5797
0.5494	0.8414	1.0272	1.2179
0.7147	0.9145	1.1143	1.4337
.	.	.	.
<b>0.6433</b>	<b>0.8585</b>	<b>1.0866</b>	<b>1.3345</b>

ion and inclusion criteria. Refer to the technical appendix for details.  
dicted device days in 2019.  
calculated nor included in the distribution of facility-specific SURs.

**Table 2. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 2c. Central line days**

State	No. of Facilities	No. of Device days			95% CI	
		Observed	Predicted	SUR	Lower	Upper
Alabama	85	262,421	323,439.6118	0.8113	0.8083	
Alaska	9	27,650	24,180.4638	1.1435	1.1301	
Arizona	66	333,824	355,194.0776	0.9398	0.9367	
Arkansas	49	145,411	165,863.0050	0.8767	0.8722	
California	343	1,667,057	1,843,658.0862	0.9042	0.9029	
Colorado	54	225,419	227,407.6362	0.9913	0.9872	
Connecticut	33	178,293	223,464.8400	0.7979	0.7941	
D.C.	8	85,187	103,072.9128	0.8265	0.8209	
Delaware	8	60,041	76,385.3147	0.7860	0.7798	
Florida	209	1,198,812	1,507,299.5359	0.7953	0.7939	
Georgia	106	479,535	576,084.2238	0.8324	0.8300	
Guam	1	.	.	.	.	.
Hawaii	17	72,687	67,614.8976	1.0750	1.0672	
Idaho	16	45,882	47,506.0626	0.9658	0.9570	
Illinois	133	606,874	733,946.2521	0.8269	0.8248	
Indiana	92	364,245	369,917.2954	0.9847	0.9815	
Iowa	37	129,632	140,282.2941	0.9241	0.9191	
Kansas	56	141,647	134,893.4148	1.0501	1.0446	
Kentucky	71	271,531	301,524.4062	0.9005	0.8972	
Louisiana	102	241,866	266,223.1905	0.9085	0.9049	
Maine	18	59,972	68,575.9915	0.8745	0.8676	
Maryland	48	299,802	349,149.6731	0.8587	0.8556	
Massachusetts	69	380,484	460,517.1921	0.8262	0.8236	
Michigan	99	379,579	558,460.8683	0.6797	0.6775	
Minnesota	51	233,949	223,364.6926	1.0474	1.0431	
Mississippi	60	158,345	195,296.6768	0.8108	0.8068	
Missouri	78	451,959	472,569.4238	0.9564	0.9536	
Montana	14	24,910	40,920.0637	0.6087	0.6012	
Nebraska	24	107,086	108,382.7190	0.9880	0.9821	
Nevada	28	161,567	188,149.5502	0.8587	0.8545	
New Hampshire	13	53,771	63,449.1089	0.8475	0.8403	
New Jersey	72	417,777	554,557.6824	0.7534	0.7511	
New Mexico	32	66,846	80,751.8911	0.8278	0.8215	
New York	168	1,056,237	1,511,175.2717	0.6990	0.6976	
North Carolina	98	484,153	546,143.6867	0.8865	0.8840	
North Dakota	9	40,153	40,672.6511	0.9872	0.9776	
Ohio	146	709,746	809,828.1076	0.8764	0.8744	
Oklahoma	81	226,288	192,752.5967	1.1740	1.1692	
Oregon	35	158,311	189,992.9931	0.8332	0.8292	
Pennsylvania	179	782,433	974,444.3919	0.8030	0.8012	
Puerto Rico	12	55,068	81,278.1891	0.6775	0.6719	
Rhode Island	10	50,293	61,616.1179	0.8162	0.8091	
South Carolina	63	234,546	318,897.5872	0.7355	0.7325	

South Dakota	20	45,105	46,450.5204	0.9710	0.9621
Tennessee	100	433,182	471,378.9256	0.9190	0.9163
Texas	357	1,299,191	1,434,801.5926	0.9055	0.9039
Utah	36	71,543	81,210.2628	0.8810	0.8745
Vermont	6	19,179	23,576.5982	0.8135	0.8020
Virgin Islands	2				
Virginia	83	373,174	448,460.9708	0.8321	0.8295
Washington	59	368,791	339,960.1193	1.0848	1.0813
West Virginia	30	138,258	129,480.4522	1.0678	1.0622
Wisconsin	73	286,954	281,834.4331	1.0182	1.0144
Wyoming	12	11,610	13,160.3408	0.8822	0.8662
<b>All US</b>	<b>3,680</b>	<b>16,183,778</b>	<b>18,853,134.0079</b>	<b>0.8584</b>	<b>0.8580</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there are
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than or less
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of device c
4. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty care areas [inc

**SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by dev (CLDs), wards<sup>4</sup>**

for SUR	Facility-specific SURs						10%
	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR		No. Facilities with SUR Significantly < National SUR			
Upper		N		N			
0.8144	85	20	24%	54	64%	0.0215	
1.1570	9	.	.	.	.	.	
0.9430	66	35	53%	25	38%	0.3710	
0.8812	49	14	29%	30	61%	0.2184	
0.9056	343	171	50%	146	43%	0.4214	
0.9954	54	30	56%	21	39%	0.4188	
0.8015	33	12	36%	20	61%	0.4167	
0.8320	8	.	.	.	.	.	
0.7923	8	.	.	.	.	.	
0.7968	209	70	33%	123	59%	0.4690	
0.8348	106	47	44%	52	49%	0.2713	
.	.	.	.	.	.	.	
1.0828	17	10	59%	7	41%	.	
0.9747	16	7	44%	6	38%	.	
0.8290	133	59	44%	63	47%	0.4076	
0.9879	92	50	54%	32	35%	0.5185	
0.9291	37	18	49%	14	38%	0.4932	
1.0556	56	25	45%	23	41%	0.0662	
0.9039	71	34	48%	30	42%	0.4850	
0.9122	102	47	46%	48	47%	0.2599	
0.8815	18	11	61%	5	28%	.	
0.8617	48	17	35%	27	56%	0.5128	
0.8288	69	11	16%	53	77%	0.2598	
0.6819	99	14	14%	76	77%	0.2994	
1.0517	51	23	45%	20	39%	0.4935	
0.8148	60	19	32%	32	53%	0.0000	
0.9592	78	32	41%	38	49%	0.5221	
0.6163	14	4	29%	7	50%	.	
0.9939	24	13	54%	9	38%	0.0958	
0.8629	28	15	54%	12	43%	0.4348	
0.8547	13	4	31%	9	69%	.	
0.7556	72	23	32%	45	63%	0.3826	
0.8341	32	8	25%	15	47%	0.1683	
0.7003	168	32	19%	119	71%	0.2787	
0.8890	98	42	43%	45	46%	0.4217	
0.9969	9	.	.	.	.	.	
0.8785	145	56	39%	69	48%	0.4115	
1.1788	81	49	60%	20	25%	0.3939	
0.8374	35	15	43%	17	49%	0.5252	
0.8047	179	49	27%	110	61%	0.1248	
0.6832	12	2	17%	9	75%	.	
0.8234	10	6	60%	3	30%	.	
0.7385	63	17	27%	39	62%	0.3041	

0.9800	20	7	35%	10	50%	0.0000
0.9217	100	39	39%	47	47%	0.3184
0.9071	356	145	41%	171	48%	0.1044
0.8874	36	14	39%	17	47%	0.4038
0.8250	6	.	.	.	.	.
.	.	.	.	.	.	.
0.8348	83	36	43%	41	49%	0.4023
1.0883	59	38	64%	18	31%	0.5336
1.0735	30	15	50%	9	30%	0.3876
1.0219	73	38	52%	23	32%	0.5146
0.8983	12	5	42%	5	42%	.
<b>0.8588</b>	<b>3,678</b>	<b>1,469</b>	<b>40%</b>	<b>1,832</b>	<b>50%</b>	<b>0.3410</b>

less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusions less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  predicted days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was neither calculated (including hematology/oncology, bone marrow transplant]). Data contained in this table are reported from accurate

ice type and patient population:

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.4782	0.6075	0.9063	1.1361
.	.	.	.
0.5689	0.8983	1.1357	1.3425
0.4569	0.6906	0.9637	1.3029
0.6332	0.8881	1.1874	1.6628
0.6613	0.9545	1.4501	2.0526
0.5883	0.6954	1.1808	1.4838
.	.	.	.
.	.	.	.
0.5975	0.7664	0.9956	1.2543
0.6069	0.8084	1.1089	1.5052
.	.	.	.
.	.	.	.
.	.	.	.
0.6427	0.8402	1.0731	1.4382
0.7305	0.9694	1.3845	1.9405
0.5802	0.9529	1.1973	1.4907
0.5516	0.9239	1.5711	2.2865
0.6535	0.8693	1.2578	1.5678
0.5666	0.8305	1.4573	2.0748
.	.	.	.
0.6539	0.7799	1.2115	1.6262
0.4577	0.6124	0.8147	0.9892
0.4461	0.5797	0.8046	1.0797
0.6700	0.8644	1.1840	1.4890
0.3922	0.7679	1.0750	1.5344
0.6979	0.8381	1.1411	1.4534
.	.	.	.
0.7715	0.9027	1.1441	2.9568
0.5839	0.9587	1.3176	2.1676
.	.	.	.
0.5128	0.7169	0.9717	1.2194
0.4667	0.7923	0.9610	1.3853
0.4128	0.6445	0.8563	1.1164
0.6089	0.8379	1.1339	1.4470
.	.	.	.
0.5790	0.8393	1.0344	1.3794
0.7376	1.1237	1.5546	2.1487
0.6168	0.8698	1.0780	1.5512
0.4666	0.6888	0.9471	1.2911
.	.	.	.
.	.	.	.
0.4782	0.6586	0.9740	1.3365

0.2988	0.6247	1.2320	1.9664
0.5616	0.8394	1.1311	1.4455
0.5329	0.8115	1.1145	1.6924
0.5132	0.7341	1.0863	1.2419
.	.	.	.
.	.	.	.
0.5537	0.8170	1.1197	1.6051
0.7800	1.1353	1.4146	1.9430
0.7273	0.9512	1.2844	1.4818
0.7605	0.9172	1.3098	1.8595
.	.	.	.
<b>0.5641</b>	<b>0.8101</b>	<b>1.1161</b>	<b>1.5198</b>

and inclusion criteria. Refer to the technical appendix for details.  
 ted device days in 2019.  
 alculated nor included in the distribution of facility-specific SURs.  
 te care hospitals.

**Table 2. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 2d. Central line days (CLDs), ne**

State	No. of Facilities	No. of Device days			95% CI	
		Observed	Predicted	SUR	Lower	Upper
Alabama	14	29,289	31,969.6726	0.9161	0.9057	
Alaska	2	.	.	.	.	.
Arizona	18	23,133	25,304.7164	0.9142	0.9024	
Arkansas	9	21,937	19,599.0426	1.1193	1.1046	
California	138	135,711	147,144.7268	0.9223	0.9174	
Colorado	21	17,380	24,310.6496	0.7149	0.7044	
Connecticut	12	10,248	14,312.4613	0.7160	0.7023	
D.C.	6	10,435	10,787.4791	0.9673	0.9489	
Delaware	2	.	.	.	.	.
Florida	60	89,734	103,877.5256	0.8638	0.8582	
Georgia	36	51,506	56,498.7139	0.9116	0.9038	
Guam	0	.	.	.	.	.
Hawaii	2	.	.	.	.	.
Idaho	11	4,826	5,928.1525	0.8141	0.7913	
Illinois	39	49,668	55,297.4820	0.8982	0.8903	
Indiana	25	22,584	34,964.1318	0.6459	0.6375	
Iowa	11	14,435	13,772.1084	1.0481	1.0312	
Kansas	10	9,819	11,390.0813	0.8621	0.8451	
Kentucky	16	17,429	23,012.2354	0.7574	0.7462	
Louisiana	31	27,014	29,850.6673	0.9050	0.8942	
Maine	3	.	.	.	.	.
Maryland	16	19,773	22,738.0056	0.8696	0.8575	
Massachusetts	10	15,682	20,769.3115	0.7551	0.7433	
Michigan	20	41,163	46,417.0687	0.8868	0.8783	
Minnesota	11	12,762	12,817.7422	0.9957	0.9785	
Mississippi	15	13,203	15,015.3973	0.8793	0.8644	
Missouri	25	38,129	51,008.5556	0.7475	0.7400	
Montana	6	2,005	2,781.6662	0.7208	0.6897	
Nebraska	8	8,175	10,804.6769	0.7566	0.7403	
Nevada	10	20,601	15,516.6599	1.3277	1.3097	
New Hampshire	3	.	.	.	.	.
New Jersey	24	22,112	29,526.0620	0.7489	0.7391	
New Mexico	5	7,094	5,351.3217	1.3257	1.2951	
New York	53	79,943	90,842.7005	0.8800	0.8740	
North Carolina	25	43,236	47,588.9550	0.9085	0.9000	
North Dakota	6	4,543	5,093.1978	0.8920	0.8663	
Ohio	21	58,112	79,233.4582	0.7334	0.7275	
Oklahoma	8	22,400	17,911.2749	1.2506	1.2343	
Oregon	9	8,379	11,210.9611	0.7474	0.7315	
Pennsylvania	46	47,744	66,215.3123	0.7210	0.7146	
Puerto Rico	5	382	650.1265	0.5876	0.5308	
Rhode Island	1	.	.	.	.	.
South Carolina	9	17,223	21,959.2902	0.7843	0.7726	



South Dakota	3	.	.	.	.
Tennessee	24	39,298	42,823.4850	0.9177	0.9086
Texas	125	147,845	162,592.8290	0.9093	0.9047
Utah	13	12,120	16,212.2531	0.7476	0.7344
Vermont	1	.	.	.	.
Virgin Islands	2	.	.	.	.
Virginia	28	29,379	32,756.2724	0.8969	0.8867
Washington	15	19,003	23,143.1753	0.8211	0.8095
West Virginia	6	4,853	7,976.5042	0.6084	0.5915
Wisconsin	18	17,649	20,815.2819	0.8479	0.8354
Wyoming	.	.	.	.	.
<b>All US</b>	<b>1,037</b>	<b>1,322,770</b>	<b>1,523,263.7080</b>	<b>0.8684</b>	<b>0.8669</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than or
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of dev
4. Data from all NICU locations, including Level II/III and Level III nurseries.

γ SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by d  
 onatal critical care unit<sup>4</sup>

for SUR	Facility-specific SURs						10%
	Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR	%	
			Significantly > National SUR	Significantly < National SUR			
		N	N				
0.9267	14	3	21%	9	64%	.	
.	.	.	.	.	.	.	
0.9260	18	7	39%	7	39%	.	
1.1342	9	.	.	.	.	.	
0.9272	138	39	28%	83	60%	0.0977	
0.7256	21	2	10%	18	86%	0.1404	
0.7300	12	0	0%	10	83%	.	
0.9860	6	.	.	.	.	.	
.	.	.	.	.	.	.	
0.8695	60	19	32%	29	48%	0.1563	
0.9196	36	15	42%	16	44%	0.1147	
.	.	.	.	.	.	.	
.	.	.	.	.	.	.	
0.8373	11	1	9%	6	55%	.	
0.9061	39	14	36%	21	54%	0.2394	
0.6544	25	5	20%	18	72%	0.2961	
1.0653	11	3	27%	5	45%	.	
0.8792	10	2	20%	5	50%	.	
0.7687	16	3	19%	11	69%	.	
0.9158	31	11	35%	15	48%	0.0890	
.	.	.	.	.	.	.	
0.8818	16	2	13%	11	69%	.	
0.7669	10	4	40%	6	60%	.	
0.8954	20	7	35%	10	50%	0.3525	
1.0130	11	2	18%	8	73%	.	
0.8944	15	2	13%	9	60%	.	
0.7550	25	7	28%	16	64%	0.0000	
0.7529	6	.	.	.	.	.	
0.7732	8	.	.	.	.	.	
1.3459	10	7	70%	2	20%	.	
.	.	.	.	.	.	.	
0.7588	24	6	25%	18	75%	0.1210	
1.3567	5	.	.	.	.	.	
0.8861	53	14	26%	31	58%	0.4070	
0.9171	25	5	20%	20	80%	0.1684	
0.9182	6	.	.	.	.	.	
0.7394	21	4	19%	15	71%	0.3995	
1.2671	7	.	.	.	.	.	
0.7635	9	.	.	.	.	.	
0.7275	46	5	11%	38	83%	0.1422	
0.6488	5	.	.	.	.	.	
.	.	.	.	.	.	.	
0.7961	9	.	.	.	.	.	

0.9268	24	10	42%	12	50%	0.0925
0.9139	125	33	26%	70	56%	0.3063
0.7610	13	1	8%	11	85%	.
.	.	.	.	.	.	.
0.9072	28	12	43%	10	36%	0.2412
0.8328	15	3	20%	11	73%	.
0.6257	6	.	.	.	.	.
0.8605	18	6	33%	6	33%	.
.	.	.	.	.	.	.
<b>0.8698</b>	<b>1,036</b>	<b>288</b>	<b>28%</b>	<b>603</b>	<b>58%</b>	<b>0.2018</b>

are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusion of facilities with less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0 predicted device days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was neither calculated nor reported.

evice type and patient population:

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.4192	0.7119	1.0028	1.2729
0.2534	0.3729	0.5385	0.8348
.	.	.	.
.	.	.	.
.	.	.	.
0.3554	0.8136	1.0050	1.3819
0.4444	0.8543	1.1589	1.5510
.	.	.	.
.	.	.	.
.	.	.	.
0.4166	0.7761	1.0227	1.3233
0.4638	0.5566	0.8376	1.3397
.	.	.	.
.	.	.	.
.	.	.	.
0.5273	0.8114	1.0424	1.6295
.	.	.	.
.	.	.	.
.	.	.	.
0.4649	0.8203	1.0689	1.5814
.	.	.	.
.	.	.	.
0.4151	0.5648	0.9041	1.1303
.	.	.	.
.	.	.	.
.	.	.	.
0.3767	0.5424	0.8412	1.1267
.	.	.	.
0.5745	0.7313	0.9076	1.1245
0.4994	0.6084	0.7562	1.4532
.	.	.	.
0.5433	0.6866	0.8412	1.4359
.	.	.	.
.	.	.	.
0.3043	0.5780	0.7817	0.9209
.	.	.	.
.	.	.	.
.	.	.	.

0.4019	0.6944	1.0968	1.2689
0.5082	0.7457	0.9806	1.2839
0.6558	0.8635	1.2056	1.4656
<b>0.4316</b>	<b>0.7076</b>	<b>0.9747</b>	<b>1.3107</b>

usion and inclusion criteria. Refer to the technical appendix for details.  
 predicted device days in 2019.  
 er calculated nor included in the distribution of facility-specific SURs.

**Table 3. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 3a. Urinary catheter days (I**

State	No. of Facilities	No. of Device days			95% CI	
		Observed	Predicted	SUR	Lower	Upper
Alabama	89	508,068	592,048.7470	0.8582	0.8558	0.8606
Alaska	9	34,812	45,929.0874	0.7580	0.7500	0.7660
Arizona	66	463,112	566,470.3111	0.8175	0.8152	0.8198
Arkansas	50	263,822	285,575.6059	0.9238	0.9203	0.9273
California	337	2,476,856	2,903,557.5942	0.8530	0.8520	0.8540
Colorado	55	304,904	368,524.8931	0.8274	0.8244	0.8304
Connecticut	33	210,774	292,094.7231	0.7216	0.7185	0.7247
D.C	8	84,820	122,916.9709	0.6901	0.6854	0.6948
Delaware	8	52,486	103,276.7190	0.5082	0.5039	0.5125
Florida	213	1,668,165	2,452,124.4167	0.6803	0.6793	0.6813
Georgia	108	682,885	926,880.9214	0.7368	0.7350	0.7386
Guam	2	.	.	.	.	.
Hawaii	17	86,235	108,313.9257	0.7962	0.7909	0.8015
Idaho	16	82,530	85,025.4457	0.9707	0.9640	0.9774
Illinois	134	831,446	1,126,914.5852	0.7378	0.7362	0.7394
Indiana	94	510,856	637,746.2287	0.8010	0.7989	0.8031
Iowa	39	210,106	219,953.6173	0.9552	0.9511	0.9593
Kansas	57	184,606	243,422.3537	0.7584	0.7549	0.7619
Kentucky	71	419,815	517,879.5078	0.8106	0.8082	0.8130
Louisiana	102	427,074	439,773.7472	0.9711	0.9682	0.9740
Maine	19	70,634	104,838.6165	0.6737	0.6688	0.6786
Maryland	48	383,554	525,048.3452	0.7305	0.7282	0.7328
Massachusetts	69	477,702	613,450.2897	0.7787	0.7765	0.7809
Michigan	99	651,096	840,572.8985	0.7746	0.7727	0.7765
Minnesota	51	271,084	317,729.1539	0.8532	0.8500	0.8564
Mississippi	60	326,411	320,231.9371	1.0193	1.0158	1.0228
Missouri	78	559,209	690,352.2040	0.8100	0.8079	0.8121
Montana	14	57,317	69,034.4050	0.8303	0.8235	0.8371
Nebraska	25	105,964	152,716.3342	0.6939	0.6897	0.6981
Nevada	28	235,427	316,629.6987	0.7435	0.7405	0.7465
New Hampshire	13	86,062	105,731.7317	0.8140	0.8086	0.8194
New Jersey	72	524,588	799,783.1031	0.6559	0.6541	0.6577
New Mexico	32	138,568	155,176.2549	0.8930	0.8883	0.8977
New York	168	1,434,235	1,941,037.1958	0.7389	0.7377	0.7401
North Carolina	98	679,885	859,371.5067	0.7911	0.7893	0.7929
North Dakota	9	53,032	55,073.7246	0.9629	0.9548	0.9710
Ohio	147	1,062,433	1,253,101.6522	0.8478	0.8462	0.8494
Oklahoma	82	340,981	354,480.8510	0.9619	0.9587	0.9651
Oregon	35	234,421	304,007.5734	0.7711	0.7680	0.7742
Pennsylvania	187	1,130,579	1,441,747.8945	0.7842	0.7827	0.7857
Puerto Rico	13	132,715	125,588.4440	1.0567	1.0511	1.0623
Rhode Island	10	62,490	86,192.2590	0.7250	0.7194	0.7306
South Carolina	63	363,261	514,765.9636	0.7057	0.7034	0.7080

South Dakota	20	61,225	66,866.1865	0.9156	0.9084
Tennessee	100	617,295	783,014.5593	0.7884	0.7864
Texas	365	1,873,869	2,422,808.6084	0.7734	0.7723
Utah	36	116,517	145,645.2330	0.8000	0.7954
Vermont	6	34,806	36,687.6130	0.9487	0.9388
Virgin Islands	2	.	.	.	.
Virginia	83	509,399	728,260.2310	0.6995	0.6975
Washington	60	439,487	539,530.7583	0.8146	0.8122
West Virginia	31	228,517	236,934.3676	0.9645	0.9605
Wisconsin	73	357,125	435,807.3101	0.8195	0.8168
Wyoming	12	24,044	24,147.9842	0.9957	0.9831
<b>All US</b>	<b>3,716</b>	<b>23,157,990</b>	<b>29,416,083.5355</b>	<b>0.7873</b>	<b>0.7869</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there are
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than or less than
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of device days
4. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. Data contain

SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by de UCDs), all locations<sup>4</sup>

for SUR	Facility-specific SURs						10%
	Upper	No. Facilities with $\geq 1$ Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR		
			Significantly > National SUR	N	Significantly < National SUR	N	
0.8605	89	48	54%	34	38%	0.2642	
0.7659	9	.	.	.	.	.	
0.8199	66	31	47%	30	45%	0.3795	
0.9274	50	29	58%	14	28%	0.5099	
0.8541	337	199	59%	115	34%	0.6070	
0.8303	55	20	36%	28	51%	0.4696	
0.7247	33	12	36%	17	52%	0.4720	
0.6947	8	.	.	.	.	.	
0.5126	8	.	.	.	.	.	
0.6813	213	58	27%	145	68%	0.4534	
0.7385	108	48	44%	53	49%	0.4336	
.	.	.	.	.	.	.	
0.8015	17	7	41%	10	59%	.	
0.9773	16	11	69%	3	19%	.	
0.7394	134	61	46%	60	45%	0.4880	
0.8032	94	46	49%	39	41%	0.4741	
0.9593	39	23	59%	7	18%	0.6336	
0.7618	57	27	47%	24	42%	0.2535	
0.8131	71	40	56%	27	38%	0.5535	
0.9741	102	72	71%	20	20%	0.6219	
0.6787	19	5	26%	9	47%	.	
0.7328	48	19	40%	26	54%	0.4530	
0.7809	69	22	32%	41	59%	0.4385	
0.7765	99	44	44%	45	45%	0.5096	
0.8564	51	24	47%	22	43%	0.5624	
1.0228	60	38	63%	16	27%	0.4581	
0.8121	78	35	45%	34	44%	0.4210	
0.8371	14	6	43%	6	43%	.	
0.6981	25	7	28%	16	64%	0.5428	
0.7466	28	8	29%	16	57%	0.1928	
0.8194	13	5	38%	7	54%	.	
0.6577	72	12	17%	50	69%	0.4286	
0.8977	32	18	56%	12	38%	0.3833	
0.7401	168	67	40%	89	53%	0.4319	
0.7930	98	40	41%	52	53%	0.4257	
0.9711	9	.	.	.	.	.	
0.8495	146	78	53%	55	38%	0.5690	
0.9651	82	55	67%	20	24%	0.3821	
0.7742	35	13	37%	19	54%	0.5314	
0.7856	187	82	44%	92	49%	0.3233	
1.0624	13	12	92%	1	8%	.	
0.7307	10	3	30%	7	70%	.	
0.7080	63	20	32%	38	60%	0.4593	



0.9229	20	9	45%	8	40%	0.2040
0.7903	100	49	49%	40	40%	0.4913
0.7745	364	182	50%	157	43%	0.4566
0.8046	36	15	42%	15	42%	0.4804
0.9587	6	.	.	.	.	.
.	.	.	.	.	.	.
0.7014	83	27	33%	44	53%	0.4735
0.8170	60	32	53%	23	38%	0.4992
0.9685	31	18	58%	8	26%	0.5019
0.8221	73	34	47%	30	41%	0.5442
1.0084	12	3	25%	6	50%	.
<b>0.7876</b>	<b>3,714</b>	<b>1,733</b>	<b>47%</b>	<b>1,650</b>	<b>44%</b>	<b>0.4735</b>

are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusions less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  predicted device days in 2019. If a facility's predicted number of device days was  $< 1.0$ , a facility-specific SUR was neither reported in this table nor reported from acute care hospitals.

service type and patient population:

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.5738	0.8603	1.0145	1.2070
.	.	.	.
0.6290	0.7853	1.0347	1.1536
0.7259	0.8666	1.0958	1.3316
0.7246	0.8647	1.0713	1.3259
0.6729	0.7602	0.8951	1.1832
0.5873	0.7116	0.8795	1.0944
.	.	.	.
.	.	.	.
0.5579	0.6761	0.8246	0.9842
0.6007	0.7518	0.9572	1.2286
.	.	.	.
.	.	.	.
0.6215	0.7921	0.9720	1.1426
0.6023	0.8182	0.9984	1.1690
0.7568	0.8681	1.1147	1.5123
0.6079	0.8295	1.1271	1.3775
0.6888	0.8535	1.0916	1.3303
0.7968	1.0940	1.5355	2.0895
.	.	.	.
0.6258	0.7684	0.9318	1.1645
0.5966	0.6969	0.8770	1.0131
0.6255	0.7666	0.8730	1.0686
0.6820	0.7994	1.0104	1.1656
0.6318	0.9184	1.1647	1.3848
0.6109	0.7931	0.9223	1.2138
.	.	.	.
0.6011	0.6997	0.8872	1.2010
0.5937	0.7208	0.8331	1.0806
.	.	.	.
0.5381	0.6483	0.7808	0.9114
0.6542	0.8781	1.1230	1.3268
0.5792	0.7384	0.9089	1.0682
0.6085	0.7414	0.9255	1.0801
.	.	.	.
0.6763	0.8325	0.9864	1.2567
0.7485	0.9585	1.2309	1.4536
0.6042	0.7642	0.9283	1.0616
0.5583	0.7578	1.0006	1.3307
.	.	.	.
.	.	.	.
0.5440	0.6495	0.9270	1.2058

0.6569	0.8365	1.1267	1.3832
0.6251	0.8325	1.1319	1.4212
0.6344	0.8294	1.1519	1.6909
0.6322	0.7726	0.9464	1.1267
.	.	.	.
.	.	.	.
0.5751	0.7502	0.9170	1.1605
0.7027	0.8256	0.9319	1.1145
0.7529	0.8450	1.0848	1.2685
0.6693	0.7995	0.9355	1.1519
.	.	.	.
<b>0.6254</b>	<b>0.7955</b>	<b>1.0001</b>	<b>1.2691</b>

sion and inclusion criteria. Refer to the technical appendix for details.  
 edicted device days in 2019.  
 r calculated nor included in the distribution of facility-specific SURs.

**Table 3. State-specific standardized utilization ratios (SURs) and facility-specific summary statistics**  
**Table 3b. Urinary catheter days (UCDs)**

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	70	244,647	266,137.6747	0.9192	0.9156
Alaska	7	9,617	12,579.9978	0.7645	0.7493
Arizona	51	188,568	207,355.9047	0.9094	0.9053
Arkansas	41	107,640	115,793.9956	0.9296	0.9240
California	315	900,897	998,929.1951	0.9019	0.9000
Colorado	46	114,078	131,773.7223	0.8657	0.8607
Connecticut	27	89,769	97,242.5657	0.9231	0.9171
D.C	7	43,141	50,024.2631	0.8624	0.8543
Delaware	8	18,257	28,752.4727	0.6350	0.6258
Florida	199	729,199	896,008.5134	0.8138	0.8120
Georgia	91	292,484	359,518.7257	0.8135	0.8106
Guam	2	.	.	.	.
Hawaii	15	33,004	34,847.6370	0.9471	0.9369
Idaho	12	30,130	29,763.0543	1.0123	1.0010
Illinois	125	313,861	421,153.1879	0.7452	0.7426
Indiana	73	209,297	242,829.2257	0.8619	0.8582
Iowa	32	72,311	72,355.2654	0.9994	0.9921
Kansas	37	73,472	97,206.9770	0.7558	0.7504
Kentucky	64	183,249	205,638.2894	0.8911	0.8870
Louisiana	73	164,453	172,775.0366	0.9518	0.9472
Maine	13	23,389	29,583.1073	0.7906	0.7805
Maryland	43	137,075	172,672.4873	0.7938	0.7897
Massachusetts	62	196,385	201,127.9988	0.9764	0.9721
Michigan	84	299,425	323,583.3957	0.9253	0.9220
Minnesota	35	101,157	105,503.7077	0.9588	0.9529
Mississippi	41	124,714	119,035.4509	1.0477	1.0419
Missouri	70	219,970	235,824.9376	0.9328	0.9289
Montana	10	20,149	21,421.8821	0.9406	0.9277
Nebraska	16	36,590	50,919.5072	0.7186	0.7113
Nevada	20	110,993	130,327.9100	0.8516	0.8467
New Hampshire	13	30,296	30,299.8541	0.9999	0.9886
New Jersey	72	192,478	257,162.3188	0.7485	0.7451
New Mexico	26	54,596	58,752.8577	0.9292	0.9215
New York	159	535,680	637,098.9200	0.8408	0.8386
North Carolina	83	287,469	319,165.9421	0.9007	0.8974
North Dakota	6	18,617	17,878.7712	1.0413	1.0264
Ohio	124	434,079	474,681.3978	0.9145	0.9118
Oklahoma	50	138,933	134,108.2924	1.0360	1.0305
Oregon	32	77,187	97,058.6251	0.7953	0.7897
Pennsylvania	144	454,029	522,518.9381	0.8689	0.8664
Puerto Rico	12	40,897	35,833.3136	1.1413	1.1303
Rhode Island	9	24,845	26,691.2855	0.9308	0.9193
South Carolina	56	146,591	180,615.2624	0.8116	0.8075

South Dakota	10	15,528	16,345.6920	0.9500	0.9351
Tennessee	82	262,174	314,231.7800	0.8343	0.8312
Texas	256	795,227	951,063.0198	0.8361	0.8343
Utah	30	55,832	68,549.5545	0.8145	0.8077
Vermont	4	.	.	.	.
Virgin Islands	2	.	.	.	.
Virginia	76	195,960	249,780.5817	0.7845	0.7811
Washington	48	151,846	175,088.7266	0.8673	0.8629
West Virginia	29	96,473	93,851.2392	1.0279	1.0215
Wisconsin	66	131,808	159,306.5275	0.8274	0.8229
Wyoming	10	5,656	7,659.6975	0.7384	0.7193
<b>All US</b>	<b>3,088</b>	<b>9,249,428</b>	<b>10,674,752.5625</b>	<b>0.8665</b>	<b>0.8659</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when th
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of c
4. Data from all ICUs; excludes wards (and other non-critical care locations), and NICUs. Data contain

ary SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by s), critical care locations<sup>4</sup>

for SUR	Facility-specific SURs						10%
	Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR		
			Significantly > National SUR	N	Significantly < National SUR	N	
0.9229	70	36	51%	22	31%	0.4806	
0.7798	7	.	.	.	.	.	
0.9135	51	29	57%	16	31%	0.6111	
0.9351	41	22	54%	14	34%	0.4696	
0.9037	315	170	54%	105	33%	0.6295	
0.8707	46	12	26%	27	59%	0.5394	
0.9292	27	12	44%	15	56%	0.4519	
0.8706	7	.	.	.	.	.	
0.6442	8	.	.	.	.	.	
0.8157	199	72	36%	97	49%	0.5222	
0.8165	91	26	29%	49	54%	0.4492	
.	.	.	.	.	.	.	
0.9574	15	6	40%	3	20%	.	
1.0238	12	7	58%	1	8%	.	
0.7479	125	39	31%	65	52%	0.4529	
0.8656	73	32	44%	31	42%	0.5949	
1.0067	32	15	47%	13	41%	0.4503	
0.7613	37	10	27%	22	59%	0.3576	
0.8952	64	26	41%	27	42%	0.5373	
0.9565	72	40	56%	20	28%	0.6721	
0.8008	13	5	38%	7	54%	.	
0.7981	43	21	49%	18	42%	0.4791	
0.9808	62	36	58%	20	32%	0.6430	
0.9287	84	36	43%	37	44%	0.5879	
0.9647	35	12	34%	21	60%	0.3960	
1.0535	41	28	68%	8	20%	0.5419	
0.9367	70	36	51%	26	37%	0.4858	
0.9537	10	5	50%	4	40%	.	
0.7260	16	3	19%	12	75%	.	
0.8567	20	8	40%	8	40%	0.5651	
1.0112	13	9	69%	2	15%	.	
0.7518	72	17	24%	42	58%	0.4287	
0.9370	26	12	46%	8	31%	0.5439	
0.8430	159	56	35%	85	53%	0.4872	
0.9040	83	26	31%	45	54%	0.4610	
1.0564	6	.	.	.	.	.	
0.9172	124	54	44%	55	44%	0.5445	
1.0414	50	30	60%	10	20%	0.7233	
0.8009	32	7	22%	21	66%	0.4760	
0.8714	144	58	40%	61	42%	0.5263	
1.1524	12	11	92%	0	0%	.	
0.9424	9	.	.	.	.	.	
0.8158	55	17	31%	28	51%	0.4483	

0.9650	10	2	20%	6	60%	.
0.8375	82	32	39%	36	44%	0.4516
0.8380	256	97	38%	110	43%	0.5130
0.8213	30	6	20%	19	63%	0.3617
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.7880	76	17	22%	46	61%	0.4213
0.8716	48	21	44%	23	48%	0.5802
1.0345	29	17	59%	8	28%	0.4344
0.8319	66	18	27%	36	55%	0.4402
0.7578	10	3	30%	7	70%	.
<b>0.8670</b>	<b>3,086</b>	<b>1,272</b>	<b>41%</b>	<b>1,358</b>	<b>44%</b>	<b>0.5025</b>

ere are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to e:  
 1 or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1$ .  
 device days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was ne  
 ned in this table are reported from acute care hospitals.

device type and patient population:

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.7215	0.9232	1.0436	1.1756
.	.	.	.
0.7401	0.9356	1.0891	1.1823
0.7643	0.9441	1.0688	1.1242
0.7675	0.9257	1.0861	1.2052
0.6715	0.7764	0.9451	1.0794
0.6314	0.7607	1.0432	1.1588
.	.	.	.
.	.	.	.
0.6815	0.8337	0.9851	1.1356
0.6187	0.8083	0.9346	1.0950
.	.	.	.
.	.	.	.
0.6266	0.8075	0.9583	1.1173
0.7204	0.8650	1.0614	1.1715
0.6435	0.9085	1.0330	1.1150
0.6274	0.7650	0.9155	1.0714
0.6923	0.8858	1.0251	1.1853
0.7495	0.9486	1.1947	1.2700
.	.	.	.
0.7480	0.8800	1.0054	1.1676
0.8075	0.9381	1.0858	1.2022
0.7197	0.8664	1.0326	1.1681
0.5363	0.6683	1.0347	1.1975
0.8715	1.0237	1.1491	1.2514
0.7401	0.9130	1.0262	1.1582
.	.	.	.
.	.	.	.
0.7407	0.8737	0.9930	1.1036
.	.	.	.
0.6351	0.7634	0.8969	1.0730
0.6967	0.9013	1.1113	1.1965
0.6808	0.8027	0.9919	1.1469
0.6596	0.8151	1.0152	1.1713
.	.	.	.
0.6785	0.8540	1.0125	1.1836
0.8669	0.9719	1.1349	1.3286
0.5903	0.6924	0.9747	1.0280
0.6699	0.8588	1.0076	1.1891
.	.	.	.
.	.	.	.
0.6059	0.8077	0.9538	1.0824



0.6732	0.8323	1.0029	1.1470
0.6681	0.8669	1.0184	1.1734
0.5336	0.7471	0.8984	1.0094
0.5652	0.7571	0.9041	1.0499
0.6863	0.8793	1.0178	1.1290
0.7275	0.9955	1.0759	1.2151
0.6284	0.7740	0.9500	1.0919
<b>0.6779</b>	<b>0.8590</b>	<b>1.0237</b>	<b>1.1750</b>

exclusion and inclusion criteria. Refer to the technical appendix for details  
0 predicted device days in 2019.  
either calculated nor included in the distribution of facility-specific SURs.

**Table 3. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 3c. Urinary catheter day**

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	89	263,421	325,911.0724	0.8083	0.8052
Alaska	9	25,195	33,349.0896	0.7555	0.7462
Arizona	66	274,544	359,114.4064	0.7645	0.7616
Arkansas	49	156,182	169,781.6102	0.9199	0.9153
California	333	1,575,959	1,904,628.3991	0.8274	0.8262
Colorado	55	190,826	236,751.1708	0.8060	0.8024
Connecticut	33	121,005	194,852.1574	0.6210	0.6175
D.C	8	41,679	72,892.7078	0.5718	0.5663
Delaware	8	34,229	74,524.2463	0.4593	0.4544
Florida	208	938,966	1,556,115.9033	0.6034	0.6022
Georgia	107	390,401	567,362.1956	0.6881	0.6859
Guam	1	.	.	.	.
Hawaii	17	53,231	73,466.2887	0.7246	0.7184
Idaho	16	52,400	55,262.3914	0.9482	0.9401
Illinois	133	517,585	705,761.3972	0.7334	0.7314
Indiana	92	301,559	394,917.0030	0.7636	0.7609
Iowa	39	137,795	147,598.3519	0.9336	0.9287
Kansas	56	111,134	146,215.3767	0.7601	0.7556
Kentucky	71	236,566	312,241.2184	0.7576	0.7546
Louisiana	102	262,621	266,998.7106	0.9836	0.9799
Maine	18	47,245	75,255.5092	0.6278	0.6221
Maryland	48	246,479	352,375.8580	0.6995	0.6967
Massachusetts	69	281,317	412,322.2909	0.6823	0.6798
Michigan	99	351,671	516,989.5028	0.6802	0.6780
Minnesota	51	169,927	212,225.4462	0.8007	0.7969
Mississippi	60	201,697	201,196.4862	1.0025	0.9981
Missouri	78	339,239	454,527.2664	0.7464	0.7438
Montana	14	37,168	47,612.5228	0.7806	0.7727
Nebraska	24	69,374	101,796.8270	0.6815	0.6764
Nevada	28	124,434	186,301.7887	0.6679	0.6642
New Hampshire	13	55,766	75,431.8775	0.7393	0.7332
New Jersey	72	332,110	542,620.7843	0.6120	0.6100
New Mexico	32	83,972	96,423.3971	0.8709	0.8650
New York	167	898,555	1,303,938.2758	0.6891	0.6877
North Carolina	98	392,416	540,205.5646	0.7264	0.7241
North Dakota	9	34,415	37,194.9534	0.9253	0.9155
Ohio	145	628,354	778,420.2544	0.8072	0.8052
Oklahoma	81	202,048	220,372.5586	0.9168	0.9129
Oregon	35	157,234	206,948.9483	0.7598	0.7560
Pennsylvania	187	676,550	919,228.9564	0.7360	0.7342
Puerto Rico	13	91,818	89,755.1304	1.0230	1.0164
Rhode Island	10	37,645	59,500.9735	0.6327	0.6263
South Carolina	63	216,670	334,150.7013	0.6484	0.6457

South Dakota	20	45,697	50,520.4945	0.9045	0.8963
Tennessee	100	355,121	468,782.7794	0.7575	0.7551
Texas	358	1,078,642	1,471,745.5885	0.7329	0.7315
Utah	36	60,685	77,095.6786	0.7871	0.7809
Vermont	6	23,836	24,622.6686	0.9681	0.9558
Virgin Islands	2	.	.	.	.
Virginia	83	313,439	478,479.6492	0.6551	0.6528
Washington	60	287,641	364,442.0317	0.7893	0.7864
West Virginia	30	132,044	143,083.1284	0.9228	0.9179
Wisconsin	73	225,317	276,500.7826	0.8149	0.8115
Wyoming	12	18,388	16,488.2866	1.1152	1.0992
<b>All US</b>	<b>3,686</b>	<b>13,908,562</b>	<b>18,741,330.9731</b>	<b>0.7421</b>	<b>0.7417</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there are no reported device days.
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than or less than the expected SUR.
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of device days.
4. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty care areas [i.e., behavioral health, etc.]).

**SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by device (UCDs), wards<sup>4</sup>**

for SUR	Facility-specific SURs					10%
	Upper	No. Facilities with $\geq 1$ Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR	
			Significantly > National SUR	Significantly < National SUR		
		N	N			
0.8114	89	49	55%	30	34%	0.2986
0.7649	9	.	.	.	.	.
0.7674	66	30	45%	30	45%	0.4006
0.9245	49	31	63%	11	22%	0.5159
0.8287	333	200	60%	99	30%	0.5438
0.8096	55	29	53%	22	40%	0.5022
0.6245	33	10	30%	17	52%	0.5044
0.5773	8	.	.	.	.	.
0.4642	8	.	.	.	.	.
0.6046	208	51	25%	143	69%	0.3813
0.6903	107	49	46%	51	48%	0.4150
.	.	.	.	.	.	.
0.7307	17	6	35%	10	59%	.
0.9563	16	12	75%	3	19%	.
0.7354	133	71	53%	52	39%	0.4707
0.7663	92	50	54%	33	36%	0.4258
0.9385	39	26	67%	6	15%	0.6646
0.7646	56	32	57%	19	34%	0.3046
0.7607	71	42	59%	25	35%	0.5131
0.9874	102	75	74%	18	18%	0.5837
0.6335	18	6	33%	9	50%	.
0.7022	48	17	35%	23	48%	0.4208
0.6848	69	20	29%	45	65%	0.3668
0.6825	99	33	33%	48	48%	0.4214
0.8045	51	30	59%	14	27%	0.5252
1.0069	60	40	67%	15	25%	0.4490
0.7489	78	36	46%	35	45%	0.4247
0.7886	14	7	50%	7	50%	.
0.6866	24	9	38%	13	54%	0.4671
0.6716	28	7	25%	19	68%	0.1928
0.7454	13	5	38%	7	54%	.
0.6141	72	14	19%	54	75%	0.3857
0.8768	32	19	59%	12	38%	0.3859
0.6905	167	73	44%	85	51%	0.3466
0.7287	98	41	42%	46	47%	0.4179
0.9351	9	.	.	.	.	.
0.8092	144	86	60%	45	31%	0.4995
0.9209	81	51	63%	23	28%	0.3821
0.7635	35	16	46%	16	46%	0.5130
0.7378	187	80	43%	91	49%	0.2842
1.0296	13	12	92%	1	8%	.
0.6391	10	2	20%	7	70%	.
0.6511	63	22	35%	35	56%	0.4030

0.9128	20	11	55%	5	25%	0.2040
0.7600	100	51	51%	38	38%	0.4743
0.7343	357	179	50%	147	41%	0.4291
0.7934	36	18	50%	12	33%	0.4268
0.9804	6	.	.	.	.	.
.	.	.	.	.	.	.
0.6574	83	36	43%	40	48%	0.4489
0.7921	60	38	63%	19	32%	0.4757
0.9279	30	20	67%	8	27%	0.4874
0.8183	73	39	53%	25	34%	0.5467
1.1314	12	5	42%	4	33%	.
<b>0.7425</b>	<b>3,684</b>	<b>1,805</b>	<b>49%</b>	<b>1,537</b>	<b>42%</b>	<b>0.4268</b>

le less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusions less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  predicted days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was neither calculated (including hematology/oncology, bone marrow transplant]). Data contained in this table are reported from ac

vice type and patient population:

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.5608	0.8346	1.0577	1.2957
.	.	.	.
0.5250	0.7332	0.9870	1.1369
0.6840	0.8594	1.1816	1.5138
0.6904	0.8315	1.0771	1.3828
0.6058	0.7680	0.9891	1.2277
0.5590	0.6965	0.8641	1.2053
.	.	.	.
.	.	.	.
0.4920	0.6156	0.7653	0.9703
0.5384	0.7055	0.9429	1.2874
.	.	.	.
.	.	.	.
.	.	.	.
0.6144	0.8037	1.0185	1.2774
0.5775	0.8187	1.0177	1.3497
0.7508	0.8985	1.2409	1.5816
0.5744	0.8395	1.2123	1.6847
0.5899	0.9305	1.2527	1.5332
0.7600	1.1488	1.6460	2.4949
.	.	.	.
0.6172	0.7173	0.8654	1.0648
0.5232	0.6211	0.8262	0.9716
0.5431	0.7027	0.8587	1.1075
0.6652	0.8697	1.0142	1.2472
0.6527	0.9095	1.1863	1.4943
0.5575	0.7609	0.9463	1.4422
.	.	.	.
0.5385	0.7037	0.9598	1.2010
0.4979	0.6216	0.7947	1.4231
.	.	.	.
0.4759	0.5863	0.7276	0.8867
0.6426	0.9767	1.2413	1.4211
0.5237	0.6992	0.9170	1.1751
0.5443	0.7327	0.9601	1.1342
.	.	.	.
0.6596	0.8480	1.0412	1.4048
0.7047	1.0024	1.3080	1.5738
0.5782	0.7472	0.9365	1.2064
0.5072	0.7154	1.0012	1.3497
.	.	.	.
.	.	.	.
0.4769	0.6645	0.9456	1.2117

0.6292	0.8950	1.2661	1.3832
0.5851	0.8112	1.1698	1.6359
0.5912	0.7918	1.1854	1.8765
0.6605	0.8128	1.0742	1.4438
.	.	.	.
.	.	.	.
0.5365	0.7304	1.0461	1.3032
0.6539	0.8237	0.9543	1.2283
0.7008	0.8733	1.0717	1.3342
0.6733	0.7848	1.0509	1.3771
.	.	.	.
<b>0.5805</b>	<b>0.7711</b>	<b>1.0371</b>	<b>1.3810</b>

on and inclusion criteria. Refer to the technical appendix for details.  
 icted device days in 2019.  
 ;calculated nor included in the distribution of facility-specific SURs.  
 ute care hospitals.

**Table 4. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 4a. Ventilator days (VD)**

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	45	69,798	74,149.5293	0.9413	0.9344
Alaska	4	.	.	.	.
Arizona	29	46,273	47,695.7568	0.9702	0.9614
Arkansas	22	25,024	29,942.7926	0.8357	0.8254
California	194	396,399	358,376.7459	1.1061	1.1026
Colorado	42	56,060	66,665.0203	0.8409	0.8340
Connecticut	14	32,145	27,140.5828	1.1844	1.1715
D.C.	3	.	.	.	.
Delaware	3	.	.	.	.
Florida	129	263,459	312,022.3520	0.8444	0.8411
Georgia	72	168,473	181,685.1395	0.9273	0.9229
Guam	2	.	.	.	.
Hawaii	6	6,511	4,773.0061	1.3641	1.3313
Idaho	7	8,349	9,426.7348	0.8857	0.8668
Illinois	67	84,885	112,523.5127	0.7544	0.7493
Indiana	60	78,462	92,442.8031	0.8488	0.8429
Iowa	15	13,428	16,106.5866	0.8337	0.8197
Kansas	32	23,680	40,747.2845	0.5811	0.5738
Kentucky	46	55,975	70,111.7852	0.7984	0.7918
Louisiana	43	49,183	60,450.3082	0.8136	0.8064
Maine	13	11,508	15,009.0351	0.7667	0.7528
Maryland	21	46,240	39,245.0655	1.1782	1.1676
Massachusetts	24	39,864	39,736.1146	1.0032	0.9934
Michigan	69	136,404	135,342.1964	1.0078	1.0025
Minnesota	10	19,114	17,005.5869	1.1240	1.1081
Mississippi	29	35,225	38,383.3917	0.9177	0.9082
Missouri	42	92,223	100,179.3203	0.9206	0.9146
Montana	5	7,730	7,137.5995	1.0830	1.0590
Nebraska	11	17,432	22,619.1502	0.7707	0.7593
Nevada	21	78,253	86,146.2920	0.9084	0.9020
New Hampshire	11	10,090	8,922.6917	1.1308	1.1089
New Jersey	54	116,143	110,998.8960	1.0463	1.0403
New Mexico	17	12,281	12,291.0161	0.9992	0.9816
New York	127	344,708	308,382.4825	1.1178	1.1141
North Carolina	44	75,489	81,457.2552	0.9267	0.9201
North Dakota	2	.	.	.	.
Ohio	93	168,580	197,141.9268	0.8551	0.8510
Oklahoma	27	22,907	25,276.2924	0.9063	0.8946
Oregon	25	20,874	28,913.2599	0.7220	0.7122
Pennsylvania	139	283,649	321,312.2303	0.8828	0.8795
Puerto Rico	11	18,651	19,676.2468	0.9479	0.9344
Rhode Island	8	14,503	15,860.1991	0.9144	0.8996
South Carolina	55	89,796	105,776.8602	0.8489	0.8434



South Dakota	7	4,816	6,472.8546	0.7440	0.7232
Tennessee	50	90,817	115,867.4303	0.7838	0.7787
Texas	150	259,472	302,634.3915	0.8574	0.8541
Utah	9	9,965	14,148.8529	0.7043	0.6906
Vermont	1	.	.	.	.
Virgin Islands	1	.	.	.	.
Virginia	63	106,176	132,058.8069	0.8040	0.7992
Washington	18	19,548	24,351.3038	0.8027	0.7916
West Virginia	16	20,076	25,803.2516	0.7780	0.7674
Wisconsin	54	44,546	54,626.8628	0.8155	0.8079
Wyoming	6	1,599	1,606.6189	0.9953	0.9473
<b>All US</b>	<b>2,068</b>	<b>3,624,557</b>	<b>3,945,152.1804</b>	<b>0.9187</b>	<b>0.9178</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there are no predicted device days.
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than 0.9.
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of device days.
4. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. Data contains only predicted device days.

y SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by d  
s), all locations<sup>4</sup>

for SUR	Facility-specific SURs					10%
	Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR	
			Significantly > National SUR	Significantly < National SUR		
		N	N			
0.9483	45	17	38%	25	56%	0.0000
.	.	.	.	.	.	.
0.9790	29	9	31%	15	52%	0.1256
0.8462	22	6	27%	14	64%	0.2085
1.1095	193	119	62%	56	29%	0.5984
0.8479	42	11	26%	26	62%	0.2567
1.1974	14	10	71%	1	7%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.8476	129	43	33%	73	57%	0.3988
0.9317	72	32	44%	34	47%	0.2363
.	.	.	.	.	.	.
1.3976	6	.	.	.	.	.
0.9048	7	.	.	.	.	.
0.7594	67	12	18%	43	64%	0.1676
0.8547	60	23	38%	28	47%	0.2065
0.8479	15	6	40%	8	53%	.
0.5886	32	5	16%	24	75%	0.0000
0.8050	46	13	28%	30	65%	0.1321
0.8208	42	9	21%	30	71%	0.0000
0.7809	13	4	31%	8	62%	.
1.1890	21	16	76%	5	24%	0.6715
1.0131	24	5	21%	13	54%	0.4187
1.0132	68	28	41%	38	56%	0.2894
1.1400	10	3	30%	4	40%	.
0.9273	29	11	38%	13	45%	0.3919
0.9265	42	12	29%	24	57%	0.3580
1.1074	5	.	.	.	.	.
0.7822	11	0	0%	5	45%	.
0.9148	21	10	48%	7	33%	0.6627
1.1531	11	7	64%	0	0%	.
1.0524	54	24	44%	24	44%	0.5132
1.0170	17	4	24%	10	59%	.
1.1215	127	72	57%	43	34%	0.4590
0.9334	44	12	27%	29	66%	0.2587
.	.	.	.	.	.	.
0.8592	92	28	30%	55	60%	0.1003
0.9181	27	8	30%	17	63%	0.0097
0.7318	25	6	24%	18	72%	0.2987
0.8861	139	38	27%	93	67%	0.1660
0.9616	11	8	73%	3	27%	.
0.9294	8	.	.	.	.	.
0.8545	55	15	27%	32	58%	0.3152

0.7653	7	.	.	.	.	.
0.7889	49	8	16%	36	73%	0.2646
0.8607	148	46	31%	80	54%	0.1809
0.7182	9	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.8089	63	11	17%	44	70%	0.3267
0.8141	18	6	33%	11	61%	.
0.7889	16	2	13%	11	69%	.
0.8231	54	14	26%	30	56%	0.3001
1.0449	6	.	.	.	.	.
<b>0.9197</b>	<b>2,061</b>	<b>737</b>	<b>36%</b>	<b>1,093</b>	<b>53%</b>	<b>0.2636</b>

are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exc r less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  vice days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was neitl ained in this table are reported from acute care hospitals.

**levi ce type and patient population:**

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.4523	0.7841	1.1299	1.3607
.	.	.	.
0.4940	0.7990	0.9828	1.3649
0.5131	0.7477	1.0216	1.1720
0.8147	1.0752	1.4808	1.9918
0.4379	0.7097	1.0073	1.3501
.	.	.	.
.	.	.	.
.	.	.	.
0.6172	0.7961	1.0275	1.2947
0.5356	0.8999	1.1603	1.3878
.	.	.	.
.	.	.	.
.	.	.	.
0.5083	0.7351	0.9584	1.2460
0.5737	0.8919	1.1242	1.8437
.	.	.	.
0.1591	0.4432	0.7703	1.2378
0.3856	0.6691	0.9883	1.1695
0.4368	0.7135	0.8892	1.4031
.	.	.	.
0.9723	1.1886	1.6109	2.1624
0.5896	0.8190	0.9968	1.2217
0.5410	0.8304	1.1821	1.5076
.	.	.	.
0.6744	0.8665	1.1090	1.2590
0.6222	0.8421	1.0813	1.4130
.	.	.	.
.	.	.	.
0.7946	0.9595	1.2024	1.4774
.	.	.	.
0.7059	0.9319	1.2698	1.6362
.	.	.	.
0.7033	1.0267	1.3194	1.6936
0.4658	0.6234	0.9798	1.3430
.	.	.	.
0.5064	0.7374	1.0279	1.3017
0.2942	0.7058	1.0114	1.2394
0.4951	0.6722	1.0657	1.3175
0.4553	0.7464	1.0488	1.2706
.	.	.	.
.	.	.	.
0.4636	0.7488	1.0094	1.3029

0.3888	0.6534	0.8598	1.0763
0.5832	0.8131	1.0784	1.4435
0.5094	0.6635	0.9043	1.0892
0.6014	0.7991	1.1000	1.2787
<b>0.5508</b>	<b>0.8199</b>	<b>1.1128</b>	<b>1.4846</b>

clusion and inclusion criteria. Refer to the technical appendix for details.  
 predicted device days in 2019.  
 her calculated nor included in the distribution of facility-specific SURs.

**Table 4. State-specific standardized utilization ratios (SURs) and facility-specific summary statistics**  
**Table 4b. Ventilator days (VDs), CI**

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	44	69,348	71,267.9532	0.9731	0.9658
Alaska	3	.	.	.	.
Arizona	27	46,255	47,617.2566	0.9714	0.9626
Arkansas	22	25,024	29,942.7926	0.8357	0.8254
California	189	376,661	342,056.6419	1.1012	1.0976
Colorado	42	55,175	65,855.0300	0.8378	0.8308
Connecticut	13	31,931	26,056.5955	1.2254	1.2121
D.C.	3	.	.	.	.
Delaware	3	.	.	.	.
Florida	128	257,507	305,093.2013	0.8440	0.8408
Georgia	71	166,369	176,102.9972	0.9447	0.9402
Guam	2	.	.	.	.
Hawaii	6	6,380	4,505.5190	1.4160	1.3816
Idaho	7	8,349	9,426.7348	0.8857	0.8668
Illinois	67	80,340	106,854.0165	0.7519	0.7467
Indiana	58	78,058	91,548.8777	0.8526	0.8467
Iowa	15	13,428	16,105.9674	0.8337	0.8197
Kansas	30	23,614	39,847.9417	0.5926	0.5851
Kentucky	44	55,796	69,758.2198	0.7998	0.7932
Louisiana	38	47,163	56,920.7791	0.8286	0.8211
Maine	12	11,508	14,984.0320	0.7680	0.7541
Maryland	21	41,310	37,524.6438	1.1009	1.0903
Massachusetts	23	38,999	37,225.4830	1.0476	1.0373
Michigan	67	134,032	132,195.1021	1.0139	1.0085
Minnesota	9	18,729	16,393.8315	1.1424	1.1262
Mississippi	28	34,788	38,080.3877	0.9135	0.9040
Missouri	42	90,303	95,712.8913	0.9435	0.9373
Montana	5	7,730	7,137.5995	1.0830	1.0590
Nebraska	11	16,337	22,046.6466	0.7410	0.7297
Nevada	20	67,278	72,895.8099	0.9229	0.9160
New Hampshire	11	10,090	8,922.6917	1.1308	1.1089
New Jersey	54	104,486	102,961.2055	1.0148	1.0087
New Mexico	17	12,281	12,260.6414	1.0017	0.9841
New York	126	284,010	270,416.4123	1.0503	1.0464
North Carolina	43	70,419	76,241.8777	0.9236	0.9168
North Dakota	2	.	.	.	.
Ohio	87	159,351	174,500.1917	0.9132	0.9087
Oklahoma	26	22,907	25,238.3663	0.9076	0.8959
Oregon	25	20,130	26,941.2880	0.7472	0.7369
Pennsylvania	134	272,919	294,072.5431	0.9281	0.9246
Puerto Rico	10	15,952	13,523.8272	1.1795	1.1614
Rhode Island	8	13,201	13,970.9336	0.9449	0.9289

South Carolina	54	88,526	99,598.9406	0.8888	0.8830
South Dakota	6	4,245	6,031.8213	0.7038	0.6828
Tennessee	50	84,581	108,122.0745	0.7823	0.7770
Texas	141	254,709	291,090.6128	0.8750	0.8716
Utah	9	9,965	14,148.8529	0.7043	0.6906
Vermont	1	.	.	.	.
Virgin Islands	1	.	.	.	.
Virginia	63	101,807	122,816.7140	0.8289	0.8239
Washington	17	19,260	24,013.9999	0.8020	0.7908
West Virginia	16	19,885	21,934.6533	0.9066	0.8940
Wisconsin	54	43,721	53,589.6012	0.8158	0.8082
Wyoming	6	1,599	1,606.6189	0.9953	0.9473
<b>All US</b>	<b>2,011</b>	<b>3,441,577</b>	<b>3,720,116.2100</b>	<b>0.9251</b>	<b>0.9241</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than o
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of dev
4. Data from all ICUs; excludes wards (and other non-critical care locations), and NICUs. Data contained

by SURs using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by critical care locations<sup>4</sup>

for SUR	Facility-specific SURs						10%
	Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR		
			Significantly > National SUR	Significantly < National SUR			
			N	N			
0.9803	44	16	36%	22	50%	0.0636	
.	.	.	.	.	.	.	
0.9803	26	9	35%	13	50%	0.4533	
0.8462	22	6	27%	14	64%	0.2085	
1.1047	189	122	65%	48	25%	0.6229	
0.8448	42	10	24%	26	62%	0.2567	
1.2389	13	10	77%	1	8%	.	
.	.	.	.	.	.	.	
.	.	.	.	.	.	.	
0.8473	128	42	33%	71	55%	0.4297	
0.9493	71	31	44%	32	45%	0.2871	
.	.	.	.	.	.	.	
1.4511	6	.	.	.	.	.	
0.9048	7	.	.	.	.	.	
0.7571	67	14	21%	43	64%	0.1676	
0.8586	58	21	36%	28	48%	0.1844	
0.8479	15	6	40%	8	53%	.	
0.6002	30	5	17%	23	77%	0.1004	
0.8065	44	11	25%	29	66%	0.1894	
0.8361	37	8	22%	24	65%	0.3805	
0.7822	12	4	33%	7	58%	.	
1.1115	21	14	67%	6	29%	0.6715	
1.0580	23	3	13%	12	52%	0.5024	
1.0193	67	28	42%	36	54%	0.2894	
1.1589	9	.	.	.	.	.	
0.9232	28	11	39%	11	39%	0.4744	
0.9496	42	11	26%	23	55%	0.4015	
1.1074	5	.	.	.	.	.	
0.7524	11	0	0%	5	45%	.	
0.9299	20	11	55%	7	35%	0.6856	
1.1531	11	7	64%	0	0%	.	
1.0210	54	26	48%	24	44%	0.5550	
1.0195	16	5	31%	10	63%	.	
1.0542	126	70	56%	44	35%	0.4815	
0.9305	43	12	28%	30	70%	0.2587	
.	.	.	.	.	.	.	
0.9177	87	28	32%	52	60%	0.2185	
0.9195	26	7	27%	15	58%	0.1216	
0.7576	25	6	24%	17	68%	0.2987	
0.9316	134	44	33%	83	62%	0.3033	
1.1979	10	9	90%	1	10%	.	
0.9611	8	.	.	.	.	.	



0.8947	54	15	28%	28	52%	0.3252
0.7252	6	.	.	.	.	.
0.7876	49	8	16%	35	71%	0.2646
0.8784	141	47	33%	75	53%	0.2907
0.7182	9	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.8340	63	13	21%	42	67%	0.3267
0.8134	17	6	35%	10	59%	.
0.9192	16	3	19%	11	69%	.
0.8235	54	14	26%	29	54%	0.3921
1.0449	6	.	.	.	.	.
<b>0.9261</b>	<b>2,007</b>	<b>739</b>	<b>37%</b>	<b>1,032</b>	<b>51%</b>	<b>0.3065</b>

are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusion of facilities with less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  predicted device days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was neither reported in this table nor reported from acute care hospitals.

**evice type and patient population:**

<b>Median</b>			
<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>90%</b>
0.4615	0.8251	1.1604	1.3607
.	.	.	.
0.5708	0.8534	1.1945	1.3649
0.5131	0.7477	1.0216	1.1720
0.8551	1.0968	1.4468	2.0026
0.4306	0.6977	0.9872	1.3195
.	.	.	.
.	.	.	.
0.6202	0.8017	1.0438	1.3833
0.6015	0.9420	1.1661	1.3878
.	.	.	.
.	.	.	.
0.5083	0.7351	0.9759	1.2510
0.5545	0.8759	1.1262	1.5504
.	.	.	.
0.1878	0.4473	0.8708	1.2387
0.3948	0.6691	0.9879	1.0978
0.5592	0.7648	0.9247	1.5608
.	.	.	.
0.8198	1.2776	1.5486	1.9021
0.6287	0.8251	0.9787	1.2094
0.5326	0.8126	1.1743	1.5076
.	.	.	.
0.6850	0.8713	1.1166	1.2590
0.6222	0.8631	1.0813	1.4817
.	.	.	.
.	.	.	.
0.8180	1.0250	1.2024	1.4420
.	.	.	.
0.7414	0.9677	1.2707	1.6205
.	.	.	.
0.7185	0.9988	1.2641	1.5891
0.4432	0.6592	0.9846	1.3931
.	.	.	.
0.5716	0.8070	1.0557	1.3449
0.3331	0.7162	1.0114	1.2394
0.4951	0.6754	1.0657	1.3175
0.5105	0.7798	1.0729	1.3775
.	.	.	.
.	.	.	.

0.5280	0.7945	1.0094	1.3029
.	.	.	.
0.3888	0.6614	0.8848	1.1682
0.6147	0.8506	1.1014	1.4889
.	.	.	.
.	.	.	.
0.5157	0.6812	0.9479	1.1265
.	.	.	.
.	.	.	.
0.6014	0.7991	1.1000	1.3006
.	.	.	.
<b>0.5845</b>	<b>0.8429</b>	<b>1.1385</b>	<b>1.4809</b>

usion and inclusion criteria. Refer to the technical appendix for details.  
 redicted device days in 2019.  
 er calculated nor included in the distribution of facility-specific SURs.

**Table 4. State-specific standardized utilization ratios (SURs) and facility-specific summary**  
**Table 4c. Ventilator days (**

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	10	450	2,881.5761	0.1562	0.1422
Alaska	1	.	.	.	.
Arizona	5	18	78.5002	0.2293	0.1402
Arkansas	0	.	.	.	.
California	49	19,738	16,320.1040	1.2094	1.1927
Colorado	6	885	809.9904	1.0926	1.0224
Connecticut	3	.	.	.	.
D.C	0	.	.	.	.
Delaware	1	.	.	.	.
Florida	18	5,952	6,929.1508	0.8590	0.8374
Georgia	11	2,104	5,582.1423	0.3769	0.3611
Guam	1	.	.	.	.
Hawaii	1	.	.	.	.
Idaho	0	.	.	.	.
Illinois	13	4,545	5,669.4962	0.8017	0.7786
Indiana	8	404	893.9254	0.4519	0.4095
Iowa	1	.	.	.	.
Kansas	5	66	899.3428	0.0734	0.0572
Kentucky	7	179	353.5654	0.5063	0.4361
Louisiana	11	2,020	3,529.5291	0.5723	0.5478
Maine	2	.	.	.	.
Maryland	5	4,930	1,720.4217	2.8656	2.7864
Massachusetts	5	865	2,510.6316	0.3445	0.3221
Michigan	8	2,372	3,147.0943	0.7537	0.7238
Minnesota	4	.	.	.	.
Mississippi	3	.	.	.	.
Missouri	10	1,920	4,466.4290	0.4299	0.4110
Montana	0	.	.	.	.
Nebraska	2	.	.	.	.
Nevada	13	10,975	13,250.4822	0.8283	0.8129
New Hampshire	0	.	.	.	.
New Jersey	13	11,657	8,037.6905	1.4503	1.4241
New Mexico	2	.	.	.	.
New York	47	60,698	37,966.0702	1.5987	1.5861
North Carolina	7	5,070	5,215.3776	0.9721	0.9457
North Dakota	0	.	.	.	.
Ohio	37	9,229	22,641.7352	0.4076	0.3994
Oklahoma	3	.	.	.	.
Oregon	2	.	.	.	.
Pennsylvania	48	10,730	27,239.6872	0.3939	0.3865
Puerto Rico	7	2,699	6,152.4196	0.4387	0.4224
Rhode Island	1	.	.	.	.

South Carolina	12	1,270	6,177.9196	0.2056	0.1945
South Dakota	4	.	.	.	.
Tennessee	11	6,236	7,745.3558	0.8051	0.7853
Texas	29	4,763	11,543.7787	0.4126	0.4010
Utah	0	.	.	.	.
Vermont	0	.	.	.	.
Virgin Islands	0	.	.	.	.
Virginia	12	4,369	9,242.0929	0.4727	0.4589
Washington	3	.	.	.	.
West Virginia	3	.	.	.	.
Wisconsin	3	.	.	.	.
Wyoming	0	.	.	.	.
<b>All US</b>	<b>447</b>	<b>182,980</b>	<b>225,035.9704</b>	<b>0.8131</b>	<b>0.8094</b>

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there are no predicted device days.
2. Percent of facilities with at least one predicted device day that had an SUR significantly greater than or less than the facility-specific percentile.
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted number of device days.
4. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty care areas).

Surveillance of Surgical Site Infections (SSIs) using device days data reported to NHSN during 2019 for acute care hospitals (ACHs), by device (VDs), wards<sup>4</sup>

for SUR	Facility-specific SURs						
	Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR		No. Facilities with SUR		10%
			Significantly > National SUR	N	Significantly < National SUR	N	
0.1711	10	1	10%	7	70%	.	
.	.	.	.	.	.	.	
0.3554	5	.	.	.	.	.	
.	.	.	.	.	.	.	
1.2264	47	21	45%	24	51%	0.0000	
1.1664	6	.	.	.	.	.	
.	.	.	.	.	.	.	
.	.	.	.	.	.	.	
0.8810	18	4	22%	13	72%	.	
0.3933	11	2	18%	8	73%	.	
.	.	.	.	.	.	.	
.	.	.	.	.	.	.	
0.8252	13	4	31%	7	54%	.	
0.4977	8	.	.	.	.	.	
.	.	.	.	.	.	.	
0.0928	5	.	.	.	.	.	
0.5847	7	.	.	.	.	.	
0.5977	11	1	9%	9	82%	.	
.	.	.	.	.	.	.	
2.9464	5	.	.	.	.	.	
0.3681	5	.	.	.	.	.	
0.7845	7	.	.	.	.	.	
.	.	.	.	.	.	.	
0.4494	10	2	20%	7	70%	.	
.	.	.	.	.	.	.	
.	.	.	.	.	.	.	
0.8439	13	5	38%	6	46%	.	
.	.	.	.	.	.	.	
1.4768	13	8	62%	5	38%	.	
.	.	.	.	.	.	.	
1.6115	47	27	57%	15	32%	0.2355	
0.9992	7	.	.	.	.	.	
.	.	.	.	.	.	.	
0.4160	36	7	19%	25	69%	0.0000	
.	.	.	.	.	.	.	
.	.	.	.	.	.	.	
0.4014	46	8	17%	36	78%	0.0000	
0.4555	7	.	.	.	.	.	
.	.	.	.	.	.	.	

0.2171	12	0	0%	10	83%	.
.	.	.	.	.	.	.
0.8253	11	5	45%	4	36%	.
0.4245	27	3	11%	20	74%	0.0000
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.4869	12	3	25%	9	75%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
<b>0.8168</b>	<b>438</b>	<b>131</b>	<b>30%</b>	<b>269</b>	<b>61%</b>	<b>0.0000</b>

are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusions less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had  $\geq 1.0$  predicted device days in 2019. If a facility's predicted number of device days was  $<1.0$ , a facility-specific SUR was neither calculated nor reported [including hematology/oncology, bone marrow transplant]. Data contained in this table are reported from a

service type and patient population:

<b>Median</b>				
<b>25%</b>	<b>50%</b>	<b>75%</b>		
<b>90%</b>				
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
0.0000	0.6812	2.7405	6.3046	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
0.3786	1.1441	2.9142	6.2417	.
.	.	.	.	.
0.0000	0.1080	0.6663	1.0986	.
.	.	.	.	.
0.0000	0.1832	0.5517	1.3560	.
.	.	.	.	.
.	.	.	.	.





**Table 5. Changes in national standardized utilization ratios (SURs) using HAI data reported from all NHSN acute care hospitals reporting during 2019 by HAI and patient population: Central line days (CLDs), urinary catheter days (UCDs), and ventilator days (VDs), 2019 compared to 2018**

	2018 SUR	2019 SUR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
<b>CLDs, all locations<sup>1</sup></b>	0.8996	0.8753	-3%	DECREASE	0.0000
ICU <sup>2</sup>	0.9410	0.9105	-3%	DECREASE	0.0000
Ward <sup>3</sup>	0.8799	0.8584	-2%	DECREASE	0.0000
NICU <sup>4</sup>	0.8839	0.8684	-2%	DECREASE	0.0000
<b>UCDs, all locations<sup>5</sup></b>	0.8441	0.7873	-7%	DECREASE	0.0000
	0.9169	0.8665	-5%	DECREASE	0.0000
	0.8020	0.7421	-7%	DECREASE	0.0000
<b>VDs, all<sup>5</sup></b>	0.9448	0.9187	-3%	DECREASE	0.0000
ICUs <sup>2</sup>	0.9530	0.9251	-3%	DECREASE	0.0000
Wards <sup>3</sup>	0.8091	0.8131	0%	NO CHANGE	0.1406

\* Statistically significant, p < 0.0500

1. Data from all ICUs, wards (and other non-critical care locations), and NICUs. This excludes LTAC locations (or facilities) and IRF locations (or facilities).
2. Data from all ICUs; excludes wards (and other non-critical care locations), NICUs, LTAC locations (or facilities), and IRF locations (or facilities).
3. Data from all wards (for this table wards also include step-down and specialty care areas [including hematology/oncology, bone marrow transplant]).
4. Data from all NICU locations, including Level II/III and Level III nurseries.
5. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs, LTAC locations (or facilities) and IRF locations (or facilities).

ilities).

nt]. This excludes LTAC locations [or facilities] and IRF locations [or facilities]).

ilities).

**Table 6. Changes in state-specific standardized utilization ratios (SURs) between 2018 and 2019 from NHSN Acute Care Hospitals**

**6a. Central line days (CLDs), all locations<sup>1</sup>**

State <sup>2</sup>	All Acute Care Hospitals Reporting to NHSN				
	2018 SUR	2019 SUR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
Alabama	0.8310	0.8055	-3%	DECREASE	0.0000
Alaska	1.0913	1.0261	-6%	DECREASE	0.0000
Arizona	0.9594	0.9444	-2%	DECREASE	0.0000
Arkansas	0.9207	0.8888	-3%	DECREASE	0.0000
California	0.9585	0.9367	-2%	DECREASE	0.0000
Colorado	0.9685	0.9553	-1%	DECREASE	0.0000
Connecticut	0.8038	0.8360	4%	INCREASE	0.0000
D.C.	0.8658	0.8344	-4%	DECREASE	0.0000
Delaware	0.8441	0.8078	-4%	DECREASE	0.0000
Florida	0.8673	0.8267	-5%	DECREASE	0.0000
Georgia	0.8994	0.8637	-4%	DECREASE	0.0000
Guam	.	.	.	.	.
Hawaii	1.2032	1.1204	-7%	DECREASE	0.0000
Idaho	0.9159	0.9255	1%	INCREASE	0.0455
Illinois	0.8528	0.8248	-3%	DECREASE	0.0000
Indiana	1.0073	0.9657	-4%	DECREASE	0.0000
Iowa	0.9827	0.9437	-4%	DECREASE	0.0000
Kansas	0.9381	0.9477	1%	INCREASE	0.0008
Kentucky	0.8942	0.8832	-1%	DECREASE	0.0000
Louisiana	0.9612	0.9260	-4%	DECREASE	0.0000
Maine	0.8382	0.8656	3%	INCREASE	0.0000
Maryland	0.9133	0.8596	-6%	DECREASE	0.0000
Massachusetts	0.8707	0.8719	0%	NO CHANGE	0.4601
Michigan	0.7689	0.7455	-3%	DECREASE	0.0000
Minnesota	0.9958	1.0474	5%	INCREASE	0.0000
Mississippi	0.8585	0.8356	-3%	DECREASE	0.0000
Missouri	0.9524	0.9400	-1%	DECREASE	0.0000
Montana	0.7378	0.6711	-9%	DECREASE	0.0000
Nebraska	0.9965	0.9716	-2%	DECREASE	0.0000
Nevada	1.0070	0.9114	-9%	DECREASE	0.0000
New Hampshire	0.9609	0.8770	-9%	DECREASE	0.0000
New Jersey	0.7884	0.7856	0%	DECREASE	0.0481
New Mexico	0.8810	0.8985	2%	INCREASE	0.0000
New York	0.7542	0.7404	-2%	DECREASE	0.0000
North Carolina	0.9103	0.8975	-1%	DECREASE	0.0000
North Dakota	1.2961	1.0248	-21%	DECREASE	0.0000
Ohio	0.8764	0.8836	1%	INCREASE	0.0000
Oklahoma	1.2204	1.1788	-3%	DECREASE	0.0000
Oregon	0.8491	0.8225	-3%	DECREASE	0.0000
Pennsylvania	0.8431	0.8253	-2%	DECREASE	0.0000
Puerto Rico	0.6975	0.7338	5%	INCREASE	0.0000
Rhode Island	0.8721	0.8646	-1%	NO CHANGE	0.0850
South Carolina	0.7884	0.7598	-4%	DECREASE	0.0000
South Dakota	0.9528	0.9350	-2%	DECREASE	0.0011
Tennessee	0.9490	0.9066	-4%	DECREASE	0.0000
Texas	0.9558	0.9164	-4%	DECREASE	0.0000
Utah	0.8991	0.8435	-6%	DECREASE	0.0000
Vermont	0.8052	0.7816	-3%	DECREASE	0.0007
Virgin Islands	.	.	.	.	.
Virginia	0.8718	0.8414	-3%	DECREASE	0.0000
Washington	1.0827	1.0565	-2%	DECREASE	0.0000
West Virginia	1.0833	1.0070	-7%	DECREASE	0.0000
Wisconsin	1.0113	0.9895	-2%	DECREASE	0.0000
Wyoming	0.8324	0.8712	5%	INCREASE	0.0001
<b>All US</b>	<b>0.8996</b>	<b>0.8753</b>	<b>-3%</b>	<b>DECREASE</b>	<b>0.0000</b>

\* Statistically significant, p < 0.0500

1. Data from all ICUs, wards (and other non-critical care locations), and NICUs.

2. States without SUR either in 2018 and/or 2019 and therefore subsequent data not calculated

**Table 6. Changes in state-specific standardized utilization ratios (SURs) between 2018 and 2019 from NHSN Acute Care Hospitals**  
**6b. Urinary catheter days (UCDs), all locations<sup>1</sup>**

	All Acute Care Hospitals Reporting to NHSN				
	2018 SUR	2019 SUR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
Alabama	0.9005	0.8582	-5%	DECREASE	0.0000
Alaska	0.7683	0.7580	1%	NO CHANGE	0.0691
Arizona	0.8590	0.8175	-5%	DECREASE	0.0000
Arkansas	0.9712	0.9238	-5%	DECREASE	0.0000
California	0.9076	0.8530	-6%	DECREASE	0.0000
Colorado	0.9139	0.8274	-9%	DECREASE	0.0000
Connecticut	0.7793	0.7216	-7%	DECREASE	0.0000
D.C	0.7646	0.6901	-10%	DECREASE	0.0000
Delaware	0.5488	0.5082	-7%	DECREASE	0.0000
Florida	0.7580	0.6803	-10%	DECREASE	0.0000
Georgia	0.7988	0.7368	-8%	DECREASE	0.0000
Guam	.	.	.	.	.
Hawaii	0.8453	0.7962	-6%	DECREASE	0.0000
Idaho	1.0345	0.9707	-6%	DECREASE	0.0000
Illinois	0.7851	0.7378	-6%	DECREASE	0.0000
Indiana	0.8480	0.8010	-6%	DECREASE	0.0000
Iowa	0.9395	0.9552	2%	INCREASE	0.0000
Kansas	0.8175	0.7584	-7%	DECREASE	0.0000
Kentucky	0.8365	0.8106	-3%	DECREASE	0.0000
Louisiana	1.0579	0.9711	-8%	DECREASE	0.0000
Maine	0.7009	0.6737	-4%	DECREASE	0.0000
Maryland	0.7660	0.7305	-5%	DECREASE	0.0000
Massachusetts	0.8539	0.7787	-9%	DECREASE	0.0000
Michigan	0.8273	0.7746	-6%	DECREASE	0.0000
Minnesota	0.8888	0.8532	-4%	DECREASE	0.0000
Mississippi	0.9851	1.0193	3%	INCREASE	0.0000
Missouri	0.8817	0.8100	-8%	DECREASE	0.0000
Montana	0.8137	0.8303	2%	INCREASE	0.0008
Nebraska	0.7874	0.6939	-12%	DECREASE	0.0000
Nevada	0.8193	0.7435	-9%	DECREASE	0.0000
New Hampshire	0.9014	0.8140	-10%	DECREASE	0.0000
New Jersey	0.7103	0.6559	-8%	DECREASE	0.0000
New Mexico	0.9271	0.8930	-4%	DECREASE	0.0000
New York	0.7791	0.7389	-5%	DECREASE	0.0000
North Carolina	0.8564	0.7911	-8%	DECREASE	0.0000
North Dakota	1.0660	0.9629	-10%	DECREASE	0.0000
Ohio	0.9121	0.8478	-7%	DECREASE	0.0000
Oklahoma	1.0194	0.9619	-6%	DECREASE	0.0000
Oregon	0.8129	0.7711	-5%	DECREASE	0.0000
Pennsylvania	0.8205	0.7842	-4%	DECREASE	0.0000
Puerto Rico	1.0653	1.0567	1%	NO CHANGE	0.0558
Rhode Island	0.7188	0.7250	1%	NO CHANGE	0.1321
South Carolina	0.7774	0.7057	-9%	DECREASE	0.0000
South Dakota	0.9457	0.9156	-3%	DECREASE	0.0000
Tennessee	0.8587	0.7884	-8%	DECREASE	0.0000
Texas	0.8547	0.7734	-10%	DECREASE	0.0000
Utah	0.8797	0.8000	-9%	DECREASE	0.0000
Vermont	1.0235	0.9487	-7%	DECREASE	0.0000
Virgin Islands	.	.	.	.	.
Virginia	0.7733	0.6995	-10%	DECREASE	0.0000
Washington	0.8667	0.8146	-6%	DECREASE	0.0000
West Virginia	1.0282	0.9645	-6%	DECREASE	0.0000
Wisconsin	0.8699	0.8195	-6%	DECREASE	0.0000
Wyoming	0.9640	0.9957	3%	INCREASE	0.0005
<b>All US</b>	<b>0.8441</b>	<b>0.7873</b>	<b>-7%</b>	<b>DECREASE</b>	<b>0.0000</b>

\* Statistically significant, p < 0.0500

1. Data from all ICUs, wards (and other non-critical care locations).
2. States without SUR either in 2018 and/or 2019 and therefore subsequent data not calculated

**Table 6. Changes in state-specific standardized utilization ratios (SURs) between 2018 and 2019 from NHSN Acute Care Hospitals**  
**6c. Ventilator days (VDs), all locations<sup>1</sup>**

	All Acute Care Hospitals Reporting to NHSN				
	2018 SUR	2019 SUR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
Alabama	0.9598	0.9413	-2%	DECREASE	0.0003
Alaska	.	.	.	.	.
Arizona	0.9357	0.9702	4%	INCREASE	0.0000
Arkansas	0.8109	0.8357	3%	INCREASE	0.0007
California	1.1215	1.1061	-1%	DECREASE	0.0000
Colorado	0.8219	0.8409	2%	INCREASE	0.0002
Connecticut	1.2045	1.1844	-2%	DECREASE	0.0342
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	0.8805	0.8444	-4%	DECREASE	0.0000
Georgia	1.0466	0.9273	-11%	DECREASE	0.0000
Guam	.	.	.	.	.
Hawaii	1.4414	1.3641	-5%	DECREASE	0.0013
Idaho	1.0402	0.8857	-15%	DECREASE	0.0000
Illinois	0.8259	0.7544	-9%	DECREASE	0.0000
Indiana	0.8968	0.8488	-5%	DECREASE	0.0000
Iowa	0.8119	0.8337	3%	INCREASE	0.0340
Kansas	0.5907	0.5811	2%	NO CHANGE	0.0758
Kentucky	0.7866	0.7984	2%	INCREASE	0.0152
Louisiana	0.8353	0.8136	-3%	DECREASE	0.0000
Maine	0.8247	0.7667	-7%	DECREASE	0.0000
Maryland	1.1303	1.1782	4%	INCREASE	0.0000
Massachusetts	0.8965	1.0032	12%	INCREASE	0.0000
Michigan	1.0188	1.0078	-1%	DECREASE	0.0037
Minnesota	1.1900	1.1240	-6%	DECREASE	0.0000
Mississippi	0.8448	0.9177	9%	INCREASE	0.0000
Missouri	0.9465	0.9206	-3%	DECREASE	0.0000
Montana	1.1493	1.0830	-6%	DECREASE	0.0005
Nebraska	0.8785	0.7707	-12%	DECREASE	0.0000
Nevada	0.9878	0.9084	-8%	DECREASE	0.0000
New Hampshire	1.2681	1.1308	-11%	DECREASE	0.0000
New Jersey	1.0703	1.0463	-2%	DECREASE	0.0000
New Mexico	1.0401	0.9992	-4%	DECREASE	0.0012
New York	1.1134	1.1178	0%	NO CHANGE	0.1062
North Carolina	0.9381	0.9267	-1%	DECREASE	0.0203
North Dakota	.	.	.	.	.
Ohio	0.8516	0.8551	0%	NO CHANGE	0.2261
Oklahoma	1.0167	0.9063	-11%	DECREASE	0.0000
Oregon	0.7799	0.7220	-7%	DECREASE	0.0000
Pennsylvania	0.9126	0.8828	-3%	DECREASE	0.0000
Puerto Rico	0.8298	0.9479	14%	INCREASE	0.0000
Rhode Island	0.7984	0.9144	15%	INCREASE	0.0000
South Carolina	0.9184	0.8489	-8%	DECREASE	0.0000
South Dakota	0.6541	0.7440	14%	INCREASE	0.0000
Tennessee	0.8093	0.7838	-3%	DECREASE	0.0000
Texas	0.8937	0.8574	-4%	DECREASE	0.0000
Utah	0.7714	0.7043	-9%	DECREASE	0.0000
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	0.8349	0.8040	-4%	DECREASE	0.0000
Washington	0.9369	0.8027	-14%	DECREASE	0.0000
West Virginia	0.7647	0.7780	2%	NO CHANGE	0.0878
Wisconsin	0.8254	0.8155	1%	NO CHANGE	0.0636
Wyoming	1.2104	0.9953	-18%	DECREASE	0.0000
<b>All US</b>	<b>0.9448</b>	<b>0.9187</b>	<b>-3%</b>	<b>DECREASE</b>	<b>0.0000</b>

\* Statistically significant, p < 0.0500

1. Data from all ICUs, wards (and other non-critical care locations).

2. States without SUR either in 2018 and/or 2019 and therefore subsequent data not calculated

Appendix A. Factors used in NHSN risk adjusted standard utilization ratios (SUR) calculation of the device utilization in Acute Care Hospitals (ACHs).

Device Type	Validated Parameters for Risk Model
CLDs (non-NICU)	Intercept Location type Facility bed size* Facility type* Medical school type*
CLDs (NICU)	Intercept Birthweight type size* type* school type*  Location Facility bed Facility Medical
UCDs	Intercept Location type Facility bed size* Facility type* Medical school type*
VDs	Intercept type size* type* school type*  Location Facility bed Facility Medical

\* Facility bed size, facility type and medical school type are taken from the Annual Hospital Survey.

Additional Resources

**Technical Appendix:** <http://www.cdc.gov/hai/pdfs/progress-report/tech-appendix.pdf>

*Explains the methodology used to procedure the HAI Progress Report.*

**HAI Progress Report Home Page:** <http://www.cdc.gov/hai/progress-report/index.html>

*The complete HAI Progress Report, including state-specific fact sheets and the Executive Summary, can be found*

The new SUR Guide:<https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sur-guide-508.pdf>



*at the above website.*