2021 Nationa

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Introduction:

Welcome to the 2021 National and State HAI Progress Report using the 2015 bas
by comparing the number of observed infections to the number of predicted infecti
This report is created by CDC staff with the National Healthcare Safety Network (N

This workbook includes national and state-specific SIR data for Critical Access Ho

Scope of report:

HAI Types
Central line-associated bloodstream infections (CLABSI) by locations
Catheter-associated urinary tract infections (CAUTI) by locations
Ventilator-associated events (VAE) by locations
Surgical site infections (SSI)- All procedures for adults and pediatrics (using Complex Admission Readmission (A/R) model)
Surgical site infections (SSI)- adults (using Complex Admission Readmission (A/R) model), COLO and HYST
Hospital-onset methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia by facility-wide reporting
Hospital-onset *Clostridioides difficile* (CDI) by facility-wide reporting

al and State HAI Progress Report

cal Access Hospitals

eline and risk adjustment calculations. Standardized infection ratios (SIRs) are used to describe different HAI ty
ons. This year's report will compare 2021 SIRs to those from the prior year.
NHSN).

spitals (CAHs).

CAH	
National	State
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2021 Annual National and State HAI Progress Report
Critical Access Hospitals: Full series of tables for all national and state-specific data

Tables included in this report:

monia (IVAC-Plus)

21 from Critical Access Hospitals

Critical Access Hospitals

Hospitals

Regression, Adults ≥ 18 years of age

Regression, Pediatrics < 18 years of age

Complex Admission/Readmission Model, Adults ≥ 18 years of age

Table 1. Characteristics of NHSN Critical Access Hospitals reporting to NHSN by State[1], 2021:
1a. Central line-associated bloodstream infections (CLABSI)[2]

	2021					
				Locations (n)[2]		
State	State NHSN Mandate[3]	Any Validation[4]	No. of Critical Access Hospitals Reporting[5]	Total	ICU	Wards[2]
Alabama	Yes	Yes	4	.	.	.
Alaska	No	No	3	.	.	.
Arizona			6	33	12	21
Arkansas			13	53	6	47
California			29	162	63	99
Colorado	Yes	No	24	86	14	72
Connecticut	No	No	0	.	.	.
D.C.	No	No	0	.	.	.
Delaware			0	.	.	.
Florida	No	Yes	6	22	1	21
Georgia			21	83	16	67
Guam			0	.	.	.
Hawaii	No	No	1	.	.	.
Idaho	No	No	16	64	12	52
Illinois	Yes	Yes	34	149	30	119
Indiana	Yes	Yes	35	192	54	138
Iowa	No	Yes	60	213	5	208
Kansas			58	206	14	192
Kentucky			27	111	14	97
Louisiana			6	32	8	24
Maine	Yes	No	16	65	7	58
Maryland	No	No	0	.	.	.
Massachusetts	No	No	3	.	.	.
Michigan	No	Yes	26	110	12	98
Minnesota	No	No	42	155	17	138
Mississippi	No	No	11	30	2	28
Missouri	No	No	23	107	22	85
Montana	No	No	10	43	11	32
Nebraska	No	No	21	80	9	71
Nevada			5	20	8	12
New Hampshire	Yes	No	12	64	18	46
New Jersey	No	No	0	.	.	.
New Mexico			9	49	17	32
New York			5	25	8	17
North Carolina	No	No	13	68	18	50
North Dakota	No	No	13	49	7	42
Ohio	No	No	27	124	29	95
Oklahoma			9	33		33
Oregon	Yes	No	24	137	48	89
Pennsylvania			14	60	16	44
Puerto Rico	Yes	No	0	.	.	.
Rhode Island	No	No	0	.	.	.
South Carolina	Yes	Yes	4	.	.	.
South Dakota	No	No	26	78	6	72
Tennessee	No	No	5	20	1	19
Texas			46	149	18	131
Utah	No	No	8	18		18
Vermont			8	36	14	22
Virgin Islands			0	.	.	.
Virginia	No	Yes	7	37	12	25
Washington	No	No	29	136	32	104
West Virginia	No	No	18	96	31	65
Wisconsin	No	No	50	226	36	190
Wyoming			11	42	8	34
All US			**838**	**3,541**	**683**	**2,858**

1b. Catheter-associated urinary tract infections (CAUTI)[2]

	2021					
State				**Total**	**ICU**	
Alabama	Yes	Yes	5	23	4	19
Alaska	No	No	3	.	.	.
Arizona			7	35	12	23
Arkansas			14	61	8	53
California			32	185	64	121
Colorado	No	No	28	120	15	105
Connecticut	No	No	0	.	.	.
D.C.	No	No	0	.	.	.
Delaware			0	.	.	.
Florida	No	Yes	6	24	2	22
Georgia			21	88	16	72
Guam			0	.	.	.
Hawaii	No	No	1	.	.	.
Idaho	No	No	19	82	12	70
Illinois	No	No	39	182	40	142
Indiana	Yes	Yes	35	196	56	140
Iowa	No	Yes	71	273	5	268
Kansas			72	275	16	259
Kentucky			27	118	15	103
Louisiana			6	32	8	24
Maine	Yes	No	16	69	8	61
Maryland	No	No	0	.	.	.
Massachusetts	No	No	3	.	.	.
Michigan	No	Yes	30	128	17	111
Minnesota	No	No	65	272	32	240
Mississippi	No	No	22	73	3	70

Missouri	No	No	25	122	23	99
Montana	No	No	10	49	12	37
Nebraska	No	No	35	140	16	124
Nevada			5	20	8	12
New Hampshire	Yes	No	12	72	24	48
New Jersey	Yes	No	0	.	.	.
New Mexico			9	55	19	36
New York			8	34	8	26
North Carolina	No	No	14	69	18	51
North Dakota	No	No	18	69	8	61
Ohio	No	No	28	135	31	104
Oklahoma			13	48		48
Oregon	Yes	No	25	149	49	100
Pennsylvania			15	72	16	56
Puerto Rico	Yes	No	0	.	.	.
Rhode Island	No		0	.	.	.
South Carolina	No	No	4	.	.	.
South Dakota	No	No	37	144	8	136
Tennessee	No	No	5	23	3	20
Texas			60	226	21	205
Utah	Yes	No	8	30		30
Vermont			4	.	.	.
Virgin Islands			0	.	.	.
Virginia	No	Yes	7	37	12	25
Washington	No	No	30	148	32	116
West Virginia	No	No	21	113	32	81
Wisconsin	No	No	56	266	44	222
Wyoming			13	50	8	42
All US			**984**	**4,388**	**756**	**3,632**

1c. Ventilator-associated events (VAE)

	2021					
State				Total	ICU	
Alabama	No	No	0	.	.	.
Alaska	No	No	3	.	.	.
Arizona			2	.	.	.
Arkansas			5	8	2	6
California			15	16	12	4
Colorado	No	No	4	.	.	.
Connecticut	No	No	0	.	.	.
D.C.	No	No	0	.	.	.
Delaware			0	.	.	.
Florida	No	Yes	3	.	.	.
Georgia			1	.	.	.
Guam			0	.	.	.
Hawaii	No	No	0	.	.	.
Idaho	No	No	3	.	.	.
Illinois	No	No	5	6	4	2
Indiana	No	No	18	20	15	5
Iowa	No	No	1	.	.	.
Kansas			7	7	2	5
Kentucky			6	9	4	5
Louisiana			2	.	.	.
Maine	No	No	5	5	2	3
Maryland	No	No	0	.	.	.
Massachusetts	No	No	1	.	.	.
Michigan	No	Yes	7	7	4	3
Minnesota	No	No	4	.	.	.
Mississippi	No	No	2	.	.	.

Missouri	No	No	4	.	.	.
Montana	No	No	3	.	.	.
Nebraska	No	No	1	.	.	.
Nevada			3	.	.	.
New Hampshire	No	No	5	7	5	2
New Jersey	No	No	0	.	.	.
New Mexico			3	.	.	.
New York			3	.	.	.
North Carolina	No	No	6	6	3	3
North Dakota	No	No	4	.	.	.
Ohio	No	No	11	16	9	7
Oklahoma			1	.	.	.
Oregon	No	No	7	11	5	6
Pennsylvania			10	10	4	6
Puerto Rico	Yes	No	0	.	.	.
Rhode Island	No	No	0	.	.	.
South Carolina	Yes	Yes	3	.	.	.
South Dakota	No	No	2	.	.	.
Tennessee	No	No	2	.	.	.
Texas			13	14	3	11
Utah	No	No	1	.	.	.
Vermont			0	.	.	.
Virgin Islands			0	.	.	.
Virginia	No	No	2	.	.	.
Washington	No	No	6	6	6	0
West Virginia	No	No	8	11	7	4
Wisconsin	No	No	13	17	10	7
Wyoming			4	.	.	.
All US			**209**	**245**	**128**	**117**

Table 1. Characteristics of NHSN Critical Access Hospitals reporting to NHSN by State[1], 2021: 1d. Surgical site infections[6]

	2021			
State		Any Validation[4]	No. of Critical Access Hospitals Reporting colon surgeries in adults[5]	No. of Procedures[6] colon surgeries in adults
Alabama	Yes	Yes	0	.
Alaska	No	No	1	.
Arizona			4	.
Arkansas			4	.
California			15	163
Colorado	Yes	No	10	68
Connecticut	No	No	0	.
D.C.	No	No	0	.
Delaware			0	.
Florida	No	Yes	2	.
Georgia			3	.
Guam			0	.
Hawaii	No	No	1	.
Idaho	No	No	4	.
Illinois	No	No	15	131
Indiana	Yes	No	21	132
Iowa	Yes	No	6	21
Kansas			12	68
Kentucky			5	41
Louisiana			0	.
Maine	No	No	9	80
Maryland	No	No	0	.
Massachusetts	No	No	1	.
Michigan	No	Yes	11	98
Minnesota	No	No	12	106
Mississippi	No	No	0	.
Missouri	No	No	10	37
Montana	No	No	4	.
Nebraska	No	No	4	.
Nevada			2	.
New Hampshire	Yes	No	8	92
New Jersey	No	No	0	.
New Mexico			2	.
New York			2	.
North Carolina	No	No	6	67
North Dakota	No	No	3	.
Ohio	Yes	No	13	82
Oklahoma			0	.
Oregon	Yes	No	14	191
Pennsylvania			8	53
Puerto Rico	Yes	No	0	.

Rhode Island	Yes	No	0	.
South Carolina	Yes	Yes	0	.
South Dakota	No	No	1	.
Tennessee	No	No	0	.
Texas			11	76
Utah	Yes	No	3	.
Vermont			2	.
Virgin Islands			0	.
Virginia	Yes	Yes	3	.
Washington	Yes	No	15	111
West Virginia	Yes	No	7	80
Wisconsin	Yes	No	28	268
Wyoming			5	19
All US			**287**	**2,333**

	2021			
State			No. of Critical Access Hospitals Reporting hysterectomy surgeries in adults[5]	No. of Procedures[6] abdominal hysterectomy surgeries in adults
Alabama	Yes	Yes	0	.
Alaska	No	No	1	.
Arizona			2	.
Arkansas			2	.
California			10	112
Colorado	Yes	No	12	55
Connecticut	No	No	0	.
D.C.	No	No	0	.
Delaware			0	.
Florida	No	Yes	0	.
Georgia			3	.
Guam			0	.
Hawaii	No	No	1	.
Idaho	No	No	3	.
Illinois	No	No	6	46
Indiana	Yes	No	17	147
Iowa	Yes	No	3	.
Kansas			4	.
Kentucky			1	.
Louisiana			2	.
Maine	No	No	10	107
Maryland	No	No	0	.
Massachusetts	No	No	2	.
Michigan	No	Yes	9	172
Minnesota	No	No	10	188
Mississippi	No	No	0	.
Missouri	No	No	8	70
Montana	No	No	4	.
Nebraska	No	No	0	.
Nevada			2	.
New Hampshire	Yes	No	8	93
New Jersey	No	No	0	.
New Mexico			2	.
New York			2	.
North Carolina	No	No	7	57
North Dakota	No	No	2	.
Ohio	Yes	No	10	140
Oklahoma			0	.
Oregon	Yes	No	12	167
Pennsylvania			6	91
Puerto Rico	Yes	No	0	.

Rhode Island	Yes	No	0	.
South Carolina	Yes	Yes	0	.
South Dakota	No	No	0	.
Tennessee	No	No	0	.
Texas			5	46
Utah	Yes	No	2	.
Vermont			5	72
Virgin Islands			0	.
Virginia	Yes	Yes	2	.
Washington	Yes	No	9	191
West Virginia	Yes	No	3	.
Wisconsin	Yes	No	25	224
Wyoming			2	.
All US			**214**	**2,512**

Table 1. Characteristics of NHSN Critical Access Hospitals reporting to NHSN by State[1], 2021:

1e. Hospital-onset methicillin-resistant *Staphylococcus aureus* bacteremia[7]

	2021		
State			
Alabama	No	No	3
Alaska	No	No	1
Arizona			7
Arkansas			11
California			33
Colorado	No	No	29
Connecticut	No	No	0
D.C.	No	No	0
Delaware			0
Florida	No	Yes	6
Georgia			19
Guam			0
Hawaii	No	No	2
Idaho	No	No	18
Illinois	Yes	Yes	48
Indiana	Yes	No	34
Iowa	No	Yes	53
Kansas			59
Kentucky			27
Louisiana			6
Maine	Yes	No	15
Maryland	No	No	0
Massachusetts	No	No	3
Michigan	No	Yes	30
Minnesota	No	No	38
Mississippi	No	No	18
Missouri	No	No	23
Montana	No	No	10
Nebraska	No	No	34
Nevada			4
New Hampshire	No	No	11
New Jersey	No	No	0
New Mexico			9
New York			5
North Carolina	No	No	12
North Dakota	No	No	17
Ohio	No	No	28
Oklahoma			14
Oregon	Yes	No	25
Pennsylvania			12
Puerto Rico	Yes	No	0
Rhode Island	No	No	0
South Carolina	Yes	Yes	3
South Dakota	No	No	35
Tennessee	No	No	5
Texas			55
Utah	Yes	No	7
Vermont			8
Virgin Islands			0
Virginia	No	Yes	5

Washington	No	No	29
West Virginia	No	No	16
Wisconsin	No	No	55
Wyoming			7
All US			**889**

1f. Hospital-onset *Clostridioides difficile*[7]

	2021		
State		Any Validation[4]	
Alabama	No	No	3
Alaska	No	No	2
Arizona			8
Arkansas			11
California			34
Colorado	No	No	29
Connecticut	No	No	0
D.C	No	No	0
Delaware			0
Florida	No	Yes	6
Georgia			19
Guam			0
Hawaii	No	No	1
Idaho	No	No	19
Illinois	Yes	Yes	48
Indiana	Yes	No	33
Iowa	No	Yes	61
Kansas			60
Kentucky			27
Louisiana			6
Maine	Yes	No	15
Maryland	No	No	0
Massachusetts	No	No	3
Michigan	No	Yes	30
Minnesota	No	No	54
Mississippi	No	No	18
Missouri	No	No	24
Montana	No	No	10
Nebraska	No	No	36
Nevada			3
New Hampshire	No	No	11
New Jersey	No	No	0
New Mexico			9
New York			5
North Carolina	No	No	12
North Dakota	No	No	18
Ohio	No	No	28
Oklahoma			14
Oregon	Yes	No	25
Pennsylvania			11
Puerto Rico	Yes	No	0
Rhode Island	No	No	0

South Carolina	Yes	Yes	3
South Dakota	No	No	37
Tennessee	No	No	6
Texas			55
Utah	Yes	No	7
Vermont			8
Virgin Islands			0
Virginia	No	Yes	5
Washington	No	Yes	33
West Virginia	No	No	17
Wisconsin	No	No	55
Wyoming			12
All US			**931**

Footnotes for Tables 1a-1f:

1. United States, Washington, D.C., Guam, Puerto Rico and Virgin Islands

2. Data included in this table are from 2021 from acute care facility ICUs (critical care units), NICUs (CLABSI only, see footnote 7), and ward plus (for this report wards also include step-down, mixed acuity and specialty care areas [hematology/oncology, bone marrow transplant]). Long-term acute care facilities and locations, inpatient rehabilitation facilities and locations, dialysis facilities and locations, and long term care facilities (skilled nursing facilities) are not included in Table 1.

3. Yes indicates that a legislative or regulatory requirement ("state mandate") for Critical Access Hospitals to report data for the given HAI type to the state health department or hospital association via NHSN was in effect at the beginning of the year. If no state mandate existed at the beginning of each year, but was implemented at some time during the year, the value of this column is "M" for midyear implementation. No indicates that a state mandate did not exist during the years included in this report. On Table 1c, the presence of a state mandate reflects a mandate for colon surgery or abdominal hysterectomy data.

4. Yes indicates that the state health department reported the completion of all of the following validation activities for NHSN data during that year: state health department had access to NHSN data, state health department performed an assessment of missing or implausible values on at least six months of the year's data prior to the freeze date of June 1, 2022 for 2021 data, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 for 2021 data to confirm proper case ascertainment (although intensity of auditing activities varies by state). On Table 1d, validation information applies to either colon surgery or abdominal hysterectomy data. Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.

5. The number of facilities reporting at least one month of "in-plan" data to NHSN may be lower than the number of facilities in the state identified in footnote 3, as some hospitals in a state may not be included in the state mandate (e.g., facilities that do not have units or perform procedure covered by the mandate, or the mandate covers only facilities above a certain bed size).

6. SSIs included are those classified as deep incisional or organ/space infections following inpatient procedures within colon and abdominal hysterectomy surgeries, detected during the same admission as the surgical procedure or upon readmission to the same facility.

7. Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpatient location within the facility.

HAI and Patient Population	No. of Critical Access Hospitals Reporting[1]
CLABSI, all[4]	838
ICUs[5]	194
Wards[6]	824
CAUTI, all[7]	984
	204
	970
VAE, all[7]	141
	108
	39

1. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criter
2. Percent of facilities with at least one predicted infection (event) that had an SIR significantly
3. Facility-specific percentiles are only calculated if at least 20 facilities had ≥1.0 predicted HAI
4. Data from all ICUs and wards (and other non-critical care locations).
5. Data from all ICUs; excludes wards (and other non-critical care locations). For VAE, pediatri
6. Data from all wards (for this table wards also include step-down and specialty care areas [in
7. Data from all ICUs and wards (and other non-critical care locations). For VAE, pediatric loca
   IVAC-plus includes those events identified as infection-related ventilator-associated conditio

NOTE: Risk factors used in the calculation of the number of predicted device-associated infect
Risk factors used in the calculation of the number of predicted MRSA bacteremia and CDI are

Central line-associated bloodstream infections (CLABSIs), cathe

Total Patient Days	Total Device Days	No. of Infections (Events)			95% CI for SIR	
		Observed	Predicted	SIR	Lower	Upper
2,072,498	210,121	56	57.328	0.977	0.745	1.259
148,606	26,723	19	7.290	2.606	1.616	3.995
1,923,892	183,398	37	50.038	0.739	0.528	1.008
2,581,937	382,775	267	368.254	0.725	0.642	0.816
162,151	50,025	31	46.460	0.667	0.461	0.935
2,419,786	332,750	236	321.790	0.733	0.644	0.832
103,391	10,630	61	15.169	4.021	3.103	5.131
62,048	8,399	49	11.985	4.088	3.058	5.361
41,343	2,231	12	3.184	3.769	2.042	6.408

ria, this may be different from the numbers shown in Table 1. These tables contain data from Critical Access Ho
greater than or less than the nominal value of the national SIR for the given HAI type. This is only calculated if
in 2021. If a facility's predicted number of HAIs was <1.0, a facility-specific SIR was neither calculated nor inclu

c locations are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance.
cluding hematology/oncology, bone marrow transplant]). For VAE, pediatric locations are excluded from SIR sir
tions are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance. This inc
n (IVAC) and possible ventilator-associated pneumonia (pVAP).

ions are listed in Appendix A.
listed in Appendix B.

Table 2a. National standardized infection ratios (SIRs) and facility-specific summary SIRs using HAI data ter-associated urinary tract infections (CAUTIs) and ventilator-associated events (VAE)

	Facility-specific SIRs						
No. Facilities with ≥1 Predicted Infection (Event)	No. Facilities with SIR Significantly > National SIR		No. Facilities with SIR Significantly < National SIR		5%	10%	15%
	N	%[2]	N				
0	.	.	.	.	.	.	.
0	.	.	.	.	.	.	.
0	.	.	.	.	.	.	.
83	0	0%	0	0%	0.000	0.000	0.000
2	.	.	.	.	.	.	.
60	0	0%	0	0%	0.000	0.000	0.000
0	.	.	.	.	.	.	.
0	.	.	.	.	.	.	.
0	.	.	.	.	.	.	.

spitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
at least 10 facilities had ≥ 1.0 predicted HAI in 2021.
ded in the distribution of facility-specific SIRs.

ıce pediatric and neonatal locations are excluded from VAE surveillance.
cludes IVAC-plus events.

a reported to NHSN during 2021 by facility type, HAI, and patient population:

				Percentile Distribution of Facility-specific SIRs[3]					
						Median			
20%	**25%**	**30%**	**35%**	**40%**	**45%**	**50%**	**55%**	**60%**	**65%**
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
.	.	.	.	.	.	.	.	.	.
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.

70%	75%	80%	85%	90%	95%
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
0.430	0.581	0.743	0.862	0.925	1.501
.	.	.	.	.	.
0.000	0.000	0.565	0.742	0.850	0.979
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.

HAI and Patient Population	Reporting	
	No. of Critical Access Hospitals Reporting[1]	Total Admissions
MRSA bacteremia, facility-wide[4]	889	637,470
Hospital-onset *C. difficile*, facility-wide[4]	923	629,161

1. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria,
2. Percent of facilities with at least one predicted infection (event) that had an SIR significantly gre
3. Facility-specific percentiles are only calculated if at least 20 facilities had ≥1.0 predicted HAI in
4. Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpat

Note: Risk factors used in the calculation of the number of predicted MRSA bacteremia and CDI a

Hospitals		Standardized Infection Ratio Data			95% CI
Total Patient Days	Community-onset events	Hospital-onset events	Predicted Hospital-onset events	SIR	Lower
2,557,083	213	43	53.229	0.808	0.592
2,595,180	1,358	549	769.927	0.713	0.655

this may be different from the numbers shown in Table 1. These tables contain data from Critical Acce
eater than or less than the nominal value of the national SIR for the given HAI type. This is only calcula
2021. If a facility's predicted number of HAIs was <1.0, a facility-specific SIR was neither calculated no
tient location within the facility.
are listed in Appendix B.

Table 2b. National standardized infection ratios (SIRs) and facility-specific summa
hospital-onset methicillin-resistant *Staphylococcus aureus* (I

for SIR	Facility SIRs Compared to National SIR				
Upper	No. Facilities with ≥1 Predicted Event	No. Facilities with SIR Significantly > National SIR		No. Facilities with SIR Significantly < National SIR	
		N		N	
1.078	0	.	.	.	.
0.775	290	14	5%	2	1%

ss Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
ıted if at least 10 facilities had ≥ 1.0 predicted HAI in 2021.
r included in the distribution of facility-specific SIRs.

ıry SIRs using HAI data reported to NHSN during 2021 by facility type, HAI, and patient population: MRSA) bacteremia, and hospital-onset *Clostridioides difficile* (CDI)

5%	10%	15%	20%	25%	30%	35%	40%	45%
.	.	.	.	.	.	.	.	.
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.451

50%	55%	60%	65%	70%	75%	80%	85%	90%
.	.	.	.	.	.	.	.	.
0.580	0.672	0.767	0.840	0.912	0.989	1.410	1.677	1.855

95%	.
	2.339

Surgical Procedure	No. of Critical Access Hospitals Reporting [2]	No. of Procedures
US, all NHSN procedures	421	29,354
US, SCIP procedures only[5]	403	22,617
AAA Abdominal aortic aneurysm repair[5]	1	.
AMP Limb amputation	16	82
APPY Appendix surgery	43	613
AVSD Shunt for dialysis	0	.
BILI Bile duct, liver or pancreatic surgery	8	16
BRST Breast surgery	15	55
CARD Cardiac surgery[5]	0	.
CABG- Coronary artery bypass graft[5,6]	0	.
CEA Carotid endarterectomy	1	.
CHOL Gallbladder surgery	47	680
COLO Colon surgery[5]	283	2,253
CRAN Craniotomy	0	.
CSEC Cesarean section	59	2,328
FUSN Spinal fusion	7	804
FX Open reduction of fracture	32	820
GAST Gastric surgery	17	189
HER Herniorrhaphy	35	248
HPRO Hip arthroplasty[5]	249	6,863
HTP Heart transplant	0	.
HYST Abdominal hysterectomy[5]	200	1,912
KPRO Knee arthroplasty[5]	267	11,438
KTP Kidney transplant	0	.
LAM Laminectomy	5	127
LTP Liver transplant	0	.
NECK surgery	0	.
NEPH Kidney surgery	3	.
OVRY Ovarian surgery	17	106
PACE Pacemaker surgery	3	.
PRST Prostate surgery	3	.
PVBY Peripheral vascular bypass surgery[5]	1	.
REC Rectal surgery[5]	13	44
SB Small bowel surgery	27	194
SPLE Spleen surgery	2	.
THOR Thoracic surgery	8	35
THYR Thyroid and/or parathyroid surgery	3	.
VHYS Vaginal hysterectomy[5]	18	103
VSHN Ventricular shunt	0	.
XLAP Abdominal surgery	34	376

1. SSIs included are those classified as deep incisional or organ/space infections following inpatient
2. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, thi
3. Risk factors used in the calculation of the number of predicted SSIs are listed in Appendix C.

4. Percent of facilities with at least one predicted infection that had an SIR significantly greater than
5. These procedures were presented in previous versions of the HAI Progress Report and follow sel
   and the corresponding SCIP procedures are listed in Appendix E.
6. Coronary artery bypass graft includes procedures with either chest only or chest and donor site in
7. Facility-specific percentiles are only calculated if at least 20 facilities had ≥ 1.0 predicted SSI in 20

Table 2c. National standardized infection ratios (SIRs) and facility-specific summary SI

No. of Infections			95% CI for SIR			Facility-
Observed	Predicted[3]	SIR	Lower	Upper	No. Hosp with ≥1 Predicted Infection	No. Hosp Significantly > N
115	140.013	0.821	0.681	0.982	24	1
96	116.822	0.822	0.669	0.999	17	0
.	.	.	.	.	.	.
0	0.035	.	.	.	0	.
2	1.840	1.087	0.182	3.592	0	.
.	.	.	.	.	.	.
0	0.157	.	.	.	0	.
0	0.350	.	.	.	0	.
.	.	.	.	.	.	.
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.	.	.	.	.	.	.
3	1.918	1.564	0.398	4.257	0	.
43	41.798	1.029	0.754	1.373	0	.
.	.	.	.	.	.	.
5	3.556	1.406	0.515	3.116	0	.
1	2.113	0.473	0.024	2.334	1	.
3	4.393	0.683	0.174	1.859	0	.
0	1.206	0.000	.	2.485	0	.
1	1.263	0.792	0.040	3.905	0	.
18	33.827	0.532	0.325	0.825	3	.
.	.	.	.	.	.	.
13	10.862	1.197	0.666	1.995	0	.
22	28.844	0.763	0.490	1.136	2	.
.	.	.	.	.	.	.
0	0.432	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0	0.083	.	.	.	0	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0	0.828	.	.	.	0	.
3	3.509	0.855	0.217	2.327	0	.
.	.	.	.	.	.	.
0	0.096	.	.	.	0	.
.	.	.	.	.	.	.
0	0.621	.	.	.	0	.
.	.	.	.	.	.	.
1	2.108	0.474	0.024	2.340	0	.

procedures that occurred in 2021 with a primary or other than primary skin closure technique, detected durin
s may be different from the numbers shown in Table 1. Refer to the Technical Appendix for information abou

or less than the nominal value of the national SIR for the given procedure type. This is only calculated if at lea
ect inpatient surgical procedures approximating procedures covered by the Surgical Care Improvement Proje

cisions.
)21. If a facility's predicted number of SSIs was < 1.0, a facility-specific SIR was neither calculated nor include

Rs using adult surgical site infection (SSI) data1 reported to NHSN from NHSN Critical Access Hos

specific SIRs with SIR > National SIR %[4]	No. Hosp with SIR Significantly < National SIR N		5%	10%	15%	20%	25%
4%	1	4%	0.000	0.000	0.000	0.000	0.000
0%	1	6%	.	.	.	.	.
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g the same admission as the surgical procedure or upon readmission to the same facility.
t exclusion criteria.

ast 10 facilities had ≥ 1.0 predicted SSI in 2021.
ct (SCIP). Specific NHSN procedures

ed in the distribution of facility-specific SIRs.

pitals during 2021 by surgical procedure.

Percentile Distribution of Facility-specific SIRs[7]									
				Median					
30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
0.000	0.000	0.000	0.480	0.564	0.749	0.777	1.631	1.751	1.874

80%	85%	90%	95%
1.892	1.905	2.241	2.451
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Surgical Procedure	No. of Acute Care Hospitals Reporting[2]	No. of Procedures
US, all NHSN procedures	51	213
	19	22
	0	.
AMP Limb amputation	0	.
APPY Appendix surgery	29	125
AVSD Shunt for dialysis	0	.
BILI Bile duct, liver or pancreatic surgery	0	.
BRST Breast surgery	0	.
	0	.
	0	.
CEA Carotid endarterectomy	0	.
CHOL Gallbladder surgery	6	8
	10	10
CRAN Craniotomy (ALL AGE)	0	.
CRAN Craniotomy (AGE >=2)	0	.
CRAN Craniotomy (AGE <2)	0	.
CSEC Cesarean section	10	10
FUSN Spinal fusion (AGE >=2)	2	.
FX Open reduction of fracture	7	35
GAST Gastric surgery	0	.
HER Herniorrhaphy	3	.
	5	7
HTP Heart transplant	0	
	2	.
	2	.
KTP Kidney transplant	0	.
LAM Laminectomy	0	.
LTP Liver transplant	0	.
NECK surgery	0	.
NEPH Kidney surgery	0	.
OVRY Ovarian surgery	0	.
PACE Pacemaker surgery	0	.
PRST Prostate surgery	0	.
	0	.
	0	.
SB Small bowel surgery	1	.
SPLE Spleen surgery	0	.
THOR Thoracic surgery	0	.
THYR Thyroid and/or parathyroid surgery	0	.
	0	.
VSHN Ventricular shunt	0	.
XLAP Abdominal surgery	2	2

1. SSIs included are those classified as deep incisional or organ/space infections following inpatient

2. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, thi
   statistics are only calculated for surgeries in which at least 5 facilities reported pediatric SSI data i
3. Risk factors used in the calculation of the number of predicted SSIs are listed in Appendix D.
4. Percent of facilities with at least one predicted infection that had an SIR significantly greater than
5. These procedures were presented in previous versions of the HAI Progress Report and follow sel
   and the corresponding SCIP procedures are listed in Appendix E.
6. Coronary artery bypass graft includes procedures with either chest only or chest and donor site in
7. Facility-specific percentiles are only calculated if at least 20 facilities had ≥ 1.0 predicted SSI in 20

Table 2d. National standardized infection ratios (SIRs) and facility-specific summary SIRs

No. of Infections			95% CI for SIR			Facility-
Observed		SIR	Lower	Upper	No. Hosp with ≥1 Predicted Infection	No. Hosp Significantly > N
0	0.624	.	.	.	.	.
0	0.324	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0	0.162	.	.	.	.	.
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0	0.006	.	.	.	.	.
0	0.224	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0	0.013	.	.	.	.	.
.	.	.	.	.	.	.
0	0.061	.	.	.	.	.
.	.	.	.	.	.	.
.	.	.	.	.	.	.
0	0.029	.	.	.	.	.
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t procedures in pediatric patients less than 18 years that occurred in 2021 with a primary or other than primar

s may be different from the numbers shown in Table 1. Refer to the Technical Appendix for information abou
n 2021.

or less than the nominal value of the national SIR for the given procedure type. This is only calculated if at lea
ect inpatient surgical procedures approximating procedures covered by the Surgical Care Improvement Proje

cisions.
)21. If a facility's predicted number of SSIs was < 1.0, a facility-specific SIR was neither calculated nor include

s using pediatric surgical site infection (SSI) data1 reported to NHSN from NHSN Critical Access H

specific SIRs with SIR > National SIR	No. Hosp with SIR Significantly < National SIR	N	5%	10%	15%	20%	25%
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y skin closure technique, detected during the same admission as the surgical procedure or upon readmiss

t exclusion criteria. SIRs and accompanying

ast 10 facilities had ≥ 1.0 predicted SSI in 2021.
ct (SCIP). Specific NHSN procedures

ed in the distribution of facility-specific SIRs.

ospitals during 2021 by surgical procedure.

30%	35%	40%	45%	Median 50%	55%	60%	65%	70%	75%
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sion to the same facility.

80%	85%	90%	95%

Table 3. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

3a. Central line-associated bloodstream infections (CLABSI), all locations[1]

State	State NHSN Mandate[2]	Any Validation[3]	No. of Critical Access Hospitals Reporting[4]	No. of Infections		95% CI for SIR			Facility-specific SIRs			Facility-specific SIRs at Key Percentiles[6]				
				Observed	Predicted	SIR	Lower	Upper	No. of hosp with at least 1 predicted CLABSI	% of hosp with SIR sig higher than national SIR[5]	% of hosp with SIR sig lower than national SIR[5]	10%	25%	Median (50%)	75%	90%
Alabama	Yes	Yes	4	.	.	.	.	.	.	.	.	.	.	.	.	.
Alaska	No	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.
Arizona			6	2	0.500	.	.	.	0	.	.	.	.	.	.	.
Arkansas			13	0	0.770	.	.	.	0	.	.	.	.	.	.	.
California			29	4	2.778	1.440	0.458	3.473	0	.	.	.	.	.	.	.
Colorado	Yes	No	24	0	0.718	.	.	.	0	.	.	.	.	.	.	.
Connecticut	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Delaware			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Florida	No	Yes	6	0	0.286	.	.	.	0	.	.	.	.	.	.	.
Georgia			21	0	1.954	0.000	.	.	0	.	.	.	.	.	.	.
Guam			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	No	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	No	16	1	0.787	.	.	.	0	.	.	.	.	.	.	.
Illinois	Yes	Yes	34	0	2.633	0.000	.	.	0	.	.	.	.	.	.	.
Indiana	Yes	Yes	35	6	3.002	1.999	0.810	4.157	0	.	.	.	.	.	.	.
Iowa	No	Yes	60	1	2.550	0.392	0.020	1.934	0	.	.	.	.	.	.	.
Kansas			58	1	2.881	0.347	0.017	1.712	0	.	.	.	.	.	.	.
Kentucky			27	1	2.607	0.384	0.019	1.892	0	.	.	.	.	.	.	.
Louisiana			6	1	0.855	.	.	.	0	.	.	.	.	.	.	.
Maine	Yes	No	16	2	1.577	1.268	0.213	4.190	0	.	.	.	.	.	.	.
Maryland	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	Yes	26	4	1.237	3.234	1.027	7.800	0	.	.	.	.	.	.	.
Minnesota	No	No	42	2	2.644	0.756	0.127	2.499	0	.	.	.	.	.	.	.
Mississippi	No	No	11	0	0.599	.	.	.	0	.	.	.	.	.	.	.
Missouri	No	No	23	3	1.767	1.698	0.432	4.621	0	.	.	.	.	.	.	.
Montana	No	No	10	1	0.737	.	.	.	0	.	.	.	.	.	.	.
Nebraska	No	No	21	0	0.990	.	.	.	0	.	.	.	.	.	.	.
Nevada			5	0	0.225	.	.	.	0	.	.	.	.	.	.	.
New Hampshire	Yes	No	12	0	0.890	.	.	.	0	.	.	.	.	.	.	.
New Jersey	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
New Mexico			9	1	0.544	.	.	.	0	.	.	.	.	.	.	.
New York			5	0	0.382	.	.	.	0	.	.	.	.	.	.	.
North Carolina	No	No	13	4	1.291	3.098	0.984	7.474	0	.	.	.	.	.	.	.
North Dakota	No	No	13	0	0.440	.	.	.	0	.	.	.	.	.	.	.
Ohio	No	No	27	5	2.215	2.257	0.827	5.003	0	.	.	.	.	.	.	.
Oklahoma			9	2	0.676	.	.	.	0	.	.	.	.	.	.	.
Oregon	Yes	No	24	1	2.122	0.471	0.024	2.324	0	.	.	.	.	.	.	.
Pennsylvania			14	0	1.139	0.000	.	.	0	.	.	.	.	.	.	.
Puerto Rico	Yes	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	Yes	4		.	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	No	26	0	0.801	.	.	.	0	.	.	.	.	.	.	.
Tennessee	No	No	5	0	0.145	.	.	.	0	.	.	.	.	.	.	.
Texas			46	1	3.035	0.329	0.016	1.625	0	.	.	.	.	.	.	.
Utah	No	No	8	0	0.239	.	.	.	0	.	.	.	.	.	.	.
Vermont			8	0	0.794	.	.	.	0	.	.	.	.	.	.	.
Virgin Islands			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	Yes	7	0	0.507	.	.	.	0	.	.	.	.	.	.	.
Washington	No	No	29	6	2.775	2.162	0.876	4.497	0	.	.	.	.	.	.	.
West Virginia	No	No	18	3	1.331	2.254	0.573	6.134	0	.	.	.	.	.	.	.
Wisconsin	No	No	50	4	4.664	0.858	0.273	2.069	0	.	.	.	.	.	.	.
Wyoming			11	0	0.327	.	.	.	0	.	.	.	.	.	.	.

All US	**838**	**56**	**57.328**	**0.977**	**0.745**	**1.259**	**0**	.	.	.	.	.	.	.

1. Data from all ICUs and wards (and other non-critical care locations). CLABSIs identified as Mucosal Barrier Injury (MBI) are excluded from the SIRs. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report CLABSI data from any location to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate.
   No indicates that a state mandate did not exist during 2021.
3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2021 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2021 NHSN data prior to June 1, 2022, and state health department contacted identified facilities.
   YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 to confirm proper case ascertainment (although intensity of auditing activities varies by state). Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.
4. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported CLABSI data in 2021.
5. Percent of facilities with at least one predicted CLABSI that had an SIR significantly greater or less than the nominal value of the 2021 national overall CLABSI SIR of 0.977. This is only calculated if at least 10 facilities had ≥ 1.0 predicted CLABSI in 2021.
6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted CLABSI in 2021. If a facility's predicted number of CLABSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 3. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures,
NHSN Critical Access Hospitals reporting during 2021
3b. Central line-associated bloodstream infections (CLABSI), critical care locations[1]

State		No. of Critical Access Hospitals Reporting[3]	No. of Infections			95% CI for SIR		Facility-specific SIRs		Facility-specific SIRs at Key Percentiles[5]				
			Observed	Predicted	SIR	Lower	Upper	% of hosp with SIR sig higher than national SIR[4]	% of hosp with SIR sig lower than national SIR[4]	10%	25%		75%	90%
Alabama	Yes	1	.	.	.	.	.	.	.	.	.	.	.	.
Alaska	No	1	.	.	.	.	.	.	.	.	.	.	.	.
Arizona		3	.	.	.	.	.	.	.	.	.	.	.	.
Arkansas		2	.	.	.	.	.	.	.	.	.	.	.	.
California		17	2	1.050	1.905	0.319	6.293	0	.	.	.	.	.	.
Colorado	Yes	4	.	.	.	.	.	.	.	.	.	.	.	.
Connecticut	No	0	.	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	0	.	.	.	.	.	.	.	.	.	.	.	.
Delaware		0	.	.	.	.	.	.	.	.	.	.	.	.
Florida	No	1	.	.	.	.	.	.	.	.	.	.	.	.
Georgia		4	.	.	.	.	.	.	.	.	.	.	.	.
Guam		0	.	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	1	.	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	3	.	.	.	.	.	.	.	.	.	.	.	.
Illinois	Yes	10	0	0.220	.	.	.	0	.	.	.	.	.	.
Indiana	Yes	14	4	0.597	.	.	.	0	.	.	.	.	.	.
Iowa	No	2	.	.	.	.	.	.	.	.	.	.	.	.
Kansas		4	.	.	.	.	.	.	.	.	.	.	.	.
Kentucky		4	.	.	.	.	.	.	.	.	.	.	.	.
Louisiana		2	.	.	.	.	.	.	.	.	.	.	.	.
Maine	Yes	2	.	.	.	.	.	.	.	.	.	.	.	.
Maryland	No	0	.	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	2	.	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	4	.	.	.	.	.	.	.	.	.	.	.	.
Minnesota	No	5	0	0.078	.	.	.	0	.	.	.	.	.	.
Mississippi	No	1	.	.	.	.	.	.	.	.	.	.	.	.
Missouri	No	6	2	0.262	.	.	.	0	.	.	.	.	.	.
Montana	No	3	.	.	.	.	.	.	.	.	.	.	.	.
Nebraska	No	3	.	.	.	.	.	.	.	.	.	.	.	.
Nevada		3	.	.	.	.	.	.	.	.	.	.	.	.
New Hampshire	Yes	6	0	0.088	.	.	.	0	.	.	.	.	.	.
New Jersey	No	0	.	.	.	.	.	.	.	.	.	.	.	.
New Mexico		5	1	0.277	.	.	.	0	.	.	.	.	.	.
New York		2	.	.	.	.	.	.	.	.	.	.	.	.
North Carolina	No	5	0	0.242	.	.	.	0	.	.	.	.	.	.
North Dakota	No	2	.	.	.	.	.	.	.	.	.	.	.	.
Ohio	No	9	3	0.383	.	.	.	0	.	.	.	.	.	.
Oklahoma		0	.	.	.	.	.	.	.	.	.	.	.	.
Oregon	Yes	12	1	0.481	.	.	.	0	.	.	.	.	.	.
Pennsylvania		4	.	.	.	.	.	.	.	.	.	.	.	.
Puerto Rico	Yes	0	.	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	0	.	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	2	.	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	2	.	.	.	.	.	.	.	.	.	.	.	.
Tennessee		1	.	.	.	.	.	.	.	.	.	.	.	.

Texas		6	0	0.159	.	.	.	0	.	.	.	.	.	.	.
Utah	Yes	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Vermont		4	.	.	.	.	.	.	.	.	.	.	.	.	.
Virgin Islands		0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.
Washington	No	8	3	0.505	.	.	.	0	.	.	.	.	.	.	.
West Virginia	No	8	1	0.348	.	.	.	0	.	.	.	.	.	.	.
Wisconsin	No	11	0	0.214	.	.	.	0	.	.	.	.	.	.	.
Wyoming		2	.	.	.	.	.	.	.	.	.	.	.	.	.
All US		**194**	**19**	**7.290**	**2.606**	**1.616**	**3.995**	**0**	**.**	**.**	**.**	**.**	**.**	**.**	**.**

1. Data from all ICUs; excludes wards (and other non-critical care locations). CLABSIs identified as Mucosal Barrier Injury (MBI) are excluded from the SIRs. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report CLABSI data from critical care units to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021. Note that almost all Critical Access Hospitals are required to report CLABSI data from ICUs to NHSN for participation in the Centers for Medicare and Medicaid Services' Hospital Inpatient Quality Reporting Program.
3. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported CLABSI data from at least one critical care location in 2021.
4. Percent of facilities with at least one predicted ICU CLABSI that had an SIR significantly greater or less than the nominal value of the 2021 national ICU CLABSI SIR of 2.606. This is only calculated if at least 10 facilities had at least one predicted ICU CLABSI in 2021.
5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ICU CLABSI in 2021. If a facility's predicted number of ICU CLABSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 3. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

3c. Central line-associated bloodstream infections (CLABSI), ward (non-critical care) locations[1]

State			No. of Infections		95% CI for SIR			Facility-specific SIRs						
			Observed	Predicted	SIR	Lower	Upper			10%	25%		75%	90%
Alabama	No	4	.	.	.	.	.	.	.	.	.	.	.	.
Alaska	No	3	.	.	.	.	.	.	.	.	.	.	.	.
Arizona		6	0	0.303	.	.	.	0	.	.	.	.	.	.
Arkansas		13	0	0.727	.	.	.	0	.	.	.	.	.	.
California		28	2	1.727	1.158	0.194	3.826	0	.	.	.	.	.	.
Colorado	No	23	0	0.672	.	.	.	0	.	.	.	.	.	.
Connecticut	No	0	.	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	0	.	.	.	.	.	.	.	.	.	.	.	.
Delaware		0	.	.	.	.	.	.	.	.	.	.	.	.
Florida	No	6	0	0.284	.	.	.	0	.	.	.	.	.	.
Georgia		20	0	1.518	0.000	.	1.973	0	.	.	.	.	.	.
Guam		0	.	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	1	.	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	15	1	0.576	.	.	.	0	.	.	.	.	.	.
Illinois	No	32	0	2.414	0.000	.	.	0	.	.	.	.	.	.
Indiana	Yes	35	2	2.406	0.831	0.139	2.746	0	.	.	.	.	.	.
Iowa	No	60	1	2.545	0.393	0.020	1.938	0	.	.	.	.	.	.
Kansas		58	1	2.787	0.359	0.018	1.770	0	.	.	.	.	.	.
Kentucky		27	1	2.456	0.407	0.020	2.008	0	.	.	.	.	.	.
Louisiana		6	1	0.777	.	.	.	0	.	.	.	.	.	.
Maine	Yes	16	2	1.513	1.322	0.222	4.367	0	.	.	.	.	.	.
Maryland	No	0	.	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	2	.	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	26	4	1.132	3.534	1.123	8.523	0	.	.	.	.	.	.
Minnesota		42	2	2.566	0.779	0.131	2.575	0	.	.	.	.	.	.
Mississippi	No	10	0	0.592	.	.	.	0	.	.	.	.	.	.
Missouri	No	23	1	1.503	0.665	0.033	3.281	0	.	.	.	.	.	.
Montana	No	10	1	0.690	.	.	.	0	.	.	.	.	.	.
Nebraska	No	19	0	0.948	.	.	.	0	.	.	.	.	.	.
Nevada		5	0	0.119	.	.	.	0	.	.	.	.	.	.
New Hampshire	No	12	0	0.801	.	.	.	0	.	.	.	.	.	.
New Jersey	No	0	.	.	.	.	.	.	.	.	.	.	.	.
New Mexico		9	0	0.266	.	.	.	0	.	.	.	.	.	.
New York		5	0	0.368	.	.	.	0	.	.	.	.	.	.
North Carolina	No	13	4	1.051	3.806	1.209	9.180	0	.	.	.	.	.	.
North Dakota	No	13	0	0.417	.	.	.	0	.	.	.	.	.	.
Ohio	No	27	2	1.833	1.091	0.183	3.605	0	.	.	.	.	.	.
Oklahoma		9	2	0.676	.	.	.	0	.	.	.	.	.	.
Oregon	Yes	24	0	1.640	0.000	.	1.827	0	.	.	.	.	.	.
Pennsylvania		14	0	0.911	.	.	.	0	.	.	.	.	.	.
Puerto Rico	Yes	0	.	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	0	.	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	4	.	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	26	0	0.795	.	.	.	0	.	.	.	.	.	.
Tennessee	No	5	0	0.144	.	.	.	0	.	.	.	.	.	.
Texas		44	1	2.876	0.348	0.017	1.715	0	.	.	.	.	.	.
Utah	Yes	8	0	0.239	.	.	.	0	.	.	.	.	.	.
Vermont		6	0	0.605	.	.	.	0	.	.	.	.	.	.

Virgin Islands		0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	7	0	0.413	.	.	.	0	.	.	.	.	.	.	.
Washington	No	29	3	2.267	1.323	0.337	3.602	0	.	.	.	.	.	.	.
West Virginia	No	18	2	0.984	.	.	.	0	.	.	.	.	.	.	.
Wisconsin	No	50	4	4.453	0.898	0.285	2.167	0	.	.	.	.	.	.	.
Wyoming		11	0	0.289	.	.	.	0	.	.	.	.	.	.	.
All US		**824**	**37**	**50.038**	**0.739**	**0.528**	**1.008**	**0**	**.**	**.**	**.**	**.**	**.**	**.**	**.**

1. Data from all wards (for this table wards also include step-down, mixed acuity and specialty care areas [including hematology/oncology, bone marrow transplant]). CLABSIs identified as Mucosal Barrier Injury (MBI) are excluded from the SIRs. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report CLABSI data from ward locations to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported CLABSI data from at least one ward in 2021.
4. Percent of facilities with at least one predicted ward CLABSI that had an SIR significantly greater or less than the nominal value of the 2021 national ward CLABSI SIR of 0.739. This is only calculated if at least 10 facilities had at least one predicted ward CLABSI in 2021.
5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ward CLABSI in 2021. If a facility's predicted number of ward CLABSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 4. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

4a. Catheter-associated urinary tract infections (CAUTI), all locations[1]

State				No. of Infections			95% CI for SIR		Facility-specific SIRs				
				Observed	Predicted	SIR	Lower	Upper	No. of hosp with at least 1 predicted CAUTI	10%	25%	75%	90%
Alabama	Yes	Yes	5	0	2.379	0.000		1.259	1	.	.	.	.
Alaska	No	No	3	.	.	.	.	.	.	.	.	.	.
Arizona			7	4	2.352	1.701	0.540	4.102	0	.	.	.	.
Arkansas			14	5	3.958	1.263	0.463	2.800	0	.	.	.	.
California			32	10	16.704	0.599	0.304	1.067	6	.	.	.	.
Colorado	No	No	28	4	6.392	0.626	0.199	1.509	1	.	.	.	.
Connecticut	No	No	0	.	.	.	.	.	.	.	.	.	.
D.C.	No	No	0	.	.	.	.	.	.	.	.	.	.
Delaware			0	.	.	.	.	.	.	.	.	.	.
Florida	No	Yes	6	0	4.221	0.000		0.710	1	.	.	.	.
Georgia			21	5	9.446	0.529	0.194	1.173	2	.	.	.	.
Guam			0	.	.	.	.	.	.	.	.	.	.
Hawaii	No	No	1	.	.	.	.	.	.	.	.	.	.
Idaho	No	No	19	9	6.291	1.431	0.698	2.625	1	.	.	.	.
Illinois	No	No	39	7	12.989	0.539	0.236	1.066	2	.	.	.	.
Indiana	Yes	Yes	35	6	14.531	0.413	0.167	0.859	3	.	.	.	.
Iowa	No	Yes	71	7	21.883	0.320	0.140	0.633	7	.	.	.	.
Kansas			72	13	25.374	0.512	0.285	0.854	5	.	.	.	.
Kentucky			27	19	13.676	1.389	0.861	2.129	2	.	.	.	.
Louisiana			6	1	3.410	0.293	0.015	1.446	0	.	.	.	.
Maine	Yes	No	16	4	11.790	0.339	0.108	0.818	4	.	.	.	.
Maryland	No	No	0	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	No	3	.	.	.	.	.	.	.	.	.	.
Michigan	No	Yes	30	3	8.030	0.374	0.095	1.017	0	.	.	.	.
Minnesota	No	No	65	17	18.786	0.905	0.545	1.419	6	.	.	.	.
Mississippi	No	No	22	5	6.936	0.721	0.264	1.598	1	.	.	.	.
Missouri	No	No	25	15	6.435	2.331	1.355	3.758	1	.	.	.	.
Montana	No	No	10	2	10.946	0.183	0.031	0.604	5	.	.	.	.
Nebraska	No	No	35	4	6.929	0.577	0.183	1.392	1	.	.	.	.
Nevada			5	0	1.386	0.000		2.161	0	.	.	.	.
New Hampshire	Yes	No	12	3	14.358	0.209	0.053	0.569	5	.	.	.	.
New Jersey	No	No	0	.	.	.	.	.	.	.	.	.	.
New Mexico			9	2	5.816	0.344	0.058	1.136	1	.	.	.	.
New York			8	3	1.242	2.415	0.614	6.574	0	.	.	.	.
North Carolina	No	No	14	10	10.716	0.933	0.474	1.663	3	.	.	.	.
North Dakota	No	No	18	3	5.601	0.536	0.136	1.458	1	.	.	.	.
Ohio	No	No	28	8	11.916	0.671	0.312	1.275	4	.	.	.	.
Oklahoma			13	12	2.837	4.230	2.292	7.191	0	.	.	.	.
Oregon	Yes	No	25	12	11.056	1.085	0.588	1.845	2	.	.	.	.
Pennsylvania			15	11	6.182	1.779	0.936	3.093	0	.	.	.	.
Puerto Rico	Yes	No	0	.	.	.	.	.	.	.	.	.	.
Rhode Island	No		0	.	.	.	.	.	.	.	.	.	.
South Carolina	No	No	4	.	.	.	.	.	.	.	.	.	.
South Dakota	No	No	37	2	5.108	0.392	0.066	1.294	0	.	.	.	.
Tennessee	No	No	5	0	1.310	0.000		2.287	0	.	.	.	.
Texas			60	12	14.698	0.816	0.442	1.388	2	.	.	.	.
Utah	Yes	No	8	0	1.324	0.000		2.263	0	.	.	.	.

Vermont			4	.	.	.	.	.	.	.	.	.	.	.	.	.
Virgin Islands			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	Yes	7	2	2.342	0.854	0.143	2.821	0	.	.	.	.	.	.	.
Washington	No	No	30	20	12.227	1.636	1.027	2.481	1	.	.	.	.	.	.	.
West Virginia	No	No	21	1	9.025	0.111	0.006	0.546	2	.	.	.	.	.	.	.
Wisconsin	No	No	56	18	26.088	0.690	0.422	1.069	9	.	.	.	.	.	.	.
Wyoming			13	1	6.147	0.163	0.008	0.802	3	.	.	.	.	.	.	.
All US			**984**	**267**	**368.254**	**0.725**	**0.642**	**0.816**	**83**	**0%**	**0%**	**0.000**	**0.000**	**0.000**	**0.581**	**0.925**

1. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report CAUTI data from any location to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate.
   No indicates that a state mandate did not exist during 2021.
3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2021 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2021 NHSN data prior to June 1, 2022, and state health department contacted identified facilities.
   YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 to confirm proper case ascertainment (although intensity of auditing activities varies by state). Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.
4. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported CAUTI data in 2021.
5. Percent of facilities with at least one predicted CAUTI that had an SIR significantly greater or less than the nominal value of the 2021 national overall CAUTI SIR of 0.725. This is only calculated if at least 10 facilities had at least one predicted CAUTI in 2021.
6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted CAUTI in 2021. If a facility's predicted number of CAUTI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 4. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

4b. Catheter-associated urinary tract infections (CAUTI), critical care locations[1]

State			No. of Infections			95% CI for SIR		Facility-specific SIRs								
			Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%	
Alabama	Yes	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alaska	Yes	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arizona		3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arkansas		2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
California		17	5	5.044	0.991	0.363	2.197	1	.	.	.	.	.	.	.	.
Colorado	No	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Connecticut	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Delaware		0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Florida	No	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Georgia		4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guam		0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Illinois	No	12	0	0.946	.	.	.	0	.	.	.	.	.	.	.	.
Indiana	Yes	15	1	3.969	0.252	0.013	1.243	1	.	.	.	.	.	.	.	.
Iowa	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Kansas		4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Kentucky		4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Louisiana		2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Maine	Yes	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Maryland	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	5	0	0.428	.	.	.	0	.	.	.	.	.	.	.	.
Minnesota	No	9	0	1.424	0.000	.	2.104	0	.	.	.	.	.	.	.	.
Mississippi	No	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Missouri	No	7	7	0.935	.	.	.	0	.	.	.	.	.	.	.	.
Montana	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nebraska	No	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nevada		3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
New Hampshire	Yes	6	0	1.825	0.000	.	1.641	0	.	.	.	.	.	.	.	.
New Jersey	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
New Mexico		5	1	1.541	0.649	0.032	3.200	0	.	.	.	.	.	.	.	.
New York		2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
North Carolina	No	5	1	2.361	0.424	0.021	2.089	0	.	.	.	.	.	.	.	.
North Dakota	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ohio	No	9	1	2.320	0.431	0.022	2.126	0	.	.	.	.	.	.	.	.
Oklahoma		0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oregon	Yes	13	2	2.950	0.678	0.114	2.240	0	.	.	.	.	.	.	.	.
Pennsylvania		4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Puerto Rico	Yes	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
South Carolina	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Tennessee	No	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Texas		6	0	0.918	.	.	.	0	.	.	.	.	.	.	.	.
Utah	Yes	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vermont		2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Virgin Islands		0	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Washington	No	8	0	1.968	0.000	.	1.522	0	.	.	.	.	.	.	.	.
West Virginia	Yes	8	0	1.746	0.000	.	1.716	0	.	.	.	.	.	.	.	.
Wisconsin	No	12	2	2.192	0.912	0.153	3.014	0	.	.	.	.	.	.	.	.
Wyoming		2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
All US		**204**	**31**	**46.460**	**0.667**	**0.461**	**0.935**	**2**	**.**	**.**	**.**	**.**	**.**	**.**	**.**	**.**

1. Data from all ICUs; excludes wards (and other non-critical care locations) and NICUs. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report CAUTI data from critical care units to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate.
   No indicates that a state mandate did not exist during 2021. Note that almost all Critical Access Hospitals are required to report CAUTI data from ICUs to NHSN for participation in the Centers for Medicare and Medicaid Services' Hospital Inpatient Quality Reporting Program.
3. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported CAUTI data from at least one critical care location in 2021.
4. Percent of facilities with at least one predicted ICU CAUTI that had an SIR significantly greater or less than the nominal value of the 2021 national ICU CAUTI SIR of 0.667. This is only calculated if at least 10 facilities had at least one predicted ICU CAUTI in 2021.
5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ICU CAUTI in 2021. If a facility's predicted number of ICU CAUTI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 4. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

4c. Catheter-associated urinary tract infections (CAUTI), ward (non-critical care) locations[1]

			No. of Infections			95% CI for SIR		Facility-specific SIRs					
State			Observed	Predicted	SIR	Lower	Upper		10%	25%		75%	90%
Alabama	Yes	5	0	1.583	0.000	.	1.892	0	.	.	.	.	.
Alaska	No	3	.	.	.	.	.	.	.	.	.	.	.
Arizona		7	0	1.455	0.000	.	2.059	0	.	.	.	.	.
Arkansas		14	5	3.528	1.417	0.519	3.141	0	.	.	.	.	.
California		31	5	11.659	0.429	0.157	0.951	2	.	.	.	.	.
Colorado	No	27	4	6.104	0.655	0.208	1.581	1	.	.	.	.	.
Connecticut	No	0	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	0	.	.	.	.	.	.	.	.	.	.	.
Delaware		0	.	.	.	.	.	.	.	.	.	.	.
Florida	No	6	0	4.204	0.000	.	0.713	1	.	.	.	.	.
Georgia		20	5	8.002	0.625	0.229	1.385	1	.	.	.	.	.
Guam		0	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	1	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	18	8	4.863	1.645	0.764	3.124	1	.	.	.	.	.
Illinois	No	37	7	12.044	0.581	0.254	1.150	2	.	.	.	.	.
Indiana	Yes	35	5	10.560	0.473	0.173	1.049	1	.	.	.	.	.
Iowa	No	71	7	21.835	0.321	0.140	0.634	7	.	.	.	.	.
Kansas		72	13	24.214	0.537	0.299	0.895	5	.	.	.	.	.
Kentucky		27	18	12.502	1.440	0.880	2.231	1	.	.	.	.	.
Louisiana		6	1	3.061	0.327	0.016	1.611	0	.	.	.	.	.
Maine	Yes	16	4	10.997	0.364	0.116	0.877	4	.	.	.	.	.
Maryland	No	0	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	2	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	30	3	7.604	0.395	0.100	1.074	0	.	.	.	.	.
Minnesota	No	64	17	17.361	0.979	0.589	1.536	4	.	.	.	.	.
Mississippi	No	21	5	6.907	0.724	0.265	1.605	1	.	.	.	.	.
Missouri	No	25	8	5.501	1.454	0.675	2.762	0	.	.	.	.	.
Montana	No	10	2	9.882	0.202	0.034	0.669	5	.	.	.	.	.
Nebraska		33	3	5.999	0.500	0.127	1.361	1	.	.	.	.	.
Nevada		5	0	0.948	.	.	.	0	.	.	.	.	.
New Hampshire	No	12	3	12.532	0.239	0.061	0.652	5	.	.	.	.	.
New Jersey	No	0	.	.	.	.	.	.	.	.	.	.	.
New Mexico		9	1	4.273	0.234	0.012	1.154	1	.	.	.	.	.
New York		8	2	1.133	1.765	0.296	5.832	0	.	.	.	.	.
North Carolina	No	14	9	8.356	1.077	0.525	1.977	1	.	.	.	.	.
North Dakota	No	18	3	4.926	0.609	0.155	1.657	1	.	.	.	.	.
Ohio	No	28	7	9.594	0.730	0.319	1.443	2	.	.	.	.	.
Oklahoma		13	12	2.837	4.230	2.292	7.191	0	.	.	.	.	.
Oregon	Yes	25	10	8.104	1.234	0.627	2.200	1	.	.	.	.	.
Pennsylvania		15	8	5.020	1.594	0.740	3.026	0	.	.	.	.	.
Puerto Rico	Yes	0	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	0	.	.	.	.	.	.	.	.	.	.	.
South Carolina	No	4	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	37	2	5.063	0.395	0.066	1.305	0	.	.	.	.	.
Tennessee	No	5	0	1.268	0.000	.	2.363	0	.	.	.	.	.
Texas		58	12	13.780	0.871	0.472	1.480	2	.	.	.	.	.
Utah	Yes	8	0	1.324	0.000	.	2.263	0	.	.	.	.	.
Vermont		3	.	.	.	.	.	.	.	.	.	.	.

Virgin Islands		0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	7	2	1.931	1.036	0.174	3.422	0	.	.	.	.	.	.	.
Washington	No	30	20	10.261	1.949	1.224	2.957	0	.	.	.	.	.	.	.
West Virginia	Yes	21	1	7.279	0.137	0.007	0.678	1	.	.	.	.	.	.	.
Wisconsin	No	56	16	23.896	0.670	0.396	1.064	6	.	.	.	.	.	.	.
Wyoming		13	1	5.214	0.192	0.010	0.946	3	.	.	.	.	.	.	.
All US		**970**	**236**	**321.790**	**0.733**	**0.644**	**0.832**	**60**	**0%**	**0%**	**0.000**	**0.000**	**0.000**	**0.000**	**0.850**

1. Data from all wards (for this table wards also include stepdown, mixed acuity and specialty care areas [including hematology/oncology, bone marrow transplant]). This excludes NICU. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report CAUTI data from ward locations to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported CAUTI data from at least one ward in 2021.
4. Percent of facilities with at least one predicted ward CAUTI that had an SIR significantly greater or less than the nominal value of the 2021 national ward CAUTI SIR of 0.733. This is only calculated if at least 10 facilities had at least one predicted ward CAUTI in 2021.
5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ward CAUTI in 2021. If a facility's predicted number of ward CAUTI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 5. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

5a. Ventilator-associated events (VAE), all locations[1]

State				No. of Events			95% CI for SIR		Facility-specific SIRs				
				Observed	Predicted	SIR	Lower	Upper	No. of hosp with at least 1 predicted VAE	10%	25%	75%	90%
Alabama	No	No	0	.	.	.	.	.	.	.	.	.	.
Alaska	No	No	1	.	.	.	.	.	.	.	.	.	.
Arizona			2	.	.	.	.	.	.	.	.	.	.
Arkansas			3	.	.	.	.	.	.	.	.	.	.
California			13	18	2.247	8.009	4.896	12.413	0	.	.	.	.
Colorado	No	No	2	.	.	.	.	.	.	.	.	.	.
Connecticut	No	No	0	.	.	.	.	.	.	.	.	.	.
D.C.	No	No	0	.	.	.	.	.	.	.	.	.	.
Delaware			0	.	.	.	.	.	.	.	.	.	.
Florida	No	Yes	3	.	.	.	.	.	.	.	.	.	.
Georgia			1	.	.	.	.	.	.	.	.	.	.
Guam			0	.	.	.	.	.	.	.	.	.	.
Hawaii	No	No	0	.	.	.	.	.	.	.	.	.	.
Idaho	No	No	3	.	.	.	.	.	.	.	.	.	.
Illinois	No	No	5	0	0.021	.	.	.	.	.	.	.	.
Indiana	No	No	14	0	1.396	0.000		2.147	0	.	.	.	.
Iowa	No	No	0	.	.	.	.	.	.	.	.	.	.
Kansas			2	.	.	.	.	.	.	.	.	.	.
Kentucky			2	.	.	.	.	.	.	.	.	.	.
Louisiana			2	.	.	.	.	.	.	.	.	.	.
Maine	No	No	4	.	.	.	.	.	.	.	.	.	.
Maryland	No	No	0	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	No	1	.	.	.	.	.	.	.	.	.	.
Michigan	No	Yes	4	.	.	.	.	.	.	.	.	.	.
Minnesota	No	No	2	.	.	.	.	.	.	.	.	.	.
Mississippi	No	No	2	.	.	.	.	.	.	.	.	.	.
Missouri	No	No	3	.	.	.	.	.	.	.	.	.	.
Montana	No	No	2	.	.	.	.	.	.	.	.	.	.
Nebraska	No	No	0	.	.	.	.	.	.	.	.	.	.
Nevada			2	.	.	.	.	.	.	.	.	.	.
New Hampshire	No	No	5	0	0.377	.	.	.	.	.	.	.	.
New Jersey	No	No	0	.	.	.	.	.	.	.	.	.	.
New Mexico			2	.	.	.	.	.	.	.	.	.	.
New York			1	.	.	.	.	.	.	.	.	.	.
North Carolina	No	No	5	5	0.605	.	.	.	.	.	.	.	.
North Dakota	No	No	2	.	.	.	.	.	.	.	.	.	.
Ohio	No	No	9	14	1.189	11.778	6.704	19.293	0	.	.	.	.
Oklahoma			1	.	.	.	.	.	.	.	.	.	.
Oregon	No	No	6	0	0.287	.	.	.	.	.	.	.	.
Pennsylvania			6	4	0.876	.	.	.	.	.	.	.	.
Puerto Rico	Yes	No	0	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	No	0	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	Yes	2	.	.	.	.	.	.	.	.	.	.
South Dakota	No	No	0	.	.	.	.	.	.	.	.	.	.
Tennessee	No	No	0	.	.	.	.	.	.	.	.	.	.
Texas			5	0	0.609	.	.	.	.	.	.	.	.

Utah	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Vermont			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virgin Islands			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Washington	No	No	6	2	1.267	1.578	0.265	5.215	.	.	.	.	.	.	.	.
West Virginia	No	No	7	3	0.638	.	.	.	.	.	.	.	.	.	.	.
Wisconsin	No	No	8	1	0.372	.	.	.	.	.	.	.	.	.	.	.
Wyoming			1	.	.	.	.	.	.	.	.	.	.	.	.	.
All US			**141**	**61**	**15.169**	**4.021**	**3.103**	**5.131**	**0**	**.**	**.**	**.**	**.**	**.**	**.**	**.**

1. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. Pediatric locations (ICUs or wards) are excluded, since pediatric and neonatal locations are excluded from VAE surveillance. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report VAE data from any location to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2021 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2021 NHSN data prior to June 1, 2022, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 to confirm proper case ascertainment (although intensity of auditing activities varies by state). Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.
4. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported VAE data in 2021.
5. Percent of facilities with at least one predicted VAE that had an SIR significantly greater or less than the nominal value of the 2021 national overall VAE SIR of 4.021. This is only calculated if at least 10 facilities had at least one predicted VAE in 2021.
6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted VAE in 2021. If a facility's predicted number of VAE was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 5. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

5b. Ventilator-associated events (VAE), critical care locations[1]

State		No. of Critical Access Hospitals Reporting3	No. of Events			95% CI for SIR		Facility-specific SIRs					
			Observed	Predicted	SIR	Lower	Upper		10%	25%		75%	90%
Alabama	No	0	.	.	.	.	.	.	.	.	.	.	.
Alaska	No	0	.	.	.	.	.	.	.	.	.	.	.
Arizona		2	.	.	.	.	.	.	.	.	.	.	.
Arkansas		1	.	.	.	.	.	.	.	.	.	.	.
California		12	18	2.246	8.014	4.899	12.42	0	.	.	.	.	.
Colorado	No	2	.	.	.	.	.	.	.	.	.	.	.
Connecticut	No	0	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	0	.	.	.	.	.	.	.	.	.	.	.
Delaware		0	.	.	.	.	.	.	.	.	.	.	.
Florida	No	0	.	.	.	.	.	.	.	.	.	.	.
Georgia		1	.	.	.	.	.	.	.	.	.	.	.
Guam		0	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	0	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	2	.	.	.	.	.	.	.	.	.	.	.
Illinois	No	3	.	.	.	.	.	.	.	.	.	.	.
Indiana	Yes	12	0	1.384	0.000		2.164	0					
Iowa	No	0	.	.	.	.	.	.	.	.	.	.	.
Kansas		2	.	.	.	.	.	.	.	.	.	.	.
Kentucky		2	.	.	.	.	.	.	.	.	.	.	.
Louisiana		1	.	.	.	.	.	.	.	.	.	.	.
Maine	No	2	.	.	.	.	.	.	.	.	.	.	.
Maryland	No	0	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	1	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	2	.	.	.	.	.	.	.	.	.	.	.
Minnesota	No	1	.	.	.	.	.	.	.	.	.	.	.
Mississippi	No	0	.	.	.	.	.	.	.	.	.	.	.
Missouri	No	3	.	.	.	.	.	.	.	.	.	.	.
Montana	No	1	.	.	.	.	.	.	.	.	.	.	.
Nebraska	No	0	.	.	.	.	.	.	.	.	.	.	.
Nevada		2	.	.	.	.	.	.	.	.	.	.	.
New Hampshire	No	5	0	0.362	.	.	.	.	.	.	.	.	.
New Jersey	No	0	.	.	.	.	.	.	.	.	.	.	.
New Mexico		2	.	.	.	.	.	.	.	.	.	.	.
New York		1	.	.	.	.	.	.	.	.	.	.	.
North Carolina	No	3	.	.	.	.	.	.	.	.	.	.	.
North Dakota	No	2	.	.	.	.	.	.	.	.	.	.	.
Ohio	No	6	11	0.916	.	.	.	.	.	.	.	.	.
Oklahoma		0	.	.	.	.	.	.	.	.	.	.	.
Oregon	No	5	0	0.278				.	.	.	.	.	.
Pennsylvania		4	.	.	.	.	.	.	.	.	.	.	.
Puerto Rico	Yes	0	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	0	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	2	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	0	.	.	.	.	.	.	.	.	.	.	.
Tennessee	No	0	.	.	.	.	.	.	.	.	.	.	.
Texas		3	.	.	.	.	.	.	.	.	.	.	.
Utah	Yes	0	.	.	.	.	.	.	.	.	.	.	.
Vermont		0	.	.	.	.	.	.	.	.	.	.	.

Virgin Islands		0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Washington	No	6	2	1.267	1.578	0.265	5.215	.	.	.	.	.	.	.	.
West Virginia	No	7	3	0.638	.	.	.	.	.	.	.	.	.	.	.
Wisconsin	No	7	1	0.350	.	.	.	.	.	.	.	.	.	.	.
Wyoming		1	.	.	.	.	.	.	.	.	.	.	.	.	.
All US		**108**	**49**	**11.985**	**4.088**	**3.058**	**5.361**	**0**	**.**	**.**	**.**	**.**	**.**	**.**	**.**

1. Data from all ICUs; excludes wards (and other non-critical care locations) and NICUs. Pediatric location (ICUs) are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance
   These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report VAE data from critical care units to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported VAE data from at least one critical care location in 2021.
4. Percent of facilities with at least one predicted ICU VAE that had an SIR significantly greater or less than the nominal value of the 2021 national ICU VAE SIR of 4.088. This is only calculated if at least 10 facilities had at least one predicted ICU VAE in 2021.
5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ICU VAE in 2021. If a facility's predicted number of ICU VAE was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 5. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

5c. Ventilator-associated events (VAE), ward (non-critical care) locations[1]

State			No. of Events			95% CI for SIR		Facility-specific SIRs				
			Observed	Predicted	SIR	Lower	Upper		10%	25%	75%	90%
Alabama	No	0	.	.	.	.	.	.	.	.	.	.
Alaska	No	1	.	.	.	.	.	.	.	.	.	.
Arizona		0	.	.	.	.	.	.	.	.	.	.
Arkansas		2	.	.	.	.	.	.	.	.	.	.
California		1	.	.	.	.	.	.	.	.	.	.
Colorado	No	1	.	.	.	.	.	.	.	.	.	.
Connecticut	No	0	.	.	.	.	.	.	.	.	.	.
D.C.	No	0	.	.	.	.	.	.	.	.	.	.
Delaware		0	.	.	.	.	.	.	.	.	.	.
Florida	No	3	.	.	.	.	.	.	.	.	.	.
Georgia		0	.	.	.	.	.	.	.	.	.	.
Guam		0	.	.	.	.	.	.	.	.	.	.
Hawaii	No	0	.	.	.	.	.	.	.	.	.	.
Idaho	No	1	.	.	.	.	.	.	.	.	.	.
Illinois	No	2	.	.	.	.	.	.	.	.	.	.
Indiana	Yes	2	.	.	.	.	.	.	.	.	.	.
Iowa	No	0	.	.	.	.	.	.	.	.	.	.
Kansas		0	.	.	.	.	.	.	.	.	.	.
Kentucky		0	.	.	.	.	.	.	.	.	.	.
Louisiana		1	.	.	.	.	.	.	.	.	.	.
Maine	No	2	.	.	.	.	.	.	.	.	.	.
Maryland	No	0	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	0	.	.	.	.	.	.	.	.	.	.
Michigan	No	2	.	.	.	.	.	.	.	.	.	.
Minnesota	No	1	.	.	.	.	.	.	.	.	.	.
Mississippi	No	2	.	.	.	.	.	.	.	.	.	.
Missouri	No	0	.	.	.	.	.	.	.	.	.	.
Montana	No	1	.	.	.	.	.	.	.	.	.	.
Nebraska	No	0	.	.	.	.	.	.	.	.	.	.
Nevada		0	.	.	.	.	.	.	.	.	.	.
New Hampshire	No	1	.	.	.	.	.	.	.	.	.	.
New Jersey	No	0	.	.	.	.	.	.	.	.	.	.
New Mexico		0	.	.	.	.	.	.	.	.	.	.
New York		0	.	.	.	.	.	.	.	.	.	.
North Carolina	No	2	.	.	.	.	.	.	.	.	.	.
North Dakota	No	0	.	.	.	.	.	.	.	.	.	.
Ohio	No	4	.	.	.	.	.	.	.	.	.	.
Oklahoma		1	.	.	.	.	.	.	.	.	.	.
Oregon	No	3	.	.	.	.	.	.	.	.	.	.
Pennsylvania		2	.	.	.	.	.	.	.	.	.	.
Puerto Rico	No	0	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	0	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	0	.	.	.	.	.	.	.	.	.	.
South Dakota	No	0	.	.	.	.	.	.	.	.	.	.
Tennessee	No	0	.	.	.	.	.	.	.	.	.	.
Texas		2	.	.	.	.	.	.	.	.	.	.

Utah	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Vermont		0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virgin Islands		0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Washington	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
West Virginia	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Wisconsin	No	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Wyoming		1	.	.	.	.	.	.	.	.	.	.	.	.	.
All US		**39**	**12**	**3.184**	**3.769**	**2.042**	**6.408**	**0**	**.**	**.**	**.**	**.**	**.**	**.**	**.**

1. Data from all wards (for this table wards also include stepdown, mixed acuity and specialty care areas [including hematology/oncology, bone marrow transplant]). This excludes NICU. Pediatric location (wards) are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance. These tables contain data from Critical Access Hospitals; as such, they exclude data from LTACHs, IRFs, and ACHs.
2. Yes indicates the presence of a state mandate to report VAE data from ward locations to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. The number of reporting facilities included in the SIR calculation. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported VAE data from at least one ward in 2021.
4. Percent of facilities with at least one predicted ward VAE that had an SIR significantly greater or less than the nominal value of the 2021 national ward VAE SIR of 3.769. This is only calculated if at least 10 facilities had at least one predicted ward VAE in 2021.
5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ward VAE in 2021. If a facility's predicted number of ward VAE was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 6. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

6a. Surgical site infections (SSI) following colon surgery[1] in adults, ≥ 18years

State			No. of Critical Access Hospitals Reporting[4]	No. of Procedures	No. of Infections Observed	Predicted	SIR	95% CI for SIR Lower	Upper	Facility-specific SIRs No. of hosp with at least 1 predicted SSI	10%	25%	75%	90%
Alabama	Yes	Yes	0	.	.	.	.	.	.	.	.	.	.	.
Alaska	No	No	1	.	.	.	.	.	.	.	.	.	.	.
Arizona			4	.	.	.	.	.	.	.	.	.	.	.
Arkansas			4	.	.	.	.	.	.	.	.	.	.	.
California			14	158	5	3.339	1.497	0.549	3.319	0	.	.	.	.
Colorado	Yes	No	10	66	1	1.112	0.899	0.045	4.434	0	.	.	.	.
Connecticut	No	No	0	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Delaware			0	.	.	.	.	.	.	.	.	.	.	.
Florida	No	Yes	2	.	.	.	.	.	.	.	.	.	.	.
Georgia			3	.	.	.	.	.	.	.	.	.	.	.
Guam			0	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	No	1	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	No	4	.	.	.	.	.	.	.	.	.	.	.
Illinois	No	No	14	125	1	2.283	0.438	0.022	2.160	0	.	.	.	.
Indiana	Yes	No	21	129	1	2.584	0.387	0.019	1.908	0	.	.	.	.
Iowa	Yes	No	6	18	1	0.301				0	.	.	.	.
Kansas			12	64	2	1.098	1.821	0.305	6.017	0	.	.	.	.
Kentucky			5	39	2	0.828				0	.	.	.	.
Louisiana			0	.	.	.	.	.	.	.	.	.	.	.
Maine	No	No	9	80	1	1.607	0.622	0.031	3.070	0	.	.	.	.
Maryland	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	No	1	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	Yes	11	95	6	1.837	3.266	1.324	6.794	0	.	.	.	.
Minnesota	No	No	12	100	2	1.877	1.066	0.179	3.521	0	.	.	.	.
Mississippi	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Missouri	No	No	9	34	2	0.659	.	.	.	0	.	.	.	.
Montana	No	No	4	.	.	.	.	.	.	.	.	.	.	.
Nebraska	No	No	4	.	.	.	.	.	.	.	.	.	.	.
Nevada			2	.	.	.	.	.	.	.	.	.	.	.
New Hampshire	Yes	No	8	91	1	1.718	0.582	0.029	2.871	0	.	.	.	.
New Jersey	No	No	0	.	.	.	.	.	.	.	.	.	.	.
New Mexico			2	.	.	.	.	.	.	.	.	.	.	.
New York			2	.	.	.	.	.	.	.	.	.	.	.
North Carolina	No	No	6	66	0	1.234	0.000		2.427	0	.	.	.	.
North Dakota	No	No	3	.	.	.	.	.	.	.	.	.	.	.
Ohio	Yes	No	12	79	0	1.448	0.000		2.069	0	.	.	.	.
Oklahoma			0	.	.	.	.	.	.	.	.	.	.	.
Oregon	Yes	No	14	188	5	3.587	1.394	0.511	3.090	0	.	.	.	.
Pennsylvania			8	52	1	0.994				0	.	.	.	.
Puerto Rico	Yes	No	0	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	Yes	No	0	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	Yes	0	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	No	1	.	.	.	.	.	.	.	.	.	.	.
Tennessee	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Texas			11	73	0	1.163	0.000		2.575	0	.	.	.	.
Utah	Yes	No	3	.	.	.	.	.	.	.	.	.	.	.
Vermont			2	.	.	.	.	.	.	.	.	.	.	.
Virgin Islands			0	.	.	.	.	.	.	.	.	.	.	.
Virginia	Yes	Yes	3	.	.	.	.	.	.	.	.	.	.	.
Washington	Yes	No	15	109	1	1.944	0.514	0.026	2.537	0	.	.	.	.
West Virginia	Yes	No	7	79	3	1.305	2.299	0.585	6.257	0	.	.	.	.
Wisconsin	Yes	No	28	260	3	4.386	0.684	0.174	1.862	0	.	.	.	.
Wyoming			5	19	0	0.320	.	.	.	0	.	.	.	.
All US			**283**	**2,253**	**43**	**41.798**	**1.029**	**0.754**	**1.373**	**0**	**.**	**.**	**.**	**.**

1. Critical Access Hospitals are not required to report SSIs following inpatient colon procedures in adults 18 years and older to NHSN for participation in the Centers for Medicare and Medicaid Services' (CMS) Hospital Inpatient Quality Reporting Program. SSIs included in this table are those classified as deep incisional or organ/space infections following NHSN-defined inpatient colon procedures that occurred in 2021 with a primary or other than primary skin closure technique, detected during the same admission as the surgical procedure or upon readmission to the same facility. The colon surgery SSI data published in this report use different risk adjustment methodology and a different subset of data than that which are used for public reporting by CMS.
2. Yes indicates the presence of a state mandate to report SSIs following colon surgery to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2021 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2021 NHSN data prior to June 1, 2022, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 to confirm proper case ascertainment (although intensity of auditing activities varies by state). Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.
4. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this may be different from the numbers shown in Table 1. Refer to the Technical Appendix for information about exclusion criteria. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported SSI data following colon surgery in 2021.
5. Percent of facilities with at least one predicted colon surgery SSI that had an SIR significantly greater or less than the nominal value of the 2021 national colon surgery SIR of 1.029. This is only calculated if at least 10 facilities had at least one predicted colon surgery SSI in 2021.
6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted colon surgery SSI in 2021. If a facility's predicted number of colon surgery SSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 6. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

6b. Surgical site infections (SSI) following abdominal hysterectomy surgery[1] in adults, ≥ 18years

State			No. of Critical Access Hospitals Reporting[4]	No. of Procedures	No. of Infections			95% CI for SIR		Facility-specific SIRs				
					Observed	Predicted	SIR	Lower	Upper		10%	25%	75%	90%
Alabama	Yes	Yes	0	.	.	.	.	.	.	.	.	.	.	.
Alaska	No	No	1	.	.	.	.	.	.	.	.	.	.	.
Arizona			2	.	.	.	.	.	.	.	.	.	.	.
Arkansas			2	.	.	.	.	.	.	.	.	.	.	.
California			9	91	0	0.583	.	.	.	0	.	.	.	.
Colorado	Yes	No	9	41	1	0.228	.	.	.	0	.	.	.	.
Connecticut	No	No	0	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Delaware			0	.	.	.	.	.	.	.	.	.	.	.
Florida	No	Yes	0	.	.	.	.	.	.	.	.	.	.	.
Georgia			1	.	.	.	.	.	.	.	.	.	.	.
Guam			0	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	No	1	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	No	3	.	.	.	.	.	.	.	.	.	.	.
Illinois	No	No	6	41	0	0.288	.	.	.	0	.	.	.	.
Indiana	Yes	No	17	138	0	0.898	.	.	.	0	.	.	.	.
Iowa	Yes	No	2	.	.	.	.	.	.	.	.	.	.	.
Kansas			4	.	.	.	.	.	.	.	.	.	.	.
Kentucky			1	.	.	.	.	.	.	.	.	.	.	.
Louisiana			2	.	.	.	.	.	.	.	.	.	.	.
Maine	No	No	9	97	0	0.478	.	.	.	0	.	.	.	.
Maryland	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	No	2	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	Yes	9	37	0	0.190	.	.	.	0	.	.	.	.
Minnesota	No	No	10	73	0	0.507	.	.	.	0	.	.	.	.
Mississippi	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Missouri	No	No	7	63	0	0.338	.	.	.	0	.	.	.	.
Montana	No	No	4	.	.	.	.	.	.	.	.	.	.	.
Nebraska	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Nevada			2	.	.	.	.	.	.	.	.	.	.	.
New Hampshire	Yes	No	8	85	2	0.509	.	.	.	0	.	.	.	.
New Jersey	No	No	0	.	.	.	.	.	.	.	.	.	.	.
New Mexico			2	.	.	.	.	.	.	.	.	.	.	.
New York			2	.	.	.	.	.	.	.	.	.	.	.
North Carolina	No	No	7	57	1	0.355	.	.	.	0	.	.	.	.
North Dakota	No	No	2	.	.	.	.	.	.	.	.	.	.	.
Ohio	Yes	No	8	110	0	0.629	.	.	.	0	.	.	.	.
Oklahoma			0	.	.	.	.	.	.	.	.	.	.	.
Oregon	Yes	No	12	164	2	0.972	.	.	.	0	.	.	.	.
Pennsylvania			5	39	0	0.278	.	.	.	0	.	.	.	.
Puerto Rico	Yes	No	0	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	Yes	No	0	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	Yes	0	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Tennessee	No	No	0	.	.	.	.	.	.	.	.	.	.	.
Texas			5	29	0	0.175	.	.	.	0	.	.	.	.
Utah	Yes	No	2	.	.	.	.	.	.	.	.	.	.	.
Vermont			5	59	2	0.343	.	.	.	0	.	.	.	.
Virgin Islands			0	.	.	.	.	.	.	.	.	.	.	.
Virginia	Yes	Yes	2	.	.	.	.	.	.	.	.	.	.	.
Washington	Yes	No	9	153	0	0.789	.	.	.	0	.	.	.	.
West Virginia	Yes	No	3	.	.	.	.	.	.	.	.	.	.	.
Wisconsin	Yes	No	24	204	3	1.020	2.941	0.748	8.003	0	.	.	.	.
Wyoming			1	.	.	.	.	.	.	.	.	.	.	.
All US			**200**	**1,912**	**13**	**10.862**	**1.197**	**0.666**	**1.995**	**0**	**.**	**.**	**.**	**.**

1. Critical Access Hospitals are not required to report SSIs following inpatient abdominal hysterectomy procedures in adults 18 years and older to NHSN for participation in the Centers for Medicare and Medicaid Services' (CMS) Hospital Inpatient Quality Reporting Program. SSIs included are those classified as deep incisional or organ/space infections following NHSN-defined inpatient abdominal hysterectomy procedures that occurred in 2021 with a primary or other than primary skin closure technique, detected during the same admission

as the surgical procedure or upon readmission to the same facility. The abdominal hysterectomy SSI data published in this report use different risk adjustment methodology and a different subset of data than that which are used for public reporting by CMS.

2. Yes indicates the presence of a state mandate to report SSIs following abdominal hysterectomy surgery to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate.
   No indicates that a state mandate did not exist during 2021.
3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2021 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2021 NHSN data prior to June 1, 2022, and state health department contacted identified facilities.
   YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 to confirm proper case ascertainment (although intensity of auditing activities varies by state). Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.
4. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this may be different from the numbers shown in Table 1. Refer to the Technical Appendix for information about exclusion criteria. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported SSI data following abdominal hysterectomy surgery in 2021.
5. Percent of facilities with at least one predicted abdominal hysterectomy SSI that had an SIR significantly greater or less than the nominal value of the 2021 national abdominal hysterectomy SIR of 1.197. This is only calculated if at least 10 facilities had at least one predicted abdominal hysterectomy SSI in 2021.
6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted abdominal hysterectomy SSI in 2021. If a facility's predicted number of abdominal hysterectomy SSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 7. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

Hospital-onset methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia, facility-wide[1]

State			No. of Critical Access Hospitals Reporting4	No. of Events			95% CI for SIR		Facility-specific SIRs				
				Observed	Predicted	SIR	Lower	Upper	No. of hosp with at least 1 predicted HO MRSA bacteremia	10%	25%	75%	90%
Alabama	No	No	3	.	.	.	.	.	.	.	.	.	.
Alaska	No	No	1	.	.	.	.	.	.	.	.	.	.
Arizona			7	0	0.500	.	.	.	0	.	.	.	.
Arkansas			11	1	0.484	.	.	.	0	.	.	.	.
California			33	3	2.373	1.264	0.322	3.441	0	.	.	.	.
Colorado	No	No	29	1	1.322	0.756	0.038	3.731	0	.	.	.	.
Connecticut	No	No	.	.	.	.	.	.	.	.	.	.	.
D.C.	No	No	.	.	.	.	.	.	.	.	.	.	.
Delaware			.	.	.	.	.	.	.	.	.	.	.
Florida	No	Yes	6	0	0.355	.	.	.	0	.	.	.	.
Georgia			19	3	1.655	1.813	0.461	4.933	0	.	.	.	.
Guam			.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	No	2	.	.	.	.	.	.	.	.	.	.
Idaho	No	No	18	1	0.952	.	.	.	0	.	.	.	.
Illinois	Yes	Yes	48	2	2.585	0.774	0.130	2.556	0	.	.	.	.
Indiana	Yes	No	34	1	2.355	0.425	0.021	2.094	0	.	.	.	.
Iowa	No	Yes	53	1	2.038	0.491	0.025	2.420	0	.	.	.	.
Kansas			59	1	2.688	0.372	0.019	1.835	0	.	.	.	.
Kentucky			27	1	1.852	0.540	0.027	2.663	0	.	.	.	.
Louisiana			6	0	0.446	.	.	.	0	.	.	.	.
Maine	Yes	No	15	2	1.668	1.199	0.201	3.961	0	.	.	.	.
Maryland	No	No	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	No	3	.	.	.	.	.	.	.	.	.	.
Michigan	No	Yes	30	2	1.548	1.292	0.217	4.269	0	.	.	.	.
Minnesota	No	No	38	0	1.772	0.000	.	1.691	0	.	.	.	.
Mississippi	No	No	18	0	0.908	.	.	.	0	.	.	.	.
Missouri	No	No	23	1	2.125	0.471	0.024	2.321	0	.	.	.	.
Montana	No	No	10	0	1.023	0.000	.	2.928	0	.	.	.	.
Nebraska	No	No	34	1	0.994	.	.	.	0	.	.	.	.
Nevada			4	.	.	.	.	.	.	.	.	.	.
New Hampshire	No	No	11	0	1.191	0.000	.	2.515	0	.	.	.	.
New Jersey	No	No	.	.	.	.	.	.	.	.	.	.	.
New Mexico			9	0	0.596	.	.	.	0	.	.	.	.
New York			5	0	0.410	.	.	.	0	.	.	.	.
North Carolina	No	No	12	1	1.176	0.850	0.043	4.194	0	.	.	.	.
North Dakota	No	No	17	1	0.660	.	.	.	0	.	.	.	.
Ohio	No	No	28	3	2.410	1.245	0.317	3.388	0	.	.	.	.
Oklahoma			14	1	0.479	.	.	.	0	.	.	.	.
Oregon	Yes	No	25	2	2.007	0.997	0.167	3.292	0	.	.	.	.
Pennsylvania			12	1	0.979	.	.	.	0	.	.	.	.
Puerto Rico	Yes	No	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	No	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	Yes	3	.	.	.	.	.	.	.	.	.	.
South Dakota	No	No	35	1	0.785	.	.	.	0	.	.	.	.
Tennessee	No	No	5	0	0.159	.	.	.	0	.	.	.	.
Texas			55	1	2.273	0.440	0.022	2.170	0	.	.	.	.
Utah	Yes	No	7	0	0.230	.	.	.	0	.	.	.	.

Vermont			8	0	0.844	.	.	.	0	.	.	.	.	.	.	.
Virgin Islands			.	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	Yes	5	0	0.564	.	.	.	0	.	.	.	.	.	.	.
Washington	No	No	29	3	2.040	1.471	0.374	4.002	0	.	.	.	.	.	.	.
West Virginia	No	No	16	3	1.379	2.175	0.553	5.921	0	.	.	.	.	.	.	.
Wisconsin	No	No	55	4	3.946	1.014	0.322	2.445	0	.	.	.	.	.	.	.
Wyoming			7	0	0.366	.	.	.	0	.	.	.	.	.	.	.
All US			**889**	**43**	**53.229**	**0.808**	**0.592**	**1.078**	**0**	**.**	**.**	**.**	**.**	**.**	**.**	**.**

1. Critical Access Hospitals are not required to report facility-wide MRSA bacteremia data to NHSN for participation in the Centers for Medicare and Medicaid Services' (CMS) Hospital Inpatient Quality Reporting Program. Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpatient location within the facility.
2. Yes indicates the presence of a state mandate to report facility-wide MRSA bacteremia data to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2021 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2021 NHSN data prior to June 1, 2022, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 to confirm proper case ascertainment (although intensity of auditing activities varies by state). Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.
4. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this may be different from the numbers shown in Table 1. Refer to the Technical Appendix for information about exclusion criteria. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported MRSA bacteremia data in 2021.
5. Percent of facilities with at least one predicted hospital-onset MRSA bacteremia that had an SIR significantly greater or less than the nominal value of the 2021 national hospital-onset MRSA bacteremia SIR of 0.888. This is only calculated if at least 10 facilities had at least one predicted hospital-onset MRSA bacteremia in 2021.
6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted hospital-onset MRSA bacteremia in 2021. If a facility's predicted number of hospital-onset MRSA bacteremia was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 8. State-specific standardized infection ratios (SIRs) and facility-specific SIR summary measures, NHSN Critical Access Hospitals reporting during 2021

Hospital-onset *Clostridioides difficile* (CDI), facility-wide[1]

State				No. of Events			95% CI for SIR		Facility-specific SIRs							
				Observed	Predicted	SIR	Lower	Upper	No. of hosp with at least 1 predicted HO CDI			10%	25%		75%	90%
Alabama	No	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.
Alaska	No	No	2	.	.	.	.	.	.	.	.	.	.	.	.	.
Arizona			8	3	7.201	0.417	0.106	1.134	2	.	.	.	.	.	.	.
Arkansas			11	3	7.397	0.406	0.103	1.104	2	.	.	.	.	.	.	.
California			33	29	34.403	0.843	0.575	1.195	12	8%	0%	.	.	.	.	.
Colorado	No	No	28	19	17.325	1.097	0.680	1.681	5	.	.	.	.	.	.	.
Connecticut	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
D.C	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Delaware			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Florida	No	Yes	6	3	4.905	0.612	0.156	1.665	2	.	.	.	.	.	.	.
Georgia			19	12	20.306	0.591	0.320	1.005	9	.	.	.	.	.	.	.
Guam			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Hawaii	No	No	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Idaho	No	No	18	12	12.281	0.977	0.529	1.661	4	.	.	.	.	.	.	.
Illinois	Yes	Yes	48	40	33.479	1.195	0.865	1.611	11	9%	0%	.	.	.	.	.
Indiana	Yes	No	33	25	36.342	0.688	0.455	1.001	13	0%	0%	.	.	.	.	.
Iowa	No	Yes	61	13	31.032	0.419	0.233	0.698	5	.	.	.	.	.	.	.
Kansas			60	23	31.048	0.741	0.481	1.094	11	0%	0%	.	.	.	.	.
Kentucky			27	21	25.128	0.836	0.531	1.256	11	0%	0%	.	.	.	.	.
Louisiana			6	5	5.111	0.978	0.358	2.168	2	.	.	.	.	.	.	.
Maine	Yes	No	15	19	24.070	0.789	0.489	1.210	11	0%	0%	.	.	.	.	.
Maryland	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Massachusetts	No	No	3	.	.	.	.	.	.	.	.	.	.	.	.	.
Michigan	No	Yes	30	9	22.693	0.397	0.193	0.728	7	.	.	.	.	.	.	.
Minnesota	No	No	53	22	37.899	0.580	0.373	0.864	15	7%	0%	.	.	.	.	.
Mississippi	No	No	18	6	13.899	0.432	0.175	0.898	5	.	.	.	.	.	.	.
Missouri	No	No	23	20	37.960	0.527	0.331	0.799	8	.	.	.	.	.	.	.
Montana	No	No	10	4	13.154	0.304	0.097	0.734	4	.	.	.	.	.	.	.
Nebraska	No	No	36	16	12.164	1.315	0.779	2.090	2	.	.	.	.	.	.	.
Nevada			3	.	.	.	.	.	.	.	.	.	.	.	.	.
New Hampshire	No	No	11	23	17.903	1.285	0.834	1.897	11	27%	0%	.	.	.	.	.
New Jersey	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
New Mexico			9	11	9.074	1.212	0.637	2.107	3	.	.	.	.	.	.	.
New York			5	7	6.091	1.149	0.503	2.273	4	.	.	.	.	.	.	.
North Carolina	No	No	12	8	16.332	0.490	0.227	0.930	6	.	.	.	.	.	.	.
North Dakota	No	No	17	6	6.895	0.870	0.353	1.810	2	.	.	.	.	.	.	.
Ohio	No	No	28	19	35.770	0.531	0.329	0.814	17	0%	0%	.	.	.	.	.
Oklahoma			14	2	6.476	0.309	0.052	1.020	2	.	.	.	.	.	.	.
Oregon	Yes	No	25	16	27.042	0.592	0.350	0.940	11	0%	0%	.	.	.	.	.
Pennsylvania			11	10	15.223	0.657	0.334	1.171	7	.	.	.	.	.	.	.
Puerto Rico	Yes	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhode Island	No	No	0	.	.	.	.	.	.	.	.	.	.	.	.	.
South Carolina	Yes	Yes	3	.	.	.	.	.	.	.	.	.	.	.	.	.
South Dakota	No	No	37	10	12.582	0.795	0.404	1.417	2	.	.	.	.	.	.	.
Tennessee	No	No	5	2	2.498	0.801	0.134	2.645	1	.	.	.	.	.	.	.
Texas			54	22	30.033	0.733	0.471	1.091	10	0%	0%	.	.	.	.	.
Utah	Yes	No	7	1	2.659	0.376	0.019	1.855	0	.	.	.	.	.	.	.
Vermont			8	7	12.827	0.546	0.239	1.079	7	.	.	.	.	.	.	.
Virgin Islands			0	.	.	.	.	.	.	.	.	.	.	.	.	.
Virginia	No	Yes	5	3	8.772	0.342	0.087	0.931	5	.	.	.	.	.	.	.

Washington	No	Yes	33	21	30.523	0.688	0.437	1.034	15	7%	0%	.	.	.	.	.
West Virginia	No	No	17	23	21.737	1.058	0.687	1.563	10	10%	0%	.	.	.	.	.
Wisconsin	No	No	55	42	56.982	0.737	0.538	0.987	27	0%	0%	0.000	0.000	0.628	0.927	1.498
Wyoming			12	5	8.501	0.588	0.216	1.304	3	.	.	.	.	.	.	.
All US			**923**	**549**	**769.927**	**0.713**	**0.655**	**0.775**	**290**	**5%**	**1%**	**0.000**	**0.000**	**0.580**	**0.989**	**1.855**

1. Critical Access Hospitals are not required to report facility-wide CDI data to NHSN for participation in the Centers for Medicare and Medicaid Services' (CMS) Hospital Inpatient Quality Reporting Program. Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpatient location within the facility.
2. Yes indicates the presence of a state mandate to report facility-wide CDI data to NHSN at the beginning of 2021. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2021.
3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2021 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2021 NHSN data prior to June 1, 2022, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to June 1, 2022 to confirm proper case ascertainment (although intensity of auditing activities varies by state). Information on validation efforts was requested from all states, regardless of the presence of a legislative mandate for the particular HAI type. Some states without mandatory reporting of a given HAI to the state health department have performed validation on NHSN data that is voluntarily shared with them by facilities in their jurisdiction.
4. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this may be different from the numbers shown in Table 1. Refer to the Technical Appendix for information about exclusion criteria. SIRs and accompanying statistics are only calculated for states in which at least 5 facilities reported CDI data in 2021.
5. Percent of facilities with at least one predicted hospital-onset CDI that had an SIR significantly greater or less than the nominal value of the 2021 national hospital-onset CDI SIR of 0.713. This is only calculated if at least 10 facilities had at least one predicted hospital-onset CDI in 2021.
6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted hospital-onset CDI in 2021. If a facility's predicted number of hospital-onset CDI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

Table 9. Changes in national standardized infection ratios (SIRs) using HAI data reported from all NHSN Crit
Central line-associated bloodstream infections (CLABSIs), catheter-associated urinary tract infections (CAUTIs), ventilator-a
Clostridioides difficile infections, and surgical site infections (SSIs) following Surgical Care Im

	2020 SIR	2021 SIR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
CLABSI, all locations[1]	0.881	0.977	11%	No change	0.6219
CLABSI, ICU[2]	2.025	2.606	29%	No change	0.5466
CLABSI, Ward[3]	0.757	0.739	2%	No change	0.9210
CAUTI, all locations[1]	0.619	0.725	17%	No change	0.0964
CAUTI, ICU[2]	0.588	0.667	13%	No change	0.6681
CAUTI, Ward[3]	0.623	0.733	18%	No change	0.1056
VAE, all[1]	2.165	4.021	86%	No change	1.0000
ICUs[2]	2.362	4.088	73%	No change	1.0000
Wards[3]	1.365	3.769	176%	No change	1.0000
Hospital-onset MRSA bacteremia, facility-wide[4]	0.680	0.808	19%	No change	0.4822
Hospital-onset *C. difficile* infections, facility-wide[4]	0.710	0.713	0%	No change	0.9409
SSI, combined SCIP procedures[5]	0.849	0.822	3%	No change	0.8232
SSI, Hip arthroplasty	0.780	0.532	32%	No change	0.2148
SSI, Knee arthroplasty	0.785	0.763	3%	No change	0.9242
SSI, Coronary artery bypass graft[6]	.	.	.	.	.
SSI, Cardiac surgery	.	.	.	.	.
SSI, Peripheral vascular bypass surgery	.	.	.	.	.
SSI, Abdominal aortic aneurysm repair	.	.	.	.	.
SSI, Colon surgery	0.870	1.029	18%	No change	0.4736
SSI, Rectal surgery	.	.	.		.
SSI, Abdominal hysterectomy	1.171	1.197	2%	No change	0.9589
SSI, Vaginal hysterectomy	.	.	.		.

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude

1. Data from all ICUs and wards (and other non-critical care locations). This excludes LTAC locations (or facilities) and IRF locations (or facilities) a
2. Data from all ICUs; excludes wards (and other non-critical care locations), 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 transplan
4. Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpatient location within the facility.
5. These procedures were presented in previous versions of the HAI Progress Report and follow select inpatient surgical procedures with a primary
   using NHSN surgical procedure categorizations. Includes SSIs that were classified as deep incisional or organ/space, and were detected upon ad
6. Coronary artery bypass graft includes procedures with either chest only or chest and donor site incisions.

tical Access Hospitals reporting during 2021 by HAI and patient population:
associated events (VAEs), methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia,
provement Project (SCIP) procedures, 2020 compared to 2021

ıd ACHs.

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

and other primary skin closure technique approximating the procedures covered by SCIP,
lmission or readmission. Specific NHSN procedures and the corresponding SCIP procedures are listed in Appendix C.

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2020 and 2021 from NHSN Critical Access Hospitals

10a. Central line-associated bloodstream infections (CLABSI), all locations[1]

	All Critical Access Hospitals Reporting to NHSN				
State[2]	2020 SIR	2021 SIR	Percent Change[3]	Direction of Change, Based on Statistical Significance	p-value
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	.	.	.	.	.
California	0.909	1.440	58%	No change	0.6316
Colorado	.	.	.	.	.
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	.	.	.	.	.
Georgia	0.000	0.000	0%		Inestimable
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	.	.	.	.	.
Illinois	0.426	0.000	>>100%	.	Inestimable
Indiana	0.000	1.999	>>100%	.	Inestimable
Iowa	0.000	0.392	>>100%	.	Inestimable
Kansas	0.443	0.347	22%	No change	0.8786
Kentucky	0.944	0.384	59%	No change	0.5777
Louisiana	.	.	.	.	.
Maine	1.833	1.268	31%	No change	0.7169
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	.	3.234	.	.	Inestimable
Minnesota	0.959	0.756	21%	No change	0.8235
Mississippi	.	.	.	.	.
Missouri	0.000	1.698	>>100%	.	Inestimable
Montana	.	.	.	.	.
Nebraska	.	.	.	.	.
Nevada	.	.	.	.	.
New Hampshire	.	.	.	.	.
New Jersey	.	.	.	.	.
New Mexico	.	.	.	.	.
New York	.	.	.	.	.
North Carolina	.	3.098	.	.	Inestimable
North Dakota	.	.	.	.	.
Ohio	1.244	2.257	81%	No change	0.5092
Oklahoma	.	.	.	.	.
Oregon	1.168	0.471	60%	No change	0.5091
Pennsylvania	0.929	0.000	>>100%	.	Inestimable
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	.	.	.	.	.
Tennessee	.	.	.	.	.
Texas	1.478	0.329	78%	No change	0.2059
Utah	.	.	.	.	.
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	.	.	.	.	.
Washington	2.187	2.162	1%	No change	0.9848
West Virginia	0.000	2.254	>>100%	.	Inestimable
Wisconsin	1.767	0.858	51%	No change	0.2596
Wyoming	.	.	.	.	.
All US	**0.881**	**0.977**	**11%**	**No change**	**0.6219**

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude.

1. Data from all ICUs, wards (and other non-critical care locations). This excludes LTAC locations (or facilities) and IRF locations (or facilities).

2. States without SIR either in 2020 and/or 2021 and therefore subsequent data not calculated

3. For states with >>100% value in the percent change field, the p-value cannot be estimated due to sparse data reported within the facility type. The p-value is indicated as inestimable when the numerator and/or denominator of percent change = 0.

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2020 and 2021 from NHSN Critical Access Hospitals

10b. Catheter-associated urinary tract infections (CAUTI), all locations[1]

	All Critical Access Hospitals Reporting to NHSN				
	2020 SIR	2021 SIR		Direction of Change, Based on Statistical Significance	p-value
Alabama	0.000	0.000	0%	.	Inestimable
Alaska	.	.	.	.	.
Arizona	0.000	1.701	>>100%	.	Inestimable
Arkansas	0.363	1.263	71%	No change	0.2598
California	0.542	0.599	10%	No change	0.8644
Colorado	0.883	0.626	41%	No change	0.5919
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	0.000	0.000	0%	.	Inestimable
Georgia	0.938	0.529	77%	No change	0.4088
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	1.253	1.431	12%	No change	0.8331
Illinois	0.688	0.539	28%	No change	0.6334
Indiana	0.265	0.413	36%	No change	0.5109
Iowa	0.717	0.320	124%	No change	0.0844
Kansas	0.724	0.512	41%	No change	0.4048
Kentucky	0.806	1.389	42%	No change	0.2813
Louisiana	0.855	0.293	192%	No change	0.4290
Maine	0.386	0.339	14%	No change	0.8599
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	0.779	0.374	108%	No change	0.3327
Minnesota	0.506	0.905	44%	No change	0.1752
Mississippi	0.337	0.721	53%	No change	0.5386
Missouri	0.441	2.331	81%	Decrease	0.0031
Montana	0.464	0.183	154%	No change	0.3362
Nebraska	0.769	0.577	33%	No change	0.6942
Nevada	.	0.000	.	.	.
New Hampshire	0.384	0.209	84%	No change	0.4470
New Jersey	.	.	.	.	.
New Mexico	0.333	0.344	3%	No change	0.9761
New York	0.789	2.415	67%	No change	0.3651
North Carolina	1.117	0.933	20%	No change	0.6965
North Dakota	0.315	0.536	41%	No change	0.5924
Ohio	0.409	0.671	39%	No change	0.4350
Oklahoma	0.620	4.230	85%	Decrease	0.0271
Oregon	0.912	1.085	16%	No change	0.7035
Pennsylvania	1.135	1.779	36%	No change	0.3870
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	0.000	.	.	.
South Dakota	0.386	0.392	2%	No change	0.9679
Tennessee	0.820	0.000	>>100%	.	Inestimable
Texas	0.953	0.816	17%	No change	0.7233
Utah	0.000	0.000	0%	.	Inestimable
Vermont	0.000	0.409	>>100%	.	Inestimable
Virgin Islands	.	.	.	.	.
Virginia	1.045	0.854	22%	No change	0.8493
Washington	1.256	1.636	23%	No change	0.4072
West Virginia	0.880	0.111	693%	Increase	0.0308
Wisconsin	0.408	0.690	41%	No change	0.1849
Wyoming	0.000	0.163	>>100%	.	Inestimable
All US	**0.725**	**0.619**	**17%**	**No change**	**0.0964**

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude.

1. Data from all ICUs, wards (and other non-critical care locations). This excludes LTAC locations (or facilities) and IRF locations (or facilities).

2. States without SIR either in 2020 and/or 2021 and therefore subsequent data not calculated

3.For states with >>100% value in the percent change field, the p-value cannot be estimated due to sparse data reported within the facility type. The p-value is indicated as inestimable when the numerator and/or denominator of percent change = 0.

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2020 and 2021 from NHSN Critical Access Hospitals

10c. Ventilator-associated events (VAE), all locations[1]

	All Critical Access Hospitals Reporting to NHSN				
	2020 SIR	2021 SIR		Direction of Change, Based on Statistical Significance	p-value
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	.	.	.	.	.
California	3.548	8.009	126%	No change	0.1295
Colorado	.	.	.	.	.
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	.	.	.	.	.
Georgia	.	.	.	.	.
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	.	.	.	.	.
Illinois	.	.	.	.	.
Indiana	.	0.000	.	.	.
Iowa	.	.	.	.	.
Kansas	.	.	.	.	.
Kentucky	.	.	.	.	.
Louisiana	.	.	.	.	.
Maine	.	.	.	.	.
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	.	.	.	.	.
Minnesota	.	.	.	.	.
Mississippi	.	.	.	.	.
Missouri	.	.	.	.	.
Montana	.	.	.	.	.
Nebraska	.	.	.	.	.
Nevada	.	.	.	.	.
New Hampshire	.	.	.	.	.
New Jersey	.	.	.	.	.
New Mexico	.	.	.	.	.
New York	.	.	.	.	.
North Carolina	.	.	.	.	.
North Dakota	.	.	.	.	.
Ohio	0.872	11.778	1251%	Increase	0.0007
Oklahoma	.	.	.	.	.
Oregon	.	.	.	.	.
Pennsylvania	.	.	.	.	.
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	.	.	.	.	.
Tennessee	.	.	.	.	.
Texas	.	.	.	.	.
Utah	.	.	.	.	.
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	.	.	.	.	.
Washington	.	1.578	.	.	.
West Virginia	.	.	.	.	.
Wisconsin	.	.	.	.	.
Wyoming	.	.	.	.	.
All US	**2.165**	**4.021**	**86%**	**No change**	**1.0000**

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude.

1. Data from all ICUs, wards (and other non-critical care locations). This excludes LTAC locations (or facilities) and IRF locations (or facilities).

2. All states without SIR both in 2020 and 2021 and therefore subsequent data not calculated

3.For states with >>100% value in the percent change field, the p-value cannot be estimated due to sparse data reported within the facility type. The p-value is indicated as inestimable when the numerator and/or denominator of percent change = 0.

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2020 and 2021 from NHSN Critical Access Hospitals

10d. Surgical site infections (SSI) following colon surgery[1]

	All Critical Access Hospitals Reporting to NHSN				
	2020 SIR	2021 SIR	Direction of Change, Based on Statistical Significance		p-value
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	.	.	.	.	.
California	0.582	1.497	157%	No change	0.2724
Colorado	0.997	0.899	10%	No change	0.9484
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	.	.	.	.	.
Georgia	.	.	.	.	.
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	.	.	.	.	.
Illinois	0.379	0.438	16%	No change	0.9275
Indiana	0.894	0.387	57%	No change	0.5462
Iowa	.	.	.	.	.
Kansas	.	1.821	.	.	.
Kentucky	.	.	.	.	.
Louisiana	.	.	.	.	.
Maine	0.662	0.622	6%	No change	0.9689
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	2.878	3.266	13%	No change	0.8443
Minnesota	0.537	1.066	99%	No change	0.6298
Mississippi	.	.	.	.	.
Missouri	.	.	.	.	.
Montana	.	.	.	.	.
Nebraska	.	.	.	.	.
Nevada	.	.	.	.	.
New Hampshire	0.901	0.582	35%	No change	0.7848
New Jersey	.	.	.	.	.
New Mexico	.	.	.	.	.
New York	.	.	.	.	.
North Carolina	.	0.000	.	.	.
North Dakota	.	.	.	.	.
Ohio	0.000	0.000	>>100%	.	Inestimable
Oklahoma	.	.	.	.	.
Oregon	1.006	1.394	39%	No change	0.6809
Pennsylvania	.	.	.	.	.
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	.	.	.	.	.
Tennessee	.	.	.	.	.
Texas	.	0.000	.	.	.
Utah	.	.	.	.	.
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	.	.	.	.	.
Washington	1.595	0.514	68%	No change	0.3585
West Virginia	0.000	2.299	>>100%	.	Inestimable
Wisconsin	0.729	0.684	6%	No change	0.9404
Wyoming	.	.	.	.	.
All US	**0.87**	**1.029**	**18%**	**No change**	**0.4736**

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude.

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-defined inpatient colon procedures with both primary and other detected during the same admission as the surgical procedure or upon readmission to the same facility.
2. States without SIR either in 2020 and/or 2021 and therefore subsequent data not calculated
3.For states with >>100% value in the percent change field, the p-value cannot be estimated due to sparse data reported within the facility type.
The p-value is indicated as inestimable when the numerator and/or denominator of percent change = 0.

· than primary skin closure technique,

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2020 and 2021 from NHSN Critical Access Hospitals

10e. Surgical site infections (SSI) following abdominal hysterectomy surgery[1]

	All Critical Access Hospitals Reporting to NHSN				
	2020 SIR	2021 SIR	Direction of Change, Based on Statistical Significance		p-value
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	.	.	.	.	.
California	.	.	.	.	.
Colorado	.	.	.	.	.
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	.	.	.	.	.
Georgia	.	.	.	.	.
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	.	.	.	.	.
Illinois	.	.	.	.	.
Indiana	.	.	.	.	.
Iowa	.	.	.	.	.
Kansas	.	.	.	.	.
Kentucky	.	.	.	.	.
Louisiana	.	.	.	.	.
Maine	.	.	.	.	.
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	.	.	.	.	.
Minnesota	.	.	.	.	.
Mississippi	.	.	.	.	.
Missouri	.	.	.	.	.
Montana	.	.	.	.	.
Nebraska	.	.	.	.	.
Nevada	.	.	.	.	.
New Hampshire	.	.	.	.	.
New Jersey	.	.	.	.	.
New Mexico	.	.	.	.	.
New York	.	.	.	.	.
North Carolina	.	.	.	.	.
North Dakota	.	.	.	.	.
Ohio	.	.	.	.	.
Oklahoma	.	.	.	.	.
Oregon	.	.	.	.	.
Pennsylvania	.	.	.	.	.
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	.	.	.	.	.
Tennessee	.	.	.	.	.
Texas	.	.	.	.	.
Utah	.	.	.	.	.
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	.	.	.	.	.
Washington	.	.	.	.	.
West Virginia	.	.	.	.	.
Wisconsin	0.000	2.941	>>100%	.	Inestimable
Wyoming	.	.	.	.	.
All US	**1.171**	**1.197**	**2%**	**No change**	**0.9589**

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude.

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-defined inpatient abdominal hysterectomy procedures w
detected during the same admission as the surgical procedure or upon readmission to the same facility.
2. States without SIR both in 2020 and 2021 and therefore subsequent data not calculate. For any state with a referent SIR of 0.000, the percent change v
3.For states with >>100% value in the percent change field, the p-value cannot be estimated due to sparse data reported within the facility type.
The p-value is indicated as inestimable when the numerator and/or denominator of percent change = 0.

ıith a primary or other than primary skin closure technique,

vas reflected as greater than 100 percent.

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2020 and 2021 from NHSN Critical Access Hospitals

10f. Hospital-onset methicillin-resistant Staphylococcus aureus (MRSA) bacteremia, facility-wide[1]

	All Critical Access Hospitals Reporting to NHSN				
	2020 SIR	2021 SIR	Direction of Change, Based on Statistical Significance		p-value
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	.	.	.	.
Arkansas	.	.	.	.	.
California	0.000	1.264	.	>>100.0	Inestimable
Colorado	0.000	0.756	.	>>100.0	Inestimable
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	.	.	.		.
Georgia	0.000	1.813	.	>>100.0	Inestimable
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	.	.	.	.	.
Illinois	0.868	0.774	11%	No change	0.9136
Indiana	0.942	0.425	55%	No change	0.5677
Iowa	0.000	0.491	.	>>100.0	Inestimable
Kansas	0.000	0.372	.	>>100.0	Inestimable
Kentucky	.	0.540	.	.	.
Louisiana	.	.	.	.	.
Maine	1.404	1.199	15%	No change	0.8819
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	0.000	1.292	.	>>100.0	Inestimable
Minnesota	0.728	0.000	100%	No change	0.4367
Mississippi	.	.	.	.	.
Missouri	0.000	0.471	.	>>100.0	Inestimable
Montana	.	0.000	.	.	.
Nebraska	.	.	.	.	.
Nevada	.	.	.	.	.
New Hampshire	0.000	0.000	0%	.	Inestimable
New Jersey	.	.	.	.	.
New Mexico	.	.	.	.	.
New York	.	.	.	.	.
North Carolina	.	0.850	.	.	.
North Dakota	.	.	.	.	.
Ohio	2.295	1.245	46%	No change	0.4454
Oklahoma	.	.	.	.	.
Oregon	0.599	0.997	66%	No change	0.7315
Pennsylvania	.	.	.	.	.
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	.	.	.	.	.
Tennessee	.	.	.	.	.
Texas	1.287	0.440	0.660	No change	0.428
Utah	.	.	.	.	.
Vermont	.	.	.	.	.
Virgin Islands	.	.	.	.	.
Virginia	.	.	.	.	.
Washington	1.140	1.471	29%	No change	0.8081
West Virginia	0.969	2.175	124%	No change	0.5344
Wisconsin	0.849	1.014	19%	No change	0.8345
Wyoming	.	.	.	.	.
All US	**0.680**	**0.808**	**19%**	**No change**	**0.4822**

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude.

1. Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpatient location within the facility.

2. States without SIR either in 2020 and/or 2021 and therefore subsequent data not calculated

3.For states with >>100% value in the percent change field, the p-value cannot be estimated due to sparse data reported within the facility type.

The p-value is indicated as inestimable when the numerator and/or denominator of percent change = 0.

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2020 and 2021 from NHSN Critical Access Hospitals

10g. Hospital-onset *Clostridioides difficile* infection (CDI), facility-wide[1]

	All Critical Access Hospitals Reporting to NHSN				
	2020 SIR	2021 SIR	Percent Change3	Direction of Change, Based on Statistical Significance	p-value
Alabama	.	.	.	.	.
Alaska	.	.	.	.	.
Arizona	.	0.417	.	.	.
Arkansas	0.953	0.406	57%	No change	0.2576
California	0.549	0.843	54%	No change	0.1860
Colorado	0.939	1.097	17%	No change	0.6587
Connecticut	.	.	.	.	.
D.C.	.	.	.	.	.
Delaware	.	.	.	.	.
Florida	0.231	0.612	165%	No change	0.4414
Georgia	0.758	0.591	22%	No change	0.5637
Guam	.	.	.	.	.
Hawaii	.	.	.	.	.
Idaho	0.920	0.977	6%	No change	0.9266
Illinois	0.803	1.195	49%	No change	0.1142
Indiana	0.711	0.688	3%	No change	0.9080
Iowa	0.491	0.419	15%	No change	0.6924
Kansas	0.693	0.741	7%	No change	0.8372
Kentucky	0.667	0.836	25%	No change	0.5865
Louisiana	0.847	0.978	15%	No change	0.8685
Maine	0.942	0.789	16%	No change	0.5891
Maryland	.	.	.	.	.
Massachusetts	.	.	.	.	.
Michigan	0.566	0.397	30%	No change	0.4466
Minnesota	0.763	0.580	24%	No change	0.3520
Mississippi	0.436	0.432	1%	No change	0.9614
Missouri	0.593	0.527	11%	No change	0.7180
Montana	0.423	0.304	28%	No change	0.6399
Nebraska	0.585	1.315	125%	No change	0.1061
Nevada	.	.	.	.	.
New Hampshire	0.315	1.285	308%	Increase	0.0016
New Jersey	.	.	.	.	.
New Mexico	0.957	1.212	27%	No change	0.6859
New York	0.992	1.149	16%	No change	0.7995
North Carolina	0.691	0.490	29%	No change	0.4879
North Dakota	0.480	0.870	81%	No change	0.4203
Ohio	0.716	0.531	26%	No change	0.3555
Oklahoma	0.712	0.309	57%	No change	0.3901
Oregon	1.096	0.592	46%	No change	0.0514
Pennsylvania	0.521	0.657	26%	No change	0.6513
Puerto Rico	.	.	.	.	.
Rhode Island	.	.	.	.	.
South Carolina	.	.	.	.	.
South Dakota	0.657	0.795	21%	No change	0.6860
Tennessee	1.458	0.801	45%	No change	0.5430
Texas	0.966	0.733	24%	No change	0.3800
Utah	1.035	0.376	64%	No change	0.4568
Vermont	0.620	0.546	12%	No change	0.8134
Virgin Islands	.	.	.	.	.
Virginia	1.104	0.342	69%	No change	0.0784
Washington	0.749	0.688	8%	No change	0.7797
West Virginia	1.375	1.058	23%	No change	0.3771
Wisconsin	0.594	0.737	24%	No change	0.3629
Wyoming	0.163	0.588	261%	No change	0.2435
All US	**0.710**	**0.713**	**0%**	**No change**	**0.9409**

* Statistically significant, p < 0.0500. Statistical significance based on two-tailed p-value < 0.05, reflected in the relative percent change in magnitude.

1. Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpatient location within the facility.

2. States without SIR either in 2020 and/or 2021 and therefore subsequent data not calculated

3.For states with >>100% value in the percent change field, the p-value cannot be estimated due to sparse data reported within the facility type. The p-value is indicated as inestimable when the numerator and/or denominator of percent change = 0.

Appendix A. Factors used in NHSN risk adjustment of the device-associated HAIs Negative Binomial Regression Models1 in Critical Access Hospitals

HAI Type	Validated Parameters for Risk Model
CLABSI (non-NICU)	Intercept Medical School Affiliation* Location Type Facility Type* Facility Bed size*
CLABSI (NICU)	Intercept Birthweight
CAUTI	Intercept Medical School Affiliation* Location Facility Type* Facility Bed size*
VAE	Intercept Medical School Affiliation* Medical School Type* Location Type Facility Type* Facility Bed size*

1. SIR Guide: **https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf**

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

Appendix B. Factors used in NHSN risk adjustment of the MRSA Bacteremia and C. difficile Negative Binomial Regression Models1 in Critical Access Hospitals

HAI Type	Validated Parameters for Risk Model
MRSA bacteremia	Intercept
C. difficile	Intercept Inpatient CO admission prevalence rate* CDI test type+ Medical school affiliation‡ Number of ICU beds‡ Facility type Bed size‡ Reporting from an ED or 24-hour observation unit

1. MRSA bacteremia and CDI risk adjustment methodology in the SIR Guide: **https://www.cdc.gov/nhsr**

* Inpatient community-onset prevalence is calculated as the # of inpatient community-onset MRSA blood e admissions x 100.

** Average length of stay is taken from the Annual Hospital Survey. It is calculated as: total # of annual pa

‡ Medical school affiliation, number of ICU beds, and facility bed size are taken from the Annual Hospital S

+ CDI test type is reported on the FacWideIN MDRO denominator form on the 3rd month of each quarter.

ı/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf
ɐvents, divided by total

tient days / total # of annual admissions.
Survey.

Appendix C. List of NHSN procedures included in this repo
Admission/Re-admission SSI Logistic Regression Model[1], A

NHSN Procedure Code	NHSN Procedure
AAA	Abdominal aortic aneurysm
AMP	Limb amputation
APPY	Appendectomy
AVSD	Arteriovenous shunt for dialysis
BILI	Bile duct, liver or pancreatic surgery
BRST	Breast surgery
CABG	Coronary artery bypass graft
CARD	Cardiac surgery
CEA	Carotid endarterectomy
CHOL	Cholecystectomy
COLO	Colon surgery
CRAN	Craniotomy
CSEC	Cesarean delivery
FUSN	Spinal fusion
FX	Open reduction of long bone fracture
GAST	Gastric surgery
HER	Herniorrhaphy
HPRO	Hip arthroplasty
HTP	Heart transplant
HYST	Abdominal hysterectomy
KPRO	Knee arthroplasty
KTP	Kidney transplant
LTP	Liver transplant
NECK	Neck surgery
NEPH	Kidney surgery
OVRY	Ovarian surgery
PACE	Pacemaker surgery
PRST	Prostate surgery
PVBY	Peripheral vascular bypass surgery
REC	Rectal surgery

RFUSN	Refusion of spine
SB	Small-bowel surgery
SPLE	Spleen surgery
THOR	Thoracic surgery
THYR	Thyroid and/or parathyroid surgery
VHYS	Vaginal hysterectomy
VSHN	Ventricular shunt
XLAP	Exploratory Laparotomy

1. SSI risk adjustment methodology: SIR Guide: **https://www.c**

* These risk factors originate from the Annual Facility Survey.

‡ None of the variables investigated were statistically significantl
As a result, the overall incidence will be used in the SIR calcu

Exclusion Criteria: SIR Guide: **https://www.cdc.gov/nhsn/pdfs**

rt with predictive risk factors from the NHSN Complex
Adults ≥ 18 years of age

Validated Parameters for Risk Model
Intercept-only model[‡]
anesthesia, wound class, hospital bed size*, age
gender, wound class, hospital bed size*, procedure duration
gender, emergency, trauma, hospital bed size*, scope, age, procedure duration
ASA score, closure, age, procedure duration, BMI
emergency, medical school affiliation*, age, procedure duration, BMI
gender, diabetes, ASA score, trauma, wound class, medical school affiliation*, hospital bed size*, age, procedure duration, BMI, age-gender interaction
wound class
gender, diabetes, ASA score, wound class, hospital bed size*, age, procedure duration, age-gender interaction
gender, diabetes, trauma, anesthesia, ASA score, wound class, hospital bed size*, scope, closure, age, procedure duration, BMI
diabetes, trauma, ASA score, age, procedure duration, wound class
emergency, ASA score, wound class, medical school affiliation*, hospital bed size*, age, procedure duration, duration of labor
gender, diabetes, trauma, ASA score, medical school affiliation*, hospital bed size*, procedure duration, BMI, spinal level, approach
gender, diabetes, ASA score, wound class, closure, age, procedure duration, BMI
wound class, scope, age, procedure duration, BMI
gender, ASA score, wound class, medical school affiliation*, hospital bed size*, scope, age, procedure duration, BMI
diabetes, trauma, anesthesia, ASA score, wound class, medical school affiliation*, hospital bed size*, age, procedure duration, BMI, procedure type
closure
diabetes, ASA score, hospital bed size*, scope, age, procedure duration, BMI
gender, trauma, anesthesia, ASA score, wound class, medical school affiliation*, hospital bed size*, age, procedure duration, BMI, procedure type
procedure duration, diabetes, ASA score, hospital bed size*, BMI
age
procedure duration
wound class
age
BMI, diabetes, procedure duration, number of beds
ASA score, procedure duration, number of beds, oncology

age, procedure duration, number of beds
gender, age, procedure duration, oncology
ASA score
procedure duration, medical school affiliation*
medical school affiliation*
age
ASA score, closure, diabetes, procedure duration, emergency, gender, scope, wound class, trauma

dc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf

ly associated with SSI risk in these procedure categories.
lation (i.e., intercept-only model).
s/ps-analysis-resources/nhsn-sir-guide.pdf

Appendix D. List of NHSN procedures included in this re
Complex Admission/Re-admission SSI Logistic Regressi

NHSN Procedure Code	NHSN Procedure
AAA	Abdominal aortic aneurysm
AMP	Limb amputation
APPY	Appendectomy
AVSD	Arteriovenous shunt for dialysis
BILI	Bile duct, liver or pancreatic surgery
BRST	Breast surgery
CARD	Cardiac surgery
CABG	Coronary artery bypass graft
CEA	Carotid endarterectomy
CHOL‡	Cholecystectomy
COLO	Colon surgery
CRAN, age ≥2	Craniotomy
CRAN, age <2‡	
CSEC	Cesarean delivery
FUSN, age ≥2	Spinal fusion
FUSN, age <2	
FX	Open reduction of long bone fracture
GAST	Gastric surgery
HER‡	Herniorrhaphy
HPRO‡	Hip arthroplasty
HTP	Heart transplant
HYST‡	Abdominal hysterectomy
KPRO‡	Knee arthroplasty
KTP‡	Kidney transplant
LAM‡	Laminectomy
LTP‡	Liver transplant
NECK	Neck surgery
NEPH	Kidney surgery
OVRY	Ovarian surgery
PACE	Pacemaker surgery
PRST	Prostate surgery
PVBY	Peripheral vascular bypass surgery
REC‡	Rectal surgery
RFUSN‡	Refusion of spine
SB	Small-bowel surgery
SPLE	Spleen surgery
THOR	Thoracic surgery
THYR	Thyroid and/or parathyroid surgery
VHYS	Vaginal hysterectomy
VSHN	Ventricular shunt
XLAP	Exploratory Laparotomy

* These risk factors originate from the Annual Facility Survey
^ Sufficient national data were not available for analysis. As a

As a result, the overall incidence will be used in the SIR cal

port with predictive risk factors from the NHSN
ion Model[1], Pediatrics < 18 years of age

Validated Parameters for Risk Model
No SIR available^
No SIR available^
Hospital bed size*, procedure duration, wound class
Trauma
procedure duration, age
closure, wound class, age, trauma, procedure duration
BMI, anesthesia
duration of labor
ASA score, BMI
Procedure duration, closure technique
diabetes, wound class
Trauma
Age
Trauma

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a result, no SIRs can be calculated for these procedures.

lculation (i.e., intercept-only model).

Appendix E. List of NHSN procedures and corresponding SCIP procedures included in this report with factors used in the NHSN risk adjustment of the Complex Admission/Readmission Model[1] for adults

SCIP Procedure	NHSN Procedure	Validated Parameters for Risk Model
Vascular	Abdominal aortic aneurysm repair	
	Peripheral vascular bypass surgery	BMI, diabetes, procedure duration, number of beds
Coronary artery bypass graft	Coronary artery bypass graft with both chest and donor site incisions	emergency, medical school affiliation*, age, procedure duration, BMI
	Coronary artery bypass graft with chest incision only	
Other cardiac	Cardiac surgery	gender, diabetes, ASA score, trauma, wound class, medical school affiliation*, hospital bed size*, age, procedure duration, BMI, age-gender interaction
Colon surgery	Colon surgery	gender, diabetes, trauma, anesthesia, ASA score, wound class, hospital bed size*, scope, closure, age, procedure duration, BMI
	Rectal surgery	ASA score, procedure duration, number of beds, oncology
Hip arthroplasty	Hip arthroplasty	diabetes, trauma, anesthesia, ASA score, wound class, medical school affiliation*, hospital bed size*, age, procedure duration, BMI, procedure type
Abdominal hysterectomy	Abdominal hysterectomy	diabetes, ASA score, hospital bed size*, scope, age, procedure duration, BMI
Knee arthroplasty	Knee arthroplasty	gender, trauma, anesthesia, ASA score, wound class, medical school affiliation*, hospital bed size*, age, procedure duration, BMI, procedure type
Vaginal hysterectomy	Vaginal hysterectomy	medical school affiliation*

* These risk factors originate from the Annual Facility Survey.

As a result, the overall incidence will be used in the SIR calculation (i.e., intercept-only model).

Additional Resources

SIR Guide: https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf

Technical Appendix (2020 Report): http://www.cdc.gov/hai/progress-report/index.html
Explains the methodology used to produce the HAI Report.

HAI Progress Report Home Page: http://www.cdc.gov/hai/progress-report/index.html
The complete HAI Report, including the Executive Summary and previous reports, can be found at the above

website.