2019 Nat
S

Introduction: Welcome to the 2019 National and State HAI Data Report using the 2015 baseline
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

tional and State HAI Progress Report tandardized Utilization Ratios

Critical Access Hospitals

e and risk adjustment calculations. Standardized utilization ratios (SURs) are used to describe device util
ice days.
IHSN).

CAH	
National	**State**
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izations

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 facili
standardized to compare with a reference baseline population as well as over time. Accordingly, CDC ha

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

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 + x1 + X2 + X3 + ………
(Risk factors are provided in appendices for individual matrix of measure and healthcare setting)

2: Then, compute the probability of device use
p_hat = [e^logit(p_hat)] / [1+ e^logit(p_hat)]

3: Calculate predicted device days as follows:
Predicted Device Days = p-hat * In-patient days

4: Finally, derive SUR value at the location by dividing number of observed device days with number of p
SUR = Observed Device Days / Predicted Device Days

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

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

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

ties. To monitor the progress of healthcare acquired infections (HAI) prevention efforts, device utilization in any

is developed statistical models to make SUR values available for different measures (e.g., central line days, urir

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

days).

ession models that correct over dispersion by the Williams' method (Reference: Williams, D. A. (1982),

all the SUR models are at the location level.

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predicted device days;

1.0.

cility-level).

number of predicted device days.

healthcare setting/location needs to be
ary catheter days) at various healthcare settings.

als (CAH),

2019 Annual National and State HAI Progress Report
<u>**Critical Access Hospitals:**</u> **Full series of tables for all national and state data**

ss hospitals (CAHs)

e-508.pdf

Table 1. National standardiz

Population	No. of Facilities	No. of Device days			95% CI
	Reporting[1]	Observed	Predicted	SUR	Lower
Central line days, all[4]	800	175,431	150,325.0187	1.1670	1.1616
ICUs[5]	209	14,413	16,832.1343	0.8563	0.8424
Wards[6]	785	161,018	133,492.8844	1.2062	1.2003
Urinary catheter days, all[4]	904	295,231	353,698.3742	0.8347	0.8317
	213	33,414	45,877.1855	0.7283	0.7206
Wards[6]	888	261,817	307,821.1887	0.8505	0.8473
Ventilator days, all[4]	187	3,942	3,716.8243	1.0606	1.0279
	129	3,078	3,461.4946	0.8892	0.8582
	82	864	255.3298	3.3839	3.1637

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when there are l
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 ≥1.0 predicted number of device d
4. Data from all ICUs, wards (and other non-critical care locations). Data contained in this table are reported fr
5. Data from all ICUs; excludes wards (and other non-critical care locations). Data contained in this table are re
6. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty care areas [inc

for SUR	Facility-specific SURs					
Upper	No. Facilities with ≥1	No. Facilities with SUR		No. Facilities with SUR		
	Predicted Device Days	Significantly > National SUR		Significantly < National SUR		5%
		N	%[2]	N		
1.1725	799	238	30%	418	52%	0.0000
0.8703	206	72	35%	69	33%	0.0000
1.2121	784	229	29%	428	55%	0.0000
0.8377	904	304	34%	407	45%	0.2195
0.7362	212	94	44%	58	27%	0.1846
0.8538	888	289	33%	407	46%	0.2253
1.0941	168	32	19%	78	46%	0.0000
0.9210	126	30	24%	56	44%	0.0000
3.6153	64	5	8%	53	83%	0.0000

less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclusion
than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0 predic
ays in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was neither ca
om acute care hospitals; as such, data from ACHs, IRFs and LTACHs are excluded.
eported from critical access hospitals; as such, data from ACHs, IRFs and LTACHs are excluded.
luding hematology/oncology, bone marrow transplant]). Data contained in this table are reported from critic

Percentile Distribution of Facility-specifi

								Median	
10%	15%	20%	25%	30%	35%	40%	45%	50%	55%
0.0994	0.2558	0.3657	0.4792	0.5656	0.6583	0.7572	0.8378	0.9430	1.0347
0.1058	0.2406	0.3003	0.3909	0.4923	0.5761	0.6611	0.7359	0.7980	0.9049
0.0994	0.2580	0.3715	0.4803	0.5720	0.6614	0.7612	0.8418	0.9509	1.0331
0.3184	0.4051	0.4666	0.5214	0.5914	0.6466	0.6789	0.7240	0.7797	0.8210
0.2530	0.3675	0.4666	0.5367	0.6104	0.6708	0.7266	0.7916	0.8341	0.8888
0.3318	0.4094	0.4683	0.5225	0.5998	0.6511	0.6916	0.7289	0.7842	0.8255
0.0000	0.0000	0.0000	0.0000	0.0503	0.1205	0.2360	0.3375	0.4363	0.5887
0.0000	0.0000	0.0761	0.1205	0.1869	0.3055	0.3758	0.4385	0.5775	0.6722
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

cal access hospitals; as such, data from ACHs, IRFs and LTACHs are excluded.

c SURs[3]

60%	65%	70%	75%	80%	85%	90%	95%
1.1122	1.2241	1.3286	1.4725	1.6794	2.0049	2.4054	3.1292
1.0258	1.1784	1.2477	1.3600	1.4656	1.8100	1.9786	2.2228
1.1121	1.2530	1.3671	1.5029	1.7478	2.0551	2.4319	3.1467
0.8784	0.9400	1.0261	1.1008	1.1764	1.2802	1.4361	1.6501
0.9913	1.0568	1.1279	1.2538	1.3363	1.4280	1.5267	1.8456
0.8898	0.9414	1.0254	1.1032	1.1886	1.2865	1.4532	1.6609
0.6733	0.8127	0.9900	1.2306	1.5664	1.8150	3.2267	4.1457
0.8127	0.9012	1.1340	1.3200	1.5664	1.8150	2.8458	4.0888
0.0000	0.0000	0.2360	0.4859	0.7159	1.3192	3.4759	10.8947

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

State	No. of Facilities Reporting[1]	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	4	.	.	.	.
Alaska	3	.	.	.	.
Arizona	4	.	.	.	.
Arkansas	14	2,542	2,324.4419	1.0936	1.0517
California	33	8,261	7,160.9668	1.1536	1.1289
Colorado	17	2,263	2,438.3658	0.9281	0.8904
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	9	998	1,799.1607	0.5547	0.5211
Georgia	18	6,631	5,192.2913	1.2771	1.2467
Guam	0	.	.	.	.
Hawaii	2	.	.	.	.
Idaho	13	2,016	1,931.2108	1.0439	0.9991
Illinois	39	9,244	6,728.0801	1.3739	1.3462
Indiana	35	8,296	7,104.2130	1.1678	1.1428
Iowa	49	8,092	6,568.1925	1.2320	1.2054
Kansas	55	10,056	7,568.6759	1.3286	1.3029
Kentucky	18	6,651	4,049.7094	1.6423	1.6032
Louisiana	4	.	.	.	.
Maine	16	5,492	4,691.8701	1.1705	1.1399
Maryland	0	.	.	.	.
Massachusetts	3	.	.	.	.
Michigan	28	3,650	4,483.1440	0.8142	0.7880
Minnesota	42	8,383	5,676.1318	1.4769	1.4455
Mississippi	11	2,137	2,207.9348	0.9679	0.9275
Missouri	22	5,304	4,406.7021	1.2036	1.1716
Montana	9	1,955	2,221.9786	0.8798	0.8415
Nebraska	17	2,802	1,869.9216	1.4985	1.4437
Nevada	2	.	.	.	.
New Hampshire	13	3,389	3,661.3350	0.9256	0.8949
New Jersey	0	.	.	.	.
New Mexico	9	1,778	1,729.7448	1.0279	0.9809
New York	6	999	1,397.6556	0.7148	0.6715
North Carolina	12	2,978	3,399.8650	0.8759	0.8449
North Dakota	11	1,655	1,415.7799	1.1690	1.1137
Ohio	23	5,274	5,121.7108	1.0297	1.0022
Oklahoma	12	1,897	1,534.4790	1.2363	1.1816
Oregon	23	6,785	5,361.5696	1.2655	1.2356
Pennsylvania	15	4,886	4,228.3684	1.1555	1.1235
Puerto Rico	0	.	.	.	.

Rhode Island	0	.	.	.	.
South Carolina	4	.	.	.	.
South Dakota	20	1,650	1,754.7061	0.9403	0.8958
Tennessee	8	1,028	759.6531	1.3532	1.2724
Texas	33	6,925	5,060.4723	1.3684	1.3365
Utah	8	620	948.1584	0.6539	0.6039
Vermont	8	2,442	3,528.4380	0.6921	0.6651
Virgin Islands	0	.	.	.	.
Virginia	5	1,993	1,673.8094	1.1907	1.1393
Washington	38	10,146	8,470.9872	1.1977	1.1746
West Virginia	17	3,594	3,811.1230	0.9430	0.9126
Wisconsin	56	14,599	10,340.3355	1.4118	1.3891
Wyoming	12	1,242	1,829.9474	0.6787	0.6417
All US	**800**	**175,431**	**150,325.0187**	**1.1670**	**1.1616**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all ICUs and wards (and other non-critical care locations). Data contained in this table are

for SUR	Facility-specific SURs					Percenti
Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR		No. Facilities with SUR Significantly < National SUR		10%
		N	%[2]	N		
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.1367	14	4	29%	5	36%	.
1.1787	33	8	24%	22	67%	0.0000
0.9669	17	2	12%	10	59%	.
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0.5899	9	.	.	.	.	.
1.3081	18	5	28%	9	50%	.
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.	.	.	.	.	.	.
1.0903	13	3	23%	8	62%	.
1.4022	39	20	51%	12	31%	0.0000
1.1931	35	6	17%	17	49%	0.5142
1.2590	49	11	22%	19	39%	0.2206
1.3548	55	22	40%	25	45%	0.0000
1.6822	18	10	56%	7	39%	.
.	.	.	.	.	.	.
1.2018	16	6	38%	8	50%	.
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.	.	.	.	.	.	.
0.8409	28	5	18%	18	64%	0.1320
1.5087	42	14	33%	19	45%	0.0982
1.0096	11	3	27%	8	73%	.
1.2364	22	9	41%	6	27%	0.5611
0.9195	9	.	.	.	.	.
1.5547	17	10	59%	4	24%	.
.	.	.	.	.	.	.
0.9572	13	3	23%	10	77%	.
.	.	.	.	.	.	.
1.0765	9	.	.	.	.	.
0.7601	6	.	.	.	.	.
0.9078	12	2	17%	8	67%	.
1.2263	11	3	27%	5	45%	.
1.0578	23	3	13%	16	70%	0.4280
1.2928	12	3	25%	6	50%	.
1.2959	23	9	39%	13	57%	0.2956
1.1883	15	5	33%	8	53%	.
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.	.	.	.	.	.	.
0.9865	20	5	25%	12	60%	0.0000
1.4379	8	.	.	.	.	.
1.4010	32	9	28%	20	63%	0.0106
0.7069	8	.	.	.	.	.
0.7199	8	.	.	.	.	.
.	.	.	.	.	.	.
1.2439	5	.	.	.	.	.
1.2212	38	12	32%	20	53%	0.0000
0.9742	17	3	18%	10	59%	.
1.4349	56	21	38%	25	45%	0.1828
0.7172	12	0	0%	8	67%	.
1.1725	**799**	**238**	**30%**	**418**	**52%**	**0.0994**

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to ex
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was nei
reported from critical access hospitals.

y device type and patient population:

	Median		
25%	50%	75%	90%
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0.2269	0.7958	1.4844	1.6937
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0.8758	1.3518	2.0762	2.6502
0.6840	1.0238	1.2530	1.5651
0.6897	1.0676	1.3671	2.2737
0.3978	1.1067	1.8913	2.9553
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0.4885	0.7499	1.0947	1.9878
0.4792	0.9616	1.9126	3.3223
.	.	.	.
0.8891	1.2526	1.4328	1.6165
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0.5417	0.8187	1.0717	1.2968
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0.4068	0.8996	1.7866	2.4267
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0.0954	0.6365	1.4092	2.8390
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0.1686	0.6882	1.5975	3.3083
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0.3118	0.8223	1.4697	2.6128
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0.4451	1.1058	2.0379	2.6252
.	.	.	.
0.4792	**0.9430**	**1.4725**	**2.4054**

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

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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	1	.	.	.	.
Alaska	1	.	.	.	.
Arizona	2	.	.	.	.
Arkansas	2	.	.	.	.
California	16	2,021	1,341.0563	1.5070	1.4424
Colorado	4	.	.	.	.
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	1	.	.	.	.
Georgia	3	.	.	.	.
Guam	0	.	.	.	.
Hawaii	1	.	.	.	.
Idaho	3	.	.	.	.
Illinois	14	456	1,076.4140	0.4236	0.3861
Indiana	16	1,029	964.7954	1.0665	1.0029
Iowa	3	.	.	.	.
Kansas	5	523	685.6906	0.7627	0.6994
Kentucky	4	.	.	.	.
Louisiana	1	.	.	.	.
Maine	2	.	.	.	.
Maryland	0	.	.	.	.
Massachusetts	2	.	.	.	.
Michigan	7	403	491.6118	0.8198	0.7426
Minnesota	6	224	179.4995	1.2479	1.0924
Mississippi	1	.	.	.	.
Missouri	7	364	419.0655	0.8686	0.7827
Montana	3	.	.	.	.
Nebraska	3	.	.	.	.
Nevada	1	.	.	.	.
New Hampshire	6	298	353.2840	0.8435	0.7518
New Jersey	0	.	.	.	.
New Mexico	5	466	374.3947	1.2447	1.1355
New York	2	.	.	.	.
North Carolina	4	.	.	.	.
North Dakota	3	.	.	.	.
Ohio	10	538	695.7211	0.7733	0.7100
Oklahoma	1	.	.	.	.
Oregon	12	1,135	945.4342	1.2005	1.1322
Pennsylvania	6	483	466.7688	1.0348	0.9455
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.

South Carolina	2	.	.	.	.
South Dakota	1	.	.	.	.
Tennessee	1	.	.	.	.
Texas	8	106	492.3116	0.2153	0.1772
Utah	0	.	.	.	.
Vermont	4	.	.	.	.
Virgin Islands	0	.	.	.	.
Virginia	3	.	.	.	.
Washington	9	1,197	887.9337	1.3481	1.2733
West Virginia	8	488	555.0606	0.8792	0.8037
Wisconsin	13	462	457.7880	1.0092	0.9203
Wyoming	2	.	.	.	.
All US	**209**	**14,413**	**16,832.1343**	**0.8563**	**0.8424**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all ICUs; excludes wards (and other non-critical care locations). Data contained in this tabl

for SUR		Facility-specific SURs				
Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR N		No. Facilities with SUR Significantly < National SUR N		10%
1.5738	16	11	69%	1	6%	
0.4639	14	4	29%	4	29%	
1.1332	16	6	38%	4	25%	
0.8302	5					
0.9028	7					
1.4196	6					
0.9614	7					
0.9435	6					
1.3616	5					
0.8408	10	4	40%	5	50%	
1.2719	12	3	25%	3	25%	
1.1302	6					

0.2593	7					
1.4261	9					
0.9598	8					
1.1045	12	4	33%	3	25%	
0.8703	**206**	**72**	**35%**	**69**	**33%**	**0.1058**

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to e×
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.(
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was ne
e are reported from critical access hospitals.

y device type and patient population:

	Median			
25%	**50%**	**75%**	**90%**	
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.          .          .          .
.          .          .          .
      0.3909      0.7980      1.3600      1.9786
```

xclusion and inclusion criteria. Refer to the technical appendix for details
0 predicted device days in 2019.
ither 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 | | SUR | 95% CI |
		Observed	Predicted		Lower
Alabama	4	.	.	.	.
Alaska	3	.	.	.	.
Arizona	4	.	.	.	.
Arkansas	14	2,464	2,198.4773	1.1208	1.0772
California	32	6,240	5,819.9105	1.0722	1.0458
Colorado	16	2,116	2,235.1896	0.9467	0.9070
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	9	984	1,735.1287	0.5671	0.5325
Georgia	17	5,741	4,378.5367	1.3112	1.2775
Guam	0	.	.	.	.
Hawaii	2	.	.	.	.
Idaho	12	1,737	1,718.9371	1.0105	0.9638
Illinois	36	8,788	5,651.6661	1.5549	1.5227
Indiana	35	7,267	6,139.4176	1.1837	1.1566
Iowa	49	8,071	6,551.7471	1.2319	1.2052
Kansas	54	9,533	6,882.9854	1.3850	1.3574
Kentucky	18	6,478	3,751.7099	1.7267	1.6850
Louisiana	4	.	.	.	.
Maine	16	5,392	4,605.0945	1.1709	1.1400
Maryland	0	.	.	.	.
Massachusetts	2	.	.	.	.
Michigan	28	3,247	3,991.5323	0.8135	0.7859
Minnesota	42	8,159	5,496.6322	1.4844	1.4524
Mississippi	10	2,137	2,152.5338	0.9928	0.9514
Missouri	22	4,940	3,987.6366	1.2388	1.2047
Montana	9	1,864	2,045.1616	0.9114	0.8708
Nebraska	16	2,487	1,431.0283	1.7379	1.6706
Nevada	2	.	.	.	.
New Hampshire	13	3,091	3,308.0510	0.9344	0.9019
New Jersey	0	.	.	.	.
New Mexico	9	1,312	1,355.3501	0.9680	0.9167
New York	6	946	1,288.7196	0.7341	0.6884
North Carolina	12	2,495	2,680.9338	0.9306	0.8947
North Dakota	11	1,568	1,280.0181	1.2250	1.1655
Ohio	23	4,736	4,425.9897	1.0700	1.0399
Oklahoma	12	1,897	1,524.0986	1.2447	1.1896
Oregon	23	5,650	4,416.1354	1.2794	1.2464
Pennsylvania	15	4,403	3,761.5996	1.1705	1.1363
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.
South Carolina	4	.	.	.	.

South Dakota	20	1,650	1,754.3562	0.9405	0.8959
Tennessee	8	1,021	747.1733	1.3665	1.2846
Texas	30	6,819	4,568.1607	1.4927	1.4576
Utah	8	620	948.1584	0.6539	0.6039
Vermont	7	2,027	2,168.1371	0.9349	0.8948
Virgin Islands	0	.	.	.	.
Virginia	5	1,853	1,439.0254	1.2877	1.2301
Washington	38	8,949	7,583.0535	1.1801	1.1558
West Virginia	17	3,106	3,256.0624	0.9539	0.9208
Wisconsin	56	14,137	9,882.5476	1.4305	1.4071
Wyoming	12	1,181	1,698.9675	0.6951	0.6563
All US	**785**	**161,018**	**133,492.8844**	**1.2062**	**1.2003**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty care are

SURs using device days data reported to NHSN during 2019 for critical access hospitals (CAHs), b (CLDs), wards[4]

for SUR Upper	No. Facilities with ≥1 Predicted Device Days	Facility-specific SURs				10%
		No. Facilities with SUR Significantly > National SUR N		No. Facilities with SUR Significantly < National SUR N		
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.1657	14	4	29%	6	43%	.
1.0990	32	7	22%	22	69%	0.0000
0.9877	16	2	13%	9	56%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.6034	9	.	.	.	.	.
1.3454	17	6	35%	9	53%	.
.	.	.	.	.	.	.
1.0589	12	2	17%	8	67%	.
1.5877	36	19	53%	12	33%	0.0068
1.2111	35	6	17%	17	49%	0.5142
1.2590	49	10	20%	21	43%	0.2206
1.4130	54	22	41%	25	46%	0.0000
1.7691	18	10	56%	6	33%	.
1.2024	16	5	31%	9	56%	.
.	.	.	.	.	.	.
0.8418	28	5	18%	19	68%	0.1320
1.5168	42	14	33%	21	50%	0.0434
1.0356	10	2	20%	7	70%	.
1.2737	22	7	32%	7	32%	0.5611
0.9535	9	.	.	.	.	.
1.8073	16	10	63%	4	25%	.
0.9678	13	3	23%	10	77%	.
1.0215	9	.	.	.	.	.
0.7820	6	.	.	.	.	.
0.9677	12	2	17%	10	83%	.
1.2868	11	3	27%	5	45%	.
1.1008	23	3	13%	17	74%	0.4509
1.3016	12	3	25%	6	50%	.
1.3131	23	8	35%	12	52%	0.2775
1.2055	15	5	33%	10	67%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.

0.9867	20	5	25%	12	60%	0.0000
1.4523	8	.	.	.	.	.
1.5285	30	10	33%	19	63%	0.0000
0.7069	8	.	.	.	.	.
0.9763	6	.	.	.	.	.
.	.	.	.	.	.	.
1.3473	5	.	.	.	.	.
1.2048	38	11	29%	21	55%	0.0000
0.9879	17	3	18%	10	59%	.
1.4542	56	21	38%	26	46%	0.1828
0.7356	12	0	0%	11	92%	.
1.2121	**784**	**229**	**29%**	**428**	**55%**	**0.0994**

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to ex
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was ne
as [including hematology/oncology, bone marrow transplant]). Data contained in this table are reported fro

	Median		
25%	50%	75%	90%
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.2037	0.6661	1.4296	1.7793
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.9844	1.3664	2.0921	2.7179
0.7208	1.0238	1.3327	1.5651
0.6897	1.0676	1.3671	2.2737
0.3978	1.0707	1.8913	2.9553
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.4885	0.7106	1.0783	1.9878
0.4792	0.9616	1.9126	3.3223
.	.	.	.
0.8897	1.2844	1.4589	1.6888
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.5417	0.8418	1.0220	2.0497
.	.	.	.
0.4068	0.8996	1.9971	2.4267
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

0.0954	0.6365	1.4092	2.8564
.	.	.	.
0.2091	0.6882	1.7251	3.3231
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.3118	0.8129	1.4898	2.6128
.	.	.	.
0.4376	1.0880	2.0478	2.6252
.	.	.	.
0.4803	**0.9509**	**1.5029**	**2.4319**

xclusion and inclusion criteria. Refer to the technical appendix for details
0 predicted device days in 2019.
ither calculated nor included in the distribution of facility-specific SURs.
ɔm critical access hospitals.

| State | No. of Facilities | No. of Device days | | SUR | 95% CI |
		Observed	Predicted		Lower
Alabama	5	1,134	1,902.8887	0.5959	0.5620
Alaska	3	.	.	.	.
Arizona	4	.	.	.	.
Arkansas	14	5,679	5,195.3922	1.0931	1.0649
California	31	14,561	16,420.3371	0.8868	0.8725
Colorado	24	5,018	7,237.6416	0.6933	0.6743
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	9	3,233	3,761.6973	0.8595	0.8302
Georgia	18	6,614	11,334.3908	0.5835	0.5696
Guam	0	.	.	.	.
Hawaii	2	.	.	.	.
Idaho	14	4,483	4,313.8863	1.0392	1.0091
Illinois	40	11,336	14,864.1414	0.7626	0.7487
Indiana	35	13,550	15,822.5657	0.8564	0.8421
Iowa	63	14,087	17,773.4889	0.7926	0.7796
Kansas	61	14,888	17,375.5708	0.8568	0.8432
Kentucky	18	8,971	8,727.1872	1.0279	1.0068
Louisiana	4	.	.	.	.
Maine	16	7,418	10,045.7526	0.7384	0.7217
Maryland	0	.	.	.	.
Massachusetts	3	.	.	.	.
Michigan	30	7,222	9,835.2267	0.7343	0.7175
Minnesota	73	17,834	20,912.9652	0.8528	0.8403
Mississippi	13	5,078	6,144.3905	0.8264	0.8039
Missouri	24	7,042	10,088.2681	0.6980	0.6819
Montana	10	4,345	5,366.9908	0.8096	0.7858
Nebraska	27	4,078	6,544.7050	0.6231	0.6042
Nevada	2	.	.	.	.
New Hampshire	13	7,288	7,956.9451	0.9159	0.8951
New Jersey	0	.	.	.	.
New Mexico	9	4,046	4,044.1362	1.0005	0.9700
New York	7	1,952	3,153.5210	0.6190	0.5920
North Carolina	12	6,292	8,158.4279	0.7712	0.7524
North Dakota	12	4,658	3,715.4742	1.2537	1.2181
Ohio	23	9,926	11,398.9574	0.8708	0.8538
Oklahoma	13	2,756	3,315.9803	0.8311	0.8005
Oregon	25	12,350	12,498.0845	0.9882	0.9709
Pennsylvania	15	7,352	8,822.3404	0.8333	0.8145
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.
South Carolina	4	.	.	.	.

South Dakota	37	6,173	7,760.9972	0.7954	0.7757
Tennessee	8	1,348	1,565.5304	0.8611	0.8160
Texas	39	9,575	11,658.3323	0.8213	0.8050
Utah	8	1,599	2,019.6705	0.7917	0.7536
Vermont	4	.	.	.	.
Virgin Islands	0	.	.	.	.
Virginia	5	2,639	3,632.8584	0.7264	0.6991
Washington	38	18,128	18,666.3397	0.9712	0.9571
West Virginia	20	8,115	8,762.6375	0.9261	0.9061
Wisconsin	56	19,387	22,621.6454	0.8570	0.8450
Wyoming	13	3,538	3,930.5845	0.9001	0.8708
All US	**904**	**295,231**	**353,698.3742**	**0.8347**	**0.8317**

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 ≥1.0 predicted number of dev
4. Data from all ICUs and wards (and other non-critical care locations). Data contained in this table are re

for SUR		Facility-specific SURs					
Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR		No. Facilities with SUR Significantly < National SUR		10%
		N		N		
0.6314	5	.	.	.	.	.
.	.	.	.	.	.	.
.						
1.1218	14	10	71%	2	14%	.
0.9013	31	13	42%	13	42%	0.3698
0.7127	24	7	29%	11	46%	0.2290
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.					.
0.8895	9	.	.	.	.	.
0.5977	18	6	33%	11	61%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.0700	14	9	64%	4	29%	.
0.7768	40	20	50%	13	33%	0.2896
0.8709	35	10	29%	19	54%	0.2739
0.8057	63	16	25%	27	43%	0.3575
0.8707	61	22	36%	25	41%	0.3278
1.0494	18	9	50%	8	44%	.
.	.	.	.	.	.	.
0.7554	16	3	19%	10	63%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.7514	30	4	13%	20	67%	0.3359
0.8654	73	24	33%	34	47%	0.2565
0.8494	13	6	46%	6	46%	.
0.7145	24	6	25%	15	63%	0.3823
0.8339	10	4	40%	3	30%	.
0.6424	27	6	22%	14	52%	0.1766
.	.	.	.	.	.	.
0.9371	13	8	62%	4	31%	.
.	.	.	.	.	.	.
1.0316	9	.	.	.	.	.
0.6469	7	.	.	.	.	.
0.7904	12	2	17%	6	50%	.
1.2901	12	6	50%	5	42%	.
0.8880	23	5	22%	11	48%	0.4799
0.8626	13	4	31%	5	38%	.
1.0057	25	11	44%	10	40%	0.5839
0.8526	15	5	33%	7	47%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.

0.8154	37	10	27%	19	51%	0.4175
0.9079	8	.	.	.	.	.
0.8379	39	11	28%	18	46%	0.2204
0.8312	8	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.7545	5	.	.	.	.	.
0.9854	38	17	45%	12	32%	0.2205
0.9464	20	7	35%	8	40%	0.4402
0.8691	56	18	32%	28	50%	0.4543
0.9302	13	4	31%	3	23%	.
0.8377	**904**	**304**	**34%**	**407**	**45%**	**0.3184**

are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to exclu
less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0 p
ice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was neithe
ported from critical access hospitals.

	Median		
25%	50%	75%	90%
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.5366	0.8611	1.1542	1.3872
0.4453	0.7902	1.0030	1.3545
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.6213	0.9731	1.1997	1.4235
0.4959	0.7248	1.0154	1.4854
0.5481	0.7845	0.9928	1.2657
0.5670	0.7831	1.1394	1.4365
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.4975	0.6547	0.8341	1.3439
0.4686	0.6872	1.0399	1.2177
.	.	.	.
0.4664	0.6591	0.9613	1.4492
.	.	.	.
0.3184	0.5933	0.9942	1.2322
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.6661	0.7822	0.8948	1.3812
.	.	.	.
0.6407	0.8811	1.3325	1.5078
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

0.5032	0.6729	1.1050	1.7829
.	.	.	.
0.4237	0.7391	1.0435	1.5215
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.5810	0.8677	1.2838	1.3666
0.5966	0.8174	1.0960	1.5955
0.6077	0.7408	1.0100	1.4724
.	.	.	.
0.5214	**0.7797**	**1.1008**	**1.4361**

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 3. State-specific standardized utilization ratios (SURs) and facility-specific summary

Table 3b. Urinary catheter days (UCDs

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	1	.	.	.	.
Alaska	1	.	.	.	.
Arizona	2	.	.	.	.
Arkansas	2	.	.	.	.
California	16	3,862	3,787.4412	1.0197	0.9879
Colorado	4	.	.	.	.
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	1	.	.	.	.
Georgia	3	.	.	.	.
Guam	0	.	.	.	.
Hawaii	1	.	.	.	.
Idaho	3	.	.	.	.
Illinois	14	900	3,040.0326	0.2960	0.2772
Indiana	16	2,579	2,724.7968	0.9465	0.9105
Iowa	3	.	.	.	.
Kansas	5	494	1,268.1900	0.3895	0.3563
Kentucky	4	.	.	.	.
Louisiana	1	.	.	.	.
Maine	2	.	.	.	.
Maryland	0	.	.	.	.
Massachusetts	2	.	.	.	.
Michigan	7	1,027	1,388.4210	0.7397	0.6955
Minnesota	10	758	1,050.7860	0.7214	0.6714
Mississippi	1	.	.	.	.
Missouri	7	826	1,183.5342	0.6979	0.6515
Montana	3	.	.	.	.
Nebraska	4	.	.	.	.
Nevada	1	.	.	.	.
New Hampshire	6	967	997.7526	0.9692	0.9095
New Jersey	0	.	.	.	.
New Mexico	5	1,168	1,057.3740	1.1046	1.0426
New York	2	.	.	.	.
North Carolina	4	.	.	.	.
North Dakota	3	.	.	.	.
Ohio	10	1,314	1,964.8710	0.6687	0.6333
Oklahoma	1	.	.	.	.
Oregon	12	2,378	2,670.1164	0.8906	0.8553
Pennsylvania	6	1,061	1,318.2588	0.8048	0.7575
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.

South Carolina	2	.	.	.	.
South Dakota	2	.	.	.	.
Tennessee	1	.	.	.	.
Texas	8	630	1,390.3974	0.4531	0.4187
Utah	0	.	.	.	.
Vermont	2	.	.	.	.
Virgin Islands	0	.	.	.	.
Virginia	3	.	.	.	.
Washington	9	2,439	2,507.7222	0.9726	0.9345
West Virginia	8	1,150	1,509.3108	0.7619	0.7189
Wisconsin	13	1,039	1,292.8950	0.8036	0.7559
Wyoming	2	.	.	.	.
All US	**213**	**33,414**	**45,877.1855**	**0.7283**	**0.7206**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all ICUs; excludes wards (and other non-critical care locations). Data contained in this table

for SUR	Facility-specific SURs					
Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR	N	No. Facilities with SUR Significantly < National SUR	N	10%
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.0522	16	12	75%	2	13%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.3159	14	4	29%	3	21%	.
0.9835	16	8	50%	4	25%	.
0.4250	5	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.7860	7	.	.	.	.	.
0.7741	10	4	40%	2	20%	.
0.7467	7	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.0317	6	.	.	.	.	.
1.1693	5	.	.	.	.	.
.	.	.	.	.	.	.
0.7057	10	3	30%	4	40%	.
0.9270	12	6	50%	3	25%	.
0.8544	6	.	.	.	.	.
.	.	.	.	.	.	.

.	.	.	.	.	.	.
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.	.	.	.	.	.	.
0.4895	8	.	.	.	.	.
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1.0118	9	.	.	.	.	.
0.8069	8	.	.	.	.	.
0.8536	12	6	50%	2	17%	.
.	.	.	.	.	.	.
0.7362	**212**	**94**	**44%**	**58**	**27%**	**0.2530**

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to ex
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was nei
e are reported from critical access hospitals.

y device type and patient population:

25%	Median 50%	75%	90%
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| 0.5367 | 0.8341 | 1.2538 | 1.5267 |

:clusion and inclusion criteria. Refer to the technical appendix for details
) predicted device days in 2019.
ither 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	5	995	1,667.6971	0.5966	0.5604
Alaska	3	.	.	.	.
Arizona	4	.	.	.	.
Arkansas	14	5,198	4,839.6402	1.0740	1.0451
California	30	10,699	12,632.8959	0.8469	0.8310
Colorado	23	4,438	6,663.8268	0.6660	0.6466
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	9	3,199	3,580.8567	0.8934	0.8628
Georgia	17	5,239	9,036.1670	0.5798	0.5642
Guam	0	.	.	.	.
Hawaii	2	.	.	.	.
Idaho	13	3,943	3,714.3782	1.0616	1.0288
Illinois	37	10,436	11,824.1087	0.8826	0.8658
Indiana	35	10,971	13,097.7688	0.8376	0.8221
Iowa	63	14,042	17,727.0435	0.7921	0.7791
Kansas	60	14,394	16,107.3808	0.8936	0.8791
Kentucky	18	7,823	7,885.5702	0.9921	0.9702
Louisiana	4	.	.	.	.
Maine	16	7,102	9,800.6790	0.7246	0.7079
Maryland	0	.	.	.	.
Massachusetts	2	.	.	.	.
Michigan	30	6,195	8,446.8057	0.7334	0.7153
Minnesota	72	17,076	19,862.1792	0.8597	0.8469
Mississippi	12	5,005	5,987.9255	0.8358	0.8129
Missouri	24	6,216	8,904.7338	0.6981	0.6809
Montana	10	4,034	4,867.6204	0.8287	0.8035
Nebraska	26	3,416	5,301.8788	0.6443	0.6230
Nevada	2	.	.	.	.
New Hampshire	13	6,321	6,959.1925	0.9083	0.8861
New Jersey	0	.	.	.	.
New Mexico	9	2,878	2,986.7622	0.9636	0.9289
New York	7	1,623	2,845.8614	0.5703	0.5431
North Carolina	12	4,824	6,128.0063	0.7872	0.7652
North Dakota	12	4,321	3,332.0526	1.2968	1.2585
Ohio	23	8,612	9,434.0863	0.9129	0.8938
Oklahoma	13	2,754	3,286.6637	0.8379	0.8071
Oregon	25	9,972	9,827.9680	1.0147	0.9949
Pennsylvania	15	6,291	7,504.0815	0.8383	0.8178
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.

South Carolina	4	.		.	.	.
South Dakota	37	6,150	7,680.6236	0.8007	0.7809
Tennessee	8	1,275	1,530.2846	0.8332	0.7884
Texas	36	8,945	10,267.9349	0.8712	0.8532
Utah	8	1,599	2,019.6705	0.7917	0.7536
Vermont	3	.		.	.	.
Virgin Islands	0	.		.	.	.
Virginia	5	2,194	2,969.7761	0.7388	0.7083
Washington	38	15,689	16,158.6174	0.9709	0.9559
West Virginia	20	6,965	7,253.3267	0.9602	0.9379
Wisconsin	56	18,348	21,328.7504	0.8602	0.8479
Wyoming	13	3,329	3,560.6683	0.9349	0.9036
All US	**888**	**261,817**	**307,821.1887**	**0.8505**	**0.8473**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty care are

for SUR	Facility-specific SURs					
Upper	**No. Facilities with ≥1 Predicted Device Days**	**No. Facilities with SUR Significantly > National SUR**		**No. Facilities with SUR Significantly < National SUR**		**10%**
		N		**N**		
0.6346	5	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.1035	14	9	64%	2	14%	.
0.8631	30	12	40%	15	50%	0.3852
0.6858	23	5	22%	11	48%	0.2290
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.9247	9	.	.	.	.	.
0.5957	17	6	35%	10	59%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.0951	13	9	69%	3	23%	.
0.8997	37	16	43%	13	35%	0.4137
0.8534	35	11	31%	20	57%	0.2739
0.8053	63	15	24%	28	44%	0.3575
0.9083	60	21	35%	24	40%	0.3191
1.0142	18	9	50%	8	44%	.
.	.	.	.	.	.	.
0.7416	16	3	19%	11	69%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.7519	30	4	13%	20	67%	0.3209
0.8727	72	23	32%	37	51%	0.2887
0.8593	12	6	50%	5	42%	.
0.7156	24	6	25%	14	58%	0.3304
0.8546	10	4	40%	3	30%	.
0.6662	26	5	19%	13	50%	0.1766
.	.	.	.	.	.	.
0.9309	13	7	54%	4	31%	.
.	.	.	.	.	.	.
0.9993	9	.	.	.	.	.
0.5986	7	.	.	.	.	.
0.8097	12	2	17%	4	33%	.
1.3359	12	5	42%	5	42%	.
0.9323	23	5	22%	9	39%	0.4799
0.8697	13	4	31%	5	38%	.
1.0347	25	11	44%	11	44%	0.5839
0.8593	15	5	33%	7	47%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.

.	.	.	.	.	.	.
0.8209	37	10	27%	19	51%	0.4175
0.8799	8	.	.	.	.	.
0.8893	36	9	25%	17	47%	0.1801
0.8312	8	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.7702	5	.	.	.	.	.
0.9862	38	18	47%	14	37%	0.2205
0.9830	20	7	35%	9	45%	0.3870
0.8727	56	17	30%	28	50%	0.4543
0.9671	13	4	31%	3	23%	.
0.8538	**888**	**289**	**33%**	**407**	**46%**	**0.3318**

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to ex
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was nei
as [including hematology/oncology, bone marrow transplant]). Data contained in this table are reported fro

y device type and patient population:

	Median		
25%	50%	75%	90%
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.5963	0.7936	1.1930	1.4405
0.4409	0.7840	0.9534	1.2368
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.6721	0.9699	1.2146	1.4919
0.5626	0.7235	1.0199	1.5820
0.5481	0.7845	0.9928	1.2657
0.5850	0.8006	1.1457	1.4927
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.4564	0.6484	0.8188	1.3439
0.4572	0.6980	1.0482	1.2077
.	.	.	.
0.4202	0.6621	0.9613	1.4492
.	.	.	.
0.3184	0.6531	0.9942	1.2626
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.6854	0.8216	0.8948	1.3692
.	.	.	.
0.6407	0.8651	1.3448	1.5102
.	.	.	.
.	.	.	.
.	.	.	.

.	.	.	.
0.5032	0.6729	1.1050	1.7829
.	.	.	.
0.4393	0.7379	1.0380	1.5215
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
0.5810	0.8937	1.3000	1.5243
0.5510	0.7946	1.0718	1.9496
0.6077	0.7528	1.0100	1.5455
.	.	.	.
0.5225	**0.7842**	**1.1032**	**1.4532**

:clusion and inclusion criteria. Refer to the technical appendix for details
) predicted device days in 2019.
ther calculated nor included in the distribution of facility-specific SURs.
)m critical access 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	0	.	.	.	.
Alaska	1	.	.	.	.
Arizona	2	.	.	.	.
Arkansas	6	20	56.1021	0.3565	0.2239
California	12	595	344.8455	1.7254	1.5909
Colorado	2	.	.	.	.
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	3	.	.	.	.
Georgia	2	.	.	.	.
Guam	0	.	.	.	.
Hawaii	0	.	.	.	.
Idaho	4	.	.	.	.
Illinois	8	4	60.1249	0.0665	0.0211
Indiana	18	181	395.1739	0.4580	0.3949
Iowa	1	.	.	.	.
Kansas	3	.	.	.	.
Kentucky	4	.	.	.	.
Louisiana	1	.	.	.	.
Maine	5	40	50.4073	0.7935	0.5746
Maryland	0	.	.	.	.
Massachusetts	1	.	.	.	.
Michigan	9	197	195.4669	1.0078	0.8743
Minnesota	2	.	.	.	.
Mississippi	0	.	.	.	.
Missouri	3	.	.	.	.
Montana	3	.	.	.	.
Nebraska	0	.	.	.	.
Nevada	1	.	.	.	.
New Hampshire	6	144	132.3961	1.0876	0.9206
New Jersey	0	.	.	.	.
New Mexico	3	.	.	.	.
New York	2	.	.	.	.
North Carolina	4	.	.	.	.
North Dakota	2	.	.	.	.
Ohio	11	320	233.5626	1.3701	1.2260
Oklahoma	1	.	.	.	.
Oregon	10	148	208.9202	0.7084	0.6010
Pennsylvania	9	543	206.8641	2.6249	2.4111
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.
South Carolina	3	.	.	.	.

South Dakota	0	.	.	.	.
Tennessee	2	.	.	.	.
Texas	7	24	20.2314	1.1863	0.7777
Utah	0	.	.	.	.
Vermont	0	.	.	.	.
Virgin Islands	0	.	.	.	.
Virginia	2	.	.	.	.
Washington	9	571	329.9152	1.7307	1.5931
West Virginia	6	123	171.6890	0.7164	0.5979
Wisconsin	16	81	166.6224	0.4861	0.3886
Wyoming	3	.	.	.	.
All US	**187**	**3,942**	**3,716.8243**	**1.0606**	**1.0279**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all ICUs and wards (and other non-critical care locations). Data contained in this table are

SURs using device days data reported to NHSN during 2019 for critical access hospitals (CAHs), b
s), all locations[4]

for SUR	Facility-specific SURs				
Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR N		No. Facilities with SUR Significantly < National SUR N	10%
.	.	.	.	.	.
.	.	.	.	.	.
0.5408	5	.	.	.	.
1.8683	10	7	70%	1	10%
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
0.1605	8	.	.	.	.
0.5285	18	2	11%	15	83%
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
1.0700	5	.	.	.	.
.	.	.	.	.	.
1.1562	7	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
1.2765	6	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
1.5265	10	2.00	20%	5.00	50%
0.8297	10	0	0%	4	40%
2.8529	9	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.

1.7382	4	.	.	.	.	.
1.8772	7	.	.	.	.	.
0.8518	6	.	.	.	.	.
0.6011	14	1	7%	5	36%	.
1.0941	**168**	**32**	**19%**	**78**	**46%**	**0.0000**

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to ex
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was ne
reported from critical access hospitals.

y device type and patient population:

	Median		
25%	50%	75%	90%

0.0000	**0.4363**	**1.2306**	**3.2267**

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

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	0	.	.	.	.
Alaska	0	.	.	.	.
Arizona	2	.	.	.	.
Arkansas	1	.	.	.	.
California	10	595	344.2578	1.7284	1.5936
Colorado	2	.	.	.	.
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	1	.	.	.	.
Georgia	2	.	.	.	.
Guam	0	.	.	.	.
Hawaii	0	.	.	.	.
Idaho	2	.	.	.	.
Illinois	5	3	36.9602	0.0812	0.0206
Indiana	16	181	379.7947	0.4766	0.4109
Iowa	0	.	.	.	.
Kansas	2	.	.	.	.
Kentucky	4	.	.	.	.
Louisiana	1	.	.	.	.
Maine	2	.	.	.	.
Maryland	0	.	.	.	.
Massachusetts	1	.	.	.	.
Michigan	6	191	188.1527	1.0151	0.8787
Minnesota	1	.	.	.	.
Mississippi	0	.	.	.	.
Missouri	3	.	.	.	.
Montana	1	.	.	.	.
Nebraska	0	.	.	.	.
Nevada	1	.	.	.	.
New Hampshire	5	144	130.7151	1.1016	0.9324
New Jersey	0	.	.	.	.
New Mexico	2	.	.	.	.
New York	2	.	.	.	.
North Carolina	2	.	.	.	.
North Dakota	2	.	.	.	.
Ohio	8	244	218.1340	1.1186	0.9847
Oklahoma	0	.	.	.	.
Oregon	8	145	193.5245	0.7493	0.6345
Pennsylvania	5	152	182.7349	0.8318	0.7073
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.

South Carolina	2	.	.	.	.
South Dakota	0	.	.	.	.
Tennessee	1	.	.	.	.
Texas	4	.	.	.	.
Utah	0	.	.	.	.
Vermont	0	.	.	.	.
Virgin Islands	0	.	.	.	.
Virginia	2	.	.	.	.
Washington	7	569	328.6014	1.7316	1.5936
West Virginia	5	122	150.8711	0.8086	0.6744
Wisconsin	10	76	143.3413	0.5302	0.4207
Wyoming	1	.	.	.	.
All US	**129**	**3,078**	**3,461.4946**	**0.8892**	**0.8582**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all ICUs; excludes wards (and other non-critical care locations). Data contained in this tabl

for SUR	Facility-specific SURs					
Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR N		No. Facilities with SUR Significantly < National SUR N		10%
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.8715	10	7	70%	1	10%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0.2209	5	.	.	.	.	.
0.5499	16	2	13%	11	69%	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.1670	5	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
1.2930	5	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
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1.2657	8	.	.	.	.	.
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0.8789	8	.	.	.	.	.
0.9722	5	.	.	.	.	.
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1.8783	7	.	.	.	.	.
0.9621	5	.	.	.	.	.
0.6600	9	.	.	.	.	.
0.9210	**126**	**30**	**24%**	**56**	**44%**	**0.0000**

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to e×
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was ne
e are reported from critical access hospitals.

y device type and patient population:

	Median			
25%	50%	75%	90%	
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| | 0.1205 | 0.5775 | 1.3200 | 2.8458 |

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

Table 4. State-specific standardized utilization ratios (SURs) and facility-specific summary S

Table 4c. Ventilator days (

State	No. of Facilities	No. of Device days			95% CI
		Observed	Predicted	SUR	Lower
Alabama	0	.	.	.	.
Alaska	1	.	.	.	.
Arizona	0	.	.	.	.
Arkansas	5	2	13.9997	0.1429	0.0240
California	2	.	.	.	.
Colorado	1	.	.	.	.
Connecticut	0	.	.	.	.
D.C.	0	.	.	.	.
Delaware	0	.	.	.	.
Florida	2	.	.	.	.
Georgia	1	.	.	.	.
Guam	0	.	.	.	.
Hawaii	0	.	.	.	.
Idaho	2	.	.	.	.
Illinois	4	.	.	.	.
Indiana	5	0	15.3792	0.0000	.
Iowa	1	.	.	.	.
Kansas	2	.	.	.	.
Kentucky	2	.	.	.	.
Louisiana	0	.	.	.	.
Maine	3	.	.	.	.
Maryland	0	.	.	.	.
Massachusetts	0	.	.	.	.
Michigan	3	.	.	.	.
Minnesota	1	.	.	.	.
Mississippi	0	.	.	.	.
Missouri	0	.	.	.	.
Montana	2	.	.	.	.
Nebraska	0	.	.	.	.
Nevada	0	.	.	.	.
New Hampshire	1	.	.	.	.
New Jersey	0	.	.	.	.
New Mexico	2	.	.	.	.
New York	0	.	.	.	.
North Carolina	2	.	.	.	.
North Dakota	0	.	.	.	.
Ohio	6	76	15.4285	4.9259	3.9081
Oklahoma	1	.	.	.	.
Oregon	5	3	15.3957	0.1949	0.0496
Pennsylvania	4	.	.	.	.
Puerto Rico	0	.	.	.	.
Rhode Island	0	.	.	.	.
South Carolina	1	.	.	.	.

South Dakota	0	.	.	.	.
Tennessee	1	.	.	.	.
Texas	4	.	.	.	.
Utah	0	.	.	.	.
Vermont	0	.	.	.	.
Virgin Islands	0	.	.	.	.
Virginia	0	.	.	.	.
Washington	2	.	.	.	.
West Virginia	4	.	.	.	.
Wisconsin	9	5	23.2812	0.2148	0.0787
Wyoming	3	.	.	.	.
All US	**82**	**864**	**255.3298**	**3.3839**	**3.1637**

1. The number of reporting facilities included in the SUR calculation; SURs are not calculated when the
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 ≥1.0 predicted number of de
4. Data from all wards (for this table wards also include step-down, mixed acuity, and specialty care are

SURs using device days data reported to NHSN during 2019 for critical access hospitals (CAHs), b
(VDs), wards[4]

for SUR	Facility-specific SURs				
Upper	No. Facilities with ≥1 Predicted Device Days	No. Facilities with SUR Significantly > National SUR N	No. Facilities with SUR Significantly < National SUR N	10%
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0.4720	4	.	.	.	.
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6.1314	5	.	.	.	.
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0.5303	5	.	.	.	.
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0.4760	7	.	.	.	.	.
3.6153	64	5	8%	53	83%	0.0000

re are less than 5 reporting facilities. This may be different from those reported in the SIR tables due to ex
or less than the nominal value of the national SUR. This is only calculated if at least 10 facilities had ≥ 1.0
evice days in 2019. If a facility's predicted number of device days was <1.0, a facility-specific SUR was ne
as [including hematology/oncology, bone marrow transplant]). Data contained in this table are reported fr

y device type and patient population:

	Median			
25%	50%	75%	90%	

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.	.	.	.
0.0000	**0.0000**	**0.4859**	**3.4759**

xclusion and inclusion criteria. Refer to the technical appendix for details
0 predicted device days in 2019.
ither calculated nor included in the distribution of facility-specific SURs.
om critical access hospitals.

Table 5. Changes in national standardized utilization ratios (SURs) using HAI data reported from all NHSN critical access 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
CLDs, all locations[1]	1.1365	1.1670	3%	INCREASE	0.0000
ICU[2]	0.8635	0.8563	1%	NO CHANGE	0.4752
Ward[3]	1.1719	1.2062	3%	INCREASE	0.0000
UCDs, all locations[1]	0.8665	0.8347	-4%	DECREASE	0.0000
	0.7694	0.7283	-5%	DECREASE	0.0000
	0.8811	0.8505	-3%	DECREASE	0.0000
VDs, all[1]	0.9579	1.0606	11%	INCREASE	0.0000
ICUs[2]	0.9171	0.8892	3%	NO CHANGE	0.2274
Wards[3]	1.4667	3.3839	131%	INCREASE	0.0000

* Statistically significant, p < 0.0500

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

2. Data from all ICUs; excludes wards (and other non-critical care locations).

3. Data from all wards (for this table wards also include step-down and specialty care areas [including hematology/oncology, bone ma
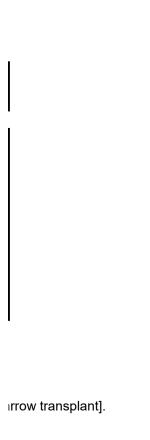
rrow transplant].

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

6a. Central line days (CLDs), all locations[1]

State[2]	All Critical Access Hospitals Reporting to NHSN				
	2018 SUR	2019 SUR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	1.6897	1.0936	-35%	DECREASE	0.0000
California	1.3523	1.1536	-15%	DECREASE	0.0000
Colorado	0.7666	0.9281	21%	INCREASE	0.0000
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	0.5981	0.5547	7%	NO CHANGE	0.0795
Georgia	1.0014	1.2771	28%	INCREASE	0.0000
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	1.3414	1.0439	-22%	DECREASE	0.0000
Illinois	1.2429	1.3739	11%	INCREASE	0.0000
Indiana	1.0019	1.1678	17%	INCREASE	0.0000
Iowa	1.0731	1.2320	15%	INCREASE	0.0000
Kansas	1.3146	1.3286	1%	NO CHANGE	0.4554
Kentucky	1.5662	1.6423	5%	INCREASE	0.0075
Louisiana	.	.	.	.	.
Maine	1.0123	1.1705	16%	INCREASE	0.0000
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	0.6507	0.8142	25%	INCREASE	0.0000
Minnesota	1.2768	1.4769	16%	INCREASE	0.0000
Mississippi	1.1870	0.9679	-18%	DECREASE	0.0000
Missouri	1.5479	1.2036	-22%	DECREASE	0.0000
Montana	0.7380	0.8798	19%	INCREASE	0.0000
Nebraska	1.3345	1.4985	12%	INCREASE	0.0000
Nevada	.	.	.	.	.
New Hampshire	0.9913	0.9256	-7%	DECREASE	0.0035
New Jersey	.	.	.	.	.
New Mexico	0.9779	1.0279	5%	NO CHANGE	0.1376
New York	0.5636	0.7148	27%	INCREASE	0.0000
North Carolina	0.8161	0.8759	7%	INCREASE	0.0073
North Dakota	1.0837	1.1690	8%	INCREASE	0.0327
Ohio	1.0510	1.0297	2%	NO CHANGE	0.3058
Oklahoma	1.0597	1.2363	17%	INCREASE	0.0000
Oregon	1.2593	1.2655	0%	NO CHANGE	0.7813
Pennsylvania	0.9508	1.1555	22%	INCREASE	0.0000
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	0.6906	0.9403	36%	INCREASE	0.0000
Tennessee	1.8613	1.3532	-27%	DECREASE	0.0000
Texas	1.2488	1.3684	10%	INCREASE	0.0000
Utah	1.5790	0.6539	-59%	DECREASE	0.0000
Vermont	0.6649	0.6921	4%	NO CHANGE	0.1684
Virgin Islands	.	.	.	.	.
Virginia	1.1039	1.1907	8%	INCREASE	0.0184
Washington	1.2559	1.1977	-5%	DECREASE	0.0007
West Virginia	0.9490	0.9430	1%	NO CHANGE	0.7902
Wisconsin	1.3403	1.4118	5%	INCREASE	0.0000
Wyoming	0.6451	0.6787	5%	NO CHANGE	0.2334
All US	**1.1365**	**1.1670**	**3%**	**INCREASE**	**0.0000**

* 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 Critical Access Hospitals

6b. Urinary catheter days (UCDs), all locations[1]

	All Critical Access Hospitals Reporting to NHSN				
	2018 SUR	2019 SUR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
Alabama	0.6709	0.5959	-11%	DECREASE	0.0037
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	1.0507	1.0931	4%	INCREASE	0.0409
California	1.0708	0.8868	-17%	DECREASE	0.0000
Colorado	0.7149	0.6933	3%	NO CHANGE	0.1372
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	0.7330	0.8595	17%	INCREASE	0.0000
Georgia	0.4963	0.5835	18%	INCREASE	0.0000
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	1.2129	1.0392	-14%	DECREASE	0.0000
Illinois	0.8070	0.7626	-5%	DECREASE	0.0000
Indiana	0.8852	0.8564	-3%	DECREASE	0.0064
Iowa	0.8895	0.7926	-11%	DECREASE	0.0000
Kansas	0.8654	0.8568	1%	NO CHANGE	0.3912
Kentucky	0.9719	1.0279	6%	INCREASE	0.0003
Louisiana	.	.	.	.	.
Maine	0.6930	0.7384	7%	INCREASE	0.0002
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	0.7161	0.7343	3%	NO CHANGE	0.1323
Minnesota	0.8559	0.8528	0%	NO CHANGE	0.7228
Mississippi	0.8713	0.8264	-5%	DECREASE	0.0085
Missouri	0.8278	0.6980	-16%	DECREASE	0.0000
Montana	0.8420	0.8096	4%	NO CHANGE	0.0638
Nebraska	0.5764	0.6231	8%	INCREASE	0.0004
Nevada	.	.	.	.	.
New Hampshire	1.0168	0.9159	-10%	DECREASE	0.0000
New Jersey	.	.	.	.	.
New Mexico	1.0639	1.0005	-6%	DECREASE	0.0046
New York	0.6546	0.6190	5%	NO CHANGE	0.0730
North Carolina	0.7672	0.7712	1%	NO CHANGE	0.7657
North Dakota	1.2553	1.2537	0%	NO CHANGE	0.9495
Ohio	1.0099	0.8708	-14%	DECREASE	0.0000
Oklahoma	1.0432	0.8311	-20%	DECREASE	0.0000
Oregon	1.0336	0.9882	-4%	DECREASE	0.0004
Pennsylvania	0.8898	0.8333	-6%	DECREASE	0.0000
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	0.7191	0.7954	11%	INCREASE	0.0000
Tennessee	0.8407	0.8611	2%	NO CHANGE	0.5321
Texas	0.8767	0.8213	-6%	DECREASE	0.0000
Utah	0.9641	0.7917	-18%	DECREASE	0.0000
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	0.7465	0.7264	3%	NO CHANGE	0.3147
Washington	0.9829	0.9712	1%	NO CHANGE	0.2515
West Virginia	0.9461	0.9261	2%	NO CHANGE	0.1719
Wisconsin	0.8784	0.8570	-2%	DECREASE	0.0143
Wyoming	0.9305	0.9001	3%	NO CHANGE	0.1786
All US	**0.8665**	**0.8347**	**-4%**	**DECREASE**	**0.0000**

* 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 Critical Access Hospitals

6c. Ventilator days (VDs), all locations[1]

	All Critical Access Hospitals Reporting to NHSN				
	2018 SUR	**2019 SUR**	**Percent Change**	**Direction of Change, Based on Statistical Significance**	**p-value**
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	0.1782	0.3565	100%	NO CHANGE	0.1990
California	2.3942	1.7254	-28%	DECREASE	0.0000
Colorado	.	.	.	.	.
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	.	.	.	.	.
Georgia	.	.	.	.	.
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	.	.	.	.	.
Illinois	0.2107	0.0665	-68%	DECREASE	0.0381
Indiana	0.5157	0.4580	11%	NO CHANGE	0.2568
Iowa	.	.	.	.	.
Kansas	.	.	.	.	.
Kentucky	.	.	.	.	.
Louisiana	.	.	.	.	.
Maine	0.5187	0.7935	53%	NO CHANGE	0.0873
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	0.4322	1.0078	133%	INCREASE	0.0000
Minnesota	.	.	.	.	.
Mississippi	.	.	.	.	.
Missouri	.	.	.	.	.
Montana	.	.	.	.	.
Nebraska	.	.	.	.	.
Nevada	.	.	.	.	.
New Hampshire	0.9403	1.0876	16%	NO CHANGE	0.2241
New Jersey	.	.	.	.	.
New Mexico	.	.	.	.	.
New York	.	.	.	.	.
North Carolina	.	.	.	.	.
North Dakota	.	.	.	.	.
Ohio	1.4767	1.3701	7%	NO CHANGE	0.3585
Oklahoma	.	.	.	.	.
Oregon	0.9197	0.7084	-23%	DECREASE	0.0212
Pennsylvania	1.5903	2.6249	65%	INCREASE	0.0000
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	.	.	.	.	.
Tennessee	.	.	.	.	.
Texas	1.6214	1.1863	27%	NO CHANGE	0.1988
Utah	.	.	.	.	.
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	.	.	.	.	.
Washington	1.1774	1.7307	47%	INCREASE	0.0000
West Virginia	0.8135	0.7164	12%	NO CHANGE	0.3268
Wisconsin	0.4634	0.4861	5%	NO CHANGE	0.7673
Wyoming	.	.	.	.	.
All US	**0.9579**	**1.0606**	**11%**	**INCREASE**	**0.0000**

* 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 Critical Access Hospitals (CAHs).

SUR Type	Validated Parameters for Risk Model
CLDs	Intercept Location type
UCDs	Intercept Location type
VDs	Intercept Location type

<u>Additional Resources</u>

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 fo

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

und at the above website.