

# 2021 National

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## Supplemental Tables Executive Summary

The National and State Healthcare-Associated Infections (HAI) Progress Report includes data for inpatient rehabilitation facilities (IRFs) and long-term acute care hospitals (LTAC). The 2020 report includes summary of selected HAIs reported from pediatric and

The supplemental data includes infection-specific standardized infection ratios (SIR). The SIR is the ratio of the observed number of infections (events) to the number of expected infections. The SIR metrics are calculated using the 2015 national baseline and risk adjustment factors. For more information, see NHSN's Guide to the SIR: <https://www.cdc.gov/nhsn/dataqueryandreporting/guide-to-the-sir>

This report includes national data for the following HAI and facility types:

Oncology Hospitals	Oncology Locations	Pediatric Hospitals	Pediatric Locations
CLABSI	CLABSI	CLABSI	CLABSI
CAUTI	CAUTI	CAUTI	CAUTI
VAE	VAE	SSI*	
C. difficile		C. difficile	
MRSA bacteremia		MRSA bacteremia	
SSI-COLO and HYST		See Main Progress Report Table 2d	

\*National SSI data includes 39 inpatient surgical procedure categories reported

[Please refer to the Executive Summary of the full report for the technical appendix.](#)

# al and State HAI Progress Report

## plemental Data Tables pediatric and Oncology Data

t provides a summary of select HAIs across four healthcare settings; acute care hospitals (ACHs), critical  
(CHs). Data from CAHs are provided in the detailed technical tables but not in the report itself.  
I oncology locations within ACHs as well as data from pediatric and oncology hospitals. These facility type

SIRs), which measure progress in reducing HAIs compared to the 2015 baseline time period.  
r of predicted infections (events) for a summarized time period.  
ment methodology. More information about these metrics can be found at:  
[cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf](https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf)

to NHSN.

[Index of how the Progress Report data are generated.](#)

access hospitals (CAHs),

α-specific data provide national incidence data for 2020

HAI and Patient Population	No. of Oncology Hospitals Reporting <sup>1</sup>	Total Device Days <sup>2</sup>
CLABSI, all <sup>9</sup>	20	499,084
CAUTI, all <sup>9</sup>	19	146,240
VAE, all <sup>9</sup>	9	13,195
Laboratory-identified MRSA bacteremia, facility-wide <sup>10</sup>	19	
Laboratory-identified C. difficile, facility-wide <sup>10</sup>	19	
COLO Colon surgery	14	
HYST Abdominal hysterectomy	15	

1. The number of reporting facilities from oncology hospitals only included in the SIR calculation.
2. The number of device days included in the calculation of the SIR
3. Total patient days reported from all inpatient units, excluding counts from CMS-certified rehabilitation and psychiatric
4. Total inpatient admissions reported from all inpatient locations, excluding counts from CMS-certified rehabilitation
5. Community-onset events are defined as those that were identified in an inpatient location on the first, second, or
6. SSIs included are those classified as deep incisional or organ/space infections following inpatient procedures that
7. Percent of facilities with at least one predicted infection (event) that had an SIR significantly greater than or less
8. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted HAI in 2021. If a facility's
9. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. For VAE, pediatric low
- IVAC-plus includes those events identified as infection-related ventilator-associated condition (IVAC) and possible
10. Hospital-onset events are defined as those that were identified in an inpatient location on the 4th day (or later) :



Total Patient Days <sup>3</sup>	Total Inpatient Admissions <sup>4</sup>	Inpatient Community-onset events <sup>5</sup>	Number of Procedures <sup>6</sup>	No. of Infections (Events)	
				Observed	Predicted
851,659				437	542.110
852,549				158	148.779
31,686				65	39.845
873,058	133,595	53		64	101.661
864,404	129,697	367		689	1,200.405
			4,092	140	158.592
			3,261	36	30.614

atric locations. Patient days for *C.difficile* further excludes counts from NICUs and well-baby units. n and psychiatric locations. Admissions for *C.difficile* further excludes counts from NICUs and well-baby units. third day of a patient's admission to the facility. For *C.difficile*, this excluded events in which the patient was n at occurred in 2021 with a primary or other than primary skin closure technique, detected during the same adr than the nominal value of the national SIR for the given HAI type. This is only calculated if at least 10 facilities s predicted number of HAIs was <1.0, a facility-specific SIR was neither calculated nor included in the distribut ocations are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance. To le ventilator-associated pneumonia (pVAP). IVAC-plus events are a subset of the total VAE, meaning the IVA after admission to the facility.





**Table 2e. National standardized infection ratios (SIRs) and facility-specific Central line-associated bloodstream infections (CLABSIs), catheter-associated Clostridioides difficile (C.difficile) and surgical site infection colon su**

SIR	95% CI for SIR		No. Facilities with $\geq 1$	Facility-specific SIRs		No. Facilities
	Lower	Upper		No. Facilities with SIR	%	
0.806	0.733	0.884	16	2	13%	2
1.062	0.906	1.238	11	3	27%	0
1.631	1.269	2.066	4	.	.	.
0.630	0.489	0.799	11	2	18%	0
0.574	0.532	0.618	16	6	38%	2
0.883	0.745	1.038	12	0	0%	0
1.176	0.836	1.610	8	0	0%	0

recently discharged from the reporting facility in the previous 4 weeks.  
 mission as the surgical procedure or upon readmission to the same facility.  
 s had  $\geq 1.0$  predicted HAI in 2021.  
 ion of facility-specific SIRs.  
 tal VAE includes IVAC-plus events.  
 C-plus events are included in the total VAE SIR as well.













**90%**

**95%**

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HAI and Patient Population	No. of Acute Care Hospitals Reporting from Oncology Locations <sup>1</sup>
<b>CLABSI, all<sup>4</sup></b>	496
<b>ICUs<sup>5</sup></b>	26
<b>Wards<sup>6</sup></b>	493
<b>CAUTI, all<sup>7</sup></b>	489
	26
	486
<b>VAE, all<sup>7</sup></b>	21
<b>ICU<sup>5</sup></b>	12
<b>Ward<sup>6</sup></b>	9

1. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this may
2. Percent of facilities with at least one predicted infection (event) that had an SIR significantly greater than
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted HAI in 2020. If a
4. Data from all ICUs, wards (and other non-critical care locations), and NICUs.
5. Data from all ICUs; excludes wards (and other non-critical care locations) and NICUs. For VAE, pediatri
6. Data from all wards (for this table wards also include step-down and specialty care areas [including hem
7. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. For VAE, pe  
 IVAC-plus includes those events identified as infection-related ventilator-associated condition (IVAC) an

NOTE: Risk factors used in the calculation of the number of predicted device-associated infections are list



Total Patient Days	Total Device Days	No. of Infections (Events)		SIR	95% CI for SIR	
		Observed	Predicted		Lower	Upper
5,507,279	2,803,938	2,430	3,448.796	0.705	0.677	0.733
76,351	49,657	54	51.200	1.055	0.800	1.366
5,430,928	2,754,281	2,376	3,397.596	0.699	0.672	0.728
5,289,349	607,340	650	854.499	0.761	0.704	0.821
76,157	43,662	35	43.563	0.803	0.568	1.105
5,213,192	563,678	486	810.937	0.758	0.700	0.820
86,442	16,803	92	55.470	1.659	1.345	2.025
38,892	15,446	81	52.006	1.558	1.245	1.926
47,550	1,357	11	3.464	3.176	1.670	5.520

may be different from the numbers shown in Table 1. These tables contain data from acute care hospitals; as such, they may be greater than or less than the nominal value of the national SIR for the given HAI type. This is only calculated if at least one facility's predicted number of HAIs was <1.0, a facility-specific SIR was neither calculated nor included in the table.

ICU locations are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance (e.g., surgery, intensive care, medical/surgical, hematology/oncology, bone marrow transplant). For VAE, pediatric locations are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance. IVAC-plus events are a subset of the total VAE, measured as possible ventilator-associated pneumonia (pVAP). IVAC-plus events are a subset of the total VAE, measured as possible ventilator-associated pneumonia (pVAP).

See Appendix A.

**Table 2e. National standardized infection ratios (SIRs) and facility-specific summary SIRs using HA Central line-associated bloodstream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs)**

No. Facilities with $\geq 1$ Predicted Infection (Event)	Facility-specific SIRs				5%
	No. Facilities with SIR Significantly > National SIR		No. Facilities with SIR Significantly < National SIR		
	N	% <sup>2</sup>	N	%	
422	11	3%	47	11%	0.000
14	0	0%	1	7%	.
422	22	5%	17	4%	0.000
269	10	4%	5	2%	0.000
11	1	9%	0	0%	.
268	10	4%	2	1%	0.000
8	.	.	.	.	.
7	.	.	.	.	.
1	.	.	.	.	.

such, they exclude data from LTACHs, IRFs, and CAHs.

At least 10 facilities had  $\geq 1.0$  predicted HAI in 2020.

Table 2e shows the distribution of facility-specific SIRs.

Table 2e.

Table 2e. Pediatric and neonatal locations are excluded from VAE surveillance.

Table 2e. Surveillance. Total VAE includes IVAC-plus events.

Table 2e. Including the IVAC-plus events are included in the total VAE SIR as well.





HAI and Patient Population	No. of Pediatric Hospitals	
CAUTI, all <sup>8</sup>	108	1,436,228
	99	184,668
Laboratory-identified MRSA bacteremia, facility-wide <sup>9</sup>	82	
Laboratory-identified C. difficile, facility-wide <sup>9</sup>	81	
COLO Colon surgery	620	
HYST Abdominal hysterectomy	51	

1. The number of reporting facilities from pediatric hospitals only included in the SIR calculation.
2. The number of device days included in the calculation of the SIR
4. Total inpatient admissions reported from all inpatient locations, excluding counts from CMS-certified rehabilitation
6. SSIs included are those classified as deep incisional or organ/space infections following inpatient procedures the
7. Percent of facilities with at least one predicted infection (event) that had an SIR significantly greater than or less
8. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted HAI in 2020. If a facility's
9. Hospital-onset events are defined as those that were identified in an inpatient location on the 4th day (or later) at



			<b><u>No. of Infections (Events)</u></b>	
			<b>Observed</b>	<b>Predicted</b>
4,573,122			1,352	1,980.403
2,705,651			214	229.348
3,846,251	652,284	127	178	148.308
2,790,598	582,447	833	923	1,157.843
		6,831	127	167.641
		56	0	1.075

n and psychiatric locations. Admissions for C.difficile further excludes counts from NICUs and well-baby units.

at occurred in 2020 with a primary or other than primary skin closure technique, detected during the same admission than the nominal value of the national SIR for the given HAI type. This is only calculated if at least 10 facilities; if the predicted number of HAIs was <1.0, a facility-specific SIR was neither calculated nor included in the distribution after admission to the facility.







**Table 2f. National standardized infection ratios (SIRs) and facility-specific Central line-associated bloodstream infections (CLABSIs), catheter-associated Clostridioides difficile (C.difficile) and surgical site infection colon su**

SIR	95% CI for SIR		Facility-specific SIRs			
	Lower	Upper	No. Facilities with $\geq 1$ Predicted Infection (Event)	No. Facilities with SIR Significantly > National SIR	No. Facilities Significantly <	
0.683	0.647	0.720	82	2	2%	24
0.933	0.814	1.065	60	6	10%	0
1.200	1.033	1.387	48	2	4%	3
0.797	0.747	0.850	62	7	11%	13
0.758	0.634	0.898	42	3	7%	0
0.000	.	2.786	0	.	.	.

mission as the surgical procedure or upon readmission to the same facility.  
 s had  $\geq 1.0$  predicted HAI in 2020.  
 :ion of facility-specific SIRs.







Population:  
Staphylococcus aureus (MRSA) bacteremia

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	<b>Median</b>								
	<b>45%</b>	<b>50%</b>	<b>55%</b>	<b>60%</b>	<b>65%</b>	<b>70%</b>	<b>75%</b>	<b>80%</b>	<b>85%</b>
	0.627	0.651	0.678	0.686	0.728	0.750	0.881	0.925	0.964
	0.772	0.812	0.853	0.928	0.954	0.987	1.231	1.514	1.817
	0.968	1.040	1.168	1.316	1.508	1.617	1.746	2.107	2.187
	0.618	0.641	0.650	0.708	0.736	0.826	0.905	1.025	1.078
	0.609	0.667	0.741	0.886	0.949	1.044	1.351	1.420	1.497

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**90%**

**95%**

1.111

1.291

1.870

2.117

2.395

2.979

1.196

1.340

1.725

2.432

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HAI and Patient Population	No. of Acute Care Hospitals Reporting from Pediatric Locations <sup>1</sup>
	594
	324
	578
	620
	325
	594

1. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this may
2. Percent of facilities with at least one predicted infection (event) that had an SIR significantly greater than
3. Facility-specific percentiles are only calculated if at least 20 facilities had  $\geq 1.0$  predicted HAI in 2020. If a
4. Data from all ICUs, wards (and other non-critical care locations), and NICUs.
5. Data from all ICUs; excludes wards (and other non-critical care locations) and NICUs. For VAE, pediatric
6. Data from all wards (for this table wards also include step-down and specialty care areas [including hem

NOTE: Risk factors used in the calculation of the number of predicted device-associated infections are listed

Total Patient Days	Total Device Days	No. of Infections (Events)		SIR	95% CI for SIR	
		Observed	Predicted		Lower	Upper
5,678,490	1,692,670	1,544	2,209.706	0.699	0.665	0.734
1,408,737	670,737	733	1,022.000	0.717	0.667	0.771
4,269,753	1,021,933	811	1,187.706	0.683	0.637	0.731
4,943,057	319,638	403	418.512	0.963	0.872	1.061
1,392,809	205,706	295	317.392	0.929	0.828	1.040
3,550,248	113,932	108	101.120	1.068	0.880	1.284

be different from the numbers shown in Table 1. These tables contain data from acute care hospitals; as s  
 1 or less than the nominal value of the national SIR for the given HAI type. This is only calculated if at least  
 a facility's predicted number of HAIs was <1.0, a facility-specific SIR was neither calculated nor included in

c locations are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance  
 (iatology/oncology, bone marrow transplant]). For VAE, pediatric locations are excluded from SIR since pec

ed in Appendix A.

**Table 2e. National standardized infection ratios (SIRs) and facility-specific summary SIRs using HA Central line-associated bloodstream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs)**

No. Facilities with $\geq 1$ Predicted Infection (Event)	Facility-specific SIRs				5%
	No. Facilities with SIR Significantly > National SIR		No. Facilities with SIR Significantly < National SIR		
	N	%	N	%	
211	1	0%	28	13%	0.000
152	0	0%	30	20%	0.000
164	5	3%	7	4%	0.000
120	13	11%	0	0%	0.000
100	4	4%	0	0%	0.000
21	2	10%	0	0%	0.000

such, they exclude data from LTACHs, IRFs, and CAHs.  
 t 10 facilities had  $\geq 1.0$  predicted HAI in 2020.  
 the distribution of facility-specific SIRs.

ce.  
 diatric and neonatal locations are excluded from VAE surveillance.

**I data reported to NHSN during 2020 by facility type, HAI, and patient population:  
 actions (CAUTIs) in pediatric locations across facility types in the acute care hospitals**

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								<b>Median</b>	
<b>10%</b>	<b>15%</b>	<b>20%</b>	<b>25%</b>	<b>30%</b>	<b>35%</b>	<b>40%</b>	<b>45%</b>	<b>50%</b>	<b>55%</b>
0.000	0.000	0.195	0.333	0.406	0.488	0.542	0.590	0.660	0.687
0.000	0.000	0.065	0.271	0.399	0.458	0.509	0.543	0.608	0.655
0.000	0.000	0.211	0.329	0.428	0.461	0.534	0.584	0.622	0.684
0.000	0.000	0.222	0.466	0.529	0.587	0.638	0.737	0.853	0.928
0.000	0.000	0.326	0.425	0.460	0.563	0.635	0.685	0.768	0.863
0.000	0.083	0.553	0.580	0.636	0.678	0.715	0.759	0.807	0.856

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<b>60%</b>	<b>65%</b>	<b>70%</b>	<b>75%</b>	<b>80%</b>	<b>85%</b>	<b>90%</b>	<b>95%</b>
0.739	0.801	0.858	0.926	1.014	1.133	1.282	1.462
0.749	0.790	0.882	0.962	1.055	1.126	1.314	1.657
0.787	0.852	0.905	0.962	1.052	1.192	1.305	1.751
0.972	1.114	1.316	1.478	1.594	1.735	1.992	2.605
0.926	1.069	1.199	1.292	1.435	1.586	1.919	2.527
0.905	0.934	0.959	0.969	0.998	1.699	2.286	2.405