2016 Nationa

Ac

Introduction: Welcome to the 2016 National and State HAI Progress Report using the new 2015 by comparing the number of observed infections to the number of predicted infection This report is created by CDC staff with the National Healthcare Safety Network (N

This workbook includes national and state-specific SIR data for acute care hospital

Scope	of report:
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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) Using Complex Admission Readmission (A/R) model)

Hospital-onset *Clostridium difficile* (CDI) by facility-wide reporting

facility-wide reporting

*The Surgical Care Improvement Project (SCIP) procedures plus 5 of the most reported pro

I and State HAI Progress Report

ute Care Hospitals

baseline and risk adjustment calculations. Standardized infection ratios (SIRs) are used to describe different H/ ons. This year's report will compare 2016 SIRs to those from the prior year. HSN).

Is (ACHs).

ACH				
National	State			
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cedures nat	tionally.			

AI types

Characteristics of Acute Care Hospi

Table 1. Characteristics of acute care hos

Characteristics

Number of facilities reporting to NHSN¹ Total Number of hospital admissions Median number of beds Mean number of beds Median number of ICU beds Mean number of ICU beds Mean number of full time epidemiologists

	Table 1a. Number of reporting facil
Type of hospital	
Children's hospitals	
General hospitals	
Military hospitals	
Oncology hospitals	
Orthopedic hospitals	
Psychiatric hospitals	
Surgical hospitals	
Veteran Administratio	on hospitals
Women's hospitals	
Women and Child ho	spitals

	Table 1b. Median and Mean Numb
Type of hospital	
Children's hospitals	
General hospitals	
Military hospitals	
Oncology hospitals	
Orthopeadic hospitals	
Psychiatric hospitals	
Surgical hospitals	
Veteran Administration	hospitals
Women and Child hos	pitals

Table 2. Total No. (%) of facilities affiliated

Medical School Affiliation

Total number of reporting facilities Yes Table 2a. Total No. (%) of facilities affiliatedType of medical school affiliation

Graduate Medical School

Major Teaching School

Undergraduate Medical School

tals Reporting to National Healthcare Safety Network (NHSN),

spitals reporting to NHSN, 2016	
2016 Statistics	
	3,931
	3,931 139,694
	135
	190
	12
	28
	1.4

ities by type, NHS	SN 2016
	No. (%)
	89 (2%)
	3448 (88%)
	48 (1%)
	17 (less than 1 percent)
	30 (less than 1 percent)
	66 (2%)
	125 (3%)
	82 (2%)
	13 (less than 1 percent)
	13 (less than 1 percent)

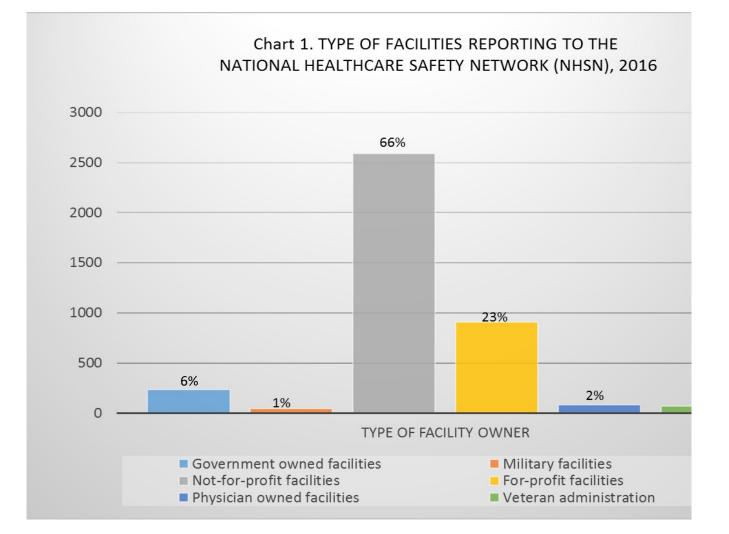
per of beds by type of hospital, NHSN 2016				
Median No. of beds	Mean No. of beds			
181	197			
146	201			
45	73			
74	154			
29	47			
72	109			
22	39			
108	145			
243	252			

with medical school, NHSN 2016				
No. (%)				
	3,931			
	1,798 (46%)			

NO. OF FACILITIES

2,133 (54%)

with medical by type, NHSN 2016	
No. (%)	
	664 (37%)
	792 (44%)
	342 (19%)





2016 Annual National and State HAI Progress Report <u>Acute Care Hospitals:</u> Full series of tables for all national and state-specific data

Tables included in this report:

- Table 1
 Characteristics of NHSN Acute Care Hospitals reporting to NHSN by state
 - 1a. Central line-associated bloodstream infections (CLABSI)
 - 1b. Catheter-associated urinary tract infections (CAUTI)
 - 1c. Ventilator-associated events (VAE), including Infection-related ventilator-associated condition and possible ventilator-associated pneu
 - 1d. Surgical site infections (SSI)
 - 1e. Hospital-onset methicillin-resistant Staphylococcus aureus (MRSA) bacteremia
 - 1f. Hospital-onset Clostridium difficile (CDI)
 - 1g. Table 1 Footnotes

Table 2 National standardized infection ratios (SIRs)

- 2a. CLABSI, CAUTI, and VAE from Acute Care Hospitals
- 2b. Hospital-onset MRSA bacteremia and hospital-onset CDI from Acute Care Hospitals
- 2c. Adult SSIs from all NHSN procedure categories from Acute Care Hospitals
- 2d. Pediatric SSIs from all NHSN procedure categories from Acute Care Hospitals
- Table 3
 State-specific SIRs for CLABSI from Acute Care Hospitals
 - 3a. All locations combined
 - 3b. Critical care locations only
 - 3c. Ward (non-critical care) locations only
 - 3d. Neonatal critical care locations only
- Table 4
 State-specific SIRs for CAUTI from Acute Care Hospitals
 - 4a. All locations combined
 - 4b. Critical care locations only
 - 4c. Ward (non-critical care) locations only
- Table 5
 State-specific SIRs for VAE from Acute Care Hospitals
 - 5a. VAE, all locations combined
 - 5b. VAE, critical care locations only
 - 5c. VAE, ward (non-critical care) locations only

Table 6	State-specific SIRs for Adult SSI from Acute Care Hospitals
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- 6a. Colon surgery
- 6b. Abdominal hysterectomy surgery
- 6c. Hip arthroplasty
- 6d. Knee arthroplasty
- 6e. Rectal surgery
- 6f. Vaginal hysterectomy
- 6g. Coronary artery bypass graft
- 6h. Other cardiac surgery
- 6i. Peripheral vascular bypass surgery
- 6j. Abdominal aortic aneurysm repair
- 6k. Cesarean section surgery
- 6l. Spinal fusion surgery
- 6m. Laminectomy surgery
- 6n. Exploratory laparotomy surgery
- 60. Gallbladder surgery
- Table 7
 State-specific SIRs for hospital-onset MRSA bacteremia from Acute Care Hospitals
- Table 8
 State-specific SIRs for hospital-onset CDI from Acute Care Hospitals
- Table 9 Changes in national SIRs for CLABSI, CAUTI, VAE, SSI, hospital-onset MRSA bacteremia, and hospital-onset CDI between 2015 and 20
- Table 10
 Changes in state-specific SIRs between 2015 and 2016 from Acute Care Hospitals
 - 10a. CLABSI, all locations combined
 - 10b. CAUTI, all locations combined
 - 10c. VAE, all locations, combined
 - 10d. SSI, colon surgery
 - 10e. SSI, abdominal hysterectomy surgery
 - 10f. Hospital-onset MRSA bacteremia
 - 10g. Hospital-onset CDI

Appendix A Factors used in NHSN risk adjustment of the device-associated HAIs (CLABSI, CAUTI, VAE, IVAC-Plus) negative binomial regression mc

Appendix B Factors used in NHSN risk adjustment of the MRSA Bacteremia and C.difficile negative binomial regression models from Acute Care Hos

Appendix C List of NHSN procedures included in this report with predictive risk factors from the NHSN Complex Admission/Re-admission SSI Logistic

Appendix D List of NHSN procedures included in this report with predictive risk factors from the NHSN Complex Admission/Re-admission SSI Logistic

- Appendix E List of NHSN procedures and corresponding SCIP procedures included in this report with factors used in the NHSN risk adjustment of the
- Additional Resources SIR Guide Technical Appendix HAI Progress Report Home Page

monia (IVAC-Plus)

16 from Acute Care Hospitals

odels from Acute Care Hospitals

pitals

Regression, Adults \geq 18 years of age

Regression, Pediatrics < 18 years of age

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

Table 1. Characteristics of NHSN Acute Care Hospitals reporting to NHSN by State¹, 2016: 1a. Central line-associated bloodstream infections (CLABSI)²

	2016						
			No. of Acute Care				
State	State NHSN Mandate ³	Any Validation⁴	Hospitals Reporting⁵	Total	ICU	Wards ²	NICU⁵
Alaska	Yes	Yes	9	47	10	36	1
Alabama	Yes	Yesª	77	463	138	310	15
Arkansas	Yes		49	276	63	203	10
Arizona	No	No	66	417	90	310	17
California	Yes		333	2438	532	1767	139
Colorado	Yes	No	50	333	67	245	21
Connecticut	Yes		32	260	48	200	12
D.C.	Yes	No	8	98	24	67	7
Delaware			8	80	14	64	2
Florida	No	No	202	1706	428	1215	63
Georgia	Yes	Yes	103	712	174	498	40
Guam	No	No	1	1	1	0	40 0
Hawaii	Yes	Yes	16	80	24	54	2
lowa	No	Yes	39	214	48	154	2 12
lowa Idaho				214 86		60	
Idano Illinois	No	No Yes	11 133	932	17	680	9
	Yes				209	680 404	43
Indiana	Yes	Yes	86	548	116		28
Kansas	No	Yes	51	227	57	161	9
Kentucky	Yes	No	69	420	117	288	15
Louisiana	No	Yes	87	452	110	313	29
Massachusetts	Yes	Yes	67	508	118	380	10
Maryland	Yes	No	49	457	81	359	17
Maine	Yes	Yes	17	90	21	65	4
Michigan	No	Yes	93	636	174	442	20
Minnesota	Yes	Yes	52	278	70	197	11
Missouri			75	561	123	415	23
Mississippi	Yes	Yes	55	324	72	239	13
Montana	No		13	63	12	46	5
North Carolina	Yes	Yes	94	653	164	465	24
North Dakota	No	Yes	7	57	10	41	6
Nebraska	M		26	128	25	97	6
New Hampshire	Yes	Yes	13	100	21	76	3
New Jersey	Yes	No	71	598	138	436	24
New Mexico	Yes	No	32	148	36	105	7
Nevada	Yes	No	22	176	43	125	8
New York	Yes		174	1523	344	1126	53
Ohio	No	Yes	137	994	251	714	29
Oklahoma	Yes	No	77	329	80	241	8
Oregon	Yes	Yes	36	240	51	179	10
Pennsylvania	Yes	Yes	163	1328	273	1009	46
Puerto Rico	No		13	82	26	50	6
Rhode Island	No	No	11	91	16	74	1
South Carolina	Yes	Yes	62	433	106	318	9
South Dakota	No	Yes	17	82	18	61	3
Tennessee	Yes	Yes	105	604	163	415	26
Texas	Yes	165	328		428	1222	20 125
Utah	Yes		328	133	428	80	
Utan Virginia	Yes	Yes	34 83	578	40 139	413	13 26
U U	res	res					
Virgin Island	¥		2	11 32	2	7 24	2
Vermont	Yes	Yes	6		7		1
Washington	Yes		56		75	310	15
Wisconsin	No	No	72	408	91	299	18
West Virginia	Yes	Yes	29	204	51	148	5
Wyoming	No	No	10		8	21	0
All US	1		3,531	23,843	5,564	17,228	1,051

	1b. Catheter-associ	ated urinary tr	act infection	ns (CAUTI) ²	2	
			2016			
				Lo	cations (n) ²	
			F			
State				Total	ICU	
Alaska	Yes	Yes	10	50	10	40
Alabama	Yes		88	465	138	327
Arkansas	Yes		49	279	64	215
Arizona	No	No	67	410	90	320
California	No	No	335	2316	535	1781
Colorado	No	No	50	330	67	263
Connecticut	Yes	Yes	32	254	48	206
D.C.	Yes	No	8	86	24	62
Delaware			8	83	14	69
Florida	No	No	202	1672	423	1249
Georgia	Yes	Yes	106	693	174	519
Guam	No	No	1	1	1	0
Hawaii	Yes	Yes	16	79	24	55
lowa	No	Yes	40	212	49	163
Idaho	No	No	15	86	18	68
Illinois	Yes	No	134	930	210	720
Indiana	Yes	Yes	88	530	116	414
Kansas	No	Yes	53	229	57	172
Kentucky	Yes	No	71	418	117	301
Louisiana	No		90	445	110	335
Massachusetts	Yes	Yes	69	507	118	389
Maryland	Yes	No	49	443	81	362
Maine	No	Yes	17	88	21	67
Michigan	No	Yes	95	634	174	460
Minnesota	Yes	Yes	53	272	71	201
Missouri			76	547	123	424
Mississippi	Yes		60	332	72	260

 Table 1. Characteristics of NHSN Acute Care Hospitals reporting to NHSN by State¹, 2016:

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

Montana	No		13	65	12	53
North Carolina	Yes		94	645	165	480
North Dakota	No	Yes	7	52	10	42
Nebraska	No		27	129	25	104
New Hampshire	Yes	Yes	13	99	21	78
New Jersey	Yes	No	71	586	138	448
New Mexico	No		32	142	34	108
Nevada	No	No	22	168	43	125
New York	No	Yes	176	1499	344	1155
Ohio	No	Yes	139	998	249	749
Oklahoma	Yes	No	86	349	81	268
Oregon	Yes	Yes	37	242	51	191
Pennsylvania	Yes	Yes	174	1381	274	1107
Puerto Rico	No		14	82	29	53
Rhode Island	No	Yes	11	92	16	76
South Carolina	No	No	63	421	107	314
South Dakota	No	Yes	21	87	18	69
Tennessee	Yes		106	605	163	442
Texas	М		359	1750	431	1319
Utah	Yes		35	128	40	88
Virginia	Yes	Yes	83	570	139	431
Virgin Islands			2	12	2	10
Vermont	No	Yes	6	33	7	26
Washington	No	No	59	388	73	315
Wisconsin	No	Yes	72	410	91	319
West Virginia	Yes	Yes	29	207	51	156
Wyoming	No	No	11	32	8	24
All US			3,644	23,563	5,571	17,992

1c. Ventilator-associated events (VAE)							
			2016				
State				Total	ICU		
Alaska	No	No	8	11	6	5	
Alabama	No	No	42	91	79	12	
Arkansas	No	No	23	38	33	5	
Arizona	No	No	31	49	39	10	
California	No	No	170	345	282	63	
Colorado	No	No	36	63	53	10	
Connecticut	No	No	16	35	25	10	
D.C.	No	No	3 3	6	6	0	
Delaware			3	8	6	2	
Florida	No	No	113	255	223	32	
Georgia	No	No	69	137	127	10	
Guam	No	No	0	0	0	0	
Hawaii	No	No	6	7	6	1	
lowa	No	No	14	16	15	1	
Idaho	No	No	7	11	10	1	
Illinois	No	No	61	113	81	32	
Indiana	No	No	67	109	93	16	
Kansas	No	No	31	44	40	4	
Kentucky	No	No	42	68	64	4	
Louisiana	No	Yes	36	57	44	13	
Massachusetts	No	No	24	49	42	7	
Maryland	No	No	24	41	33	8	
Maine	No	No	12	18	17	1	
Michigan	No	Yes	74	154	140	14	
Minnesota	No	No	10	15	11	4	
Missouri			37	76	68	8	
Mississippi	No	No	26	42	40	2	

			Table 1c				
Montana	No	No	4	4	4	О	
North Carolina	No	No	41	74	64	10	
North Dakota	No	No	1	1	1	0	
Nebraska	No	No	12	19	13	6	
New Hampshire	No	No	10	17	10	7	
New Jersey	No	No	47	110	81	29	
New Mexico	No	No	19	25	21	4	
Nevada	No	No	19	40	30	10	
New York	No	No	136	443	249	194	
Ohio	No	No	81	233	147	86	
Oklahoma	No	No	36	53	50	3	
Oregon	No	No	24	34	29	5	
Pennsylvania	Yes	Yes	142	363	259	104	
Puerto Rico	No	No	7	25	11	14	
Rhode Island	No	No	9	18	14	4	
South Carolina	Yes	Yes	55	114	98	16	
South Dakota	No	No	6	11	9	2	
Tennessee	No	No	53	121	91	30	
Texas	No	No	140	231	194	37	
1 I							

No

No

No

No

Yes

No

No

Μ

No

No

No

No

No

No

Utah

Virginia

Vermont

Virgin Islands

Washington

West Virginia

Wisconsin

Wyoming

All US

7

1

0

45

78

35

4,105

5

140

7

1

0

31

57

19

2,011

5

64

7

1

0

40

68

31

3,220

5

110

0

30

0

0

5

10

4

0

885

		U - 3-1	site infections ⁷ 2016	
			2016	
State		Any Validation⁴	No. of Acute Care Hospitals Reporting colon and hysterectomy surgeries in adults⁵	No. of Procedures ⁷ colon and hysterectomy surgeries in adults
Alaska	Yes	Yes	7	1,139
Alabama	Yes	Yes	69	13,519
Arkansas	Yes	Yes	42	6,653
Arizona	No	No	58	13,882
California	Yes		318	54,664
Colorado	Yes	Yes	47	10,534
Connecticut	Yes	Yes	30	7,711
D.C.	Yes	No	7	1,858
Delaware			7	1,815
Florida	No	No	190	47,492
Georgia	Yes	Yes	90	
Guam	No	No	0	-
Hawaii	Yes	Yes	14	1,756
lowa	No	Yes	35	
Idaho	No	No	12	
Illinois	Yes	No		
Indiana	Yes	Yes		13,046
Kansas	No	Yes		6,153
Kentucky	Yes	No		
Louisiana	No	No		,
Massachusetts	Yes	Yes		11,852
Maryland	Yes	No		
Maine	No	Yes		2,713
Michigan	No	Yes		
Minnesota	Yes	Yes		•
Missouri			66	14,516
Mississippi	Yes		43	
Montana	No	No		
North Carolina	Yes	Yes		
North Dakota	No	No		1,578
Nebraska	No		22	
New Hampshire	Yes	Yes	1	,
New Jersey	Yes	No		
New Mexico	No	No		
Nevada	No	No		
New York	Yes		165	
Ohio	No	Yes		
Oklahoma	Yes	No		
Oregon	Yes	Yes		
Pennsylvania	Yes	Yes		
Puerto Rico	No	No		
	I INO	INO	0	-

Table 1. Characteristics of NHSN Acute Care Hospitals reporting to NHSN by State¹, 2016: 1d. Surgical site infections⁷

I

Rhode Island	No	No	11	2,503
South Carolina	Yes	Yes	57	10,751
South Dakota	No	Yes	16	2,185
Tennessee	Yes	-	90	18,011
Texas	Yes	Yes	298	52,079
Utah	Yes	-	33	5,353
Virginia	Yes	Yes	74	16,204
Virgin Islands			2	120
Vermont	No	Yes	6	891
Washington	Yes	•	53	11,758
Wisconsin	No		68	11,383
West Virginia	Yes	Yes	27	4,105
Wyoming	No	No	10	625
All US			3,230	635,725

1e. Hospital-	onset metnicillin	-resistant Sta	aphylococcus aureus	Dacteremia
State			2016	
Alaska	Yes	Yes		8
Alabama	No	Yes ^a		89
Arkansas	Yes	103		48
Arizona	No	No		68
California	Yes	INO		339
Colorado	No	No		52
Connecticut	Yes	INO		32
D.C.	Yes	No		8
Delaware	165	INO		8
Florida	No	No		199
	Yes	Yes		199
Georgia Guam	No	No		0
Hawaii	Yes			16
	No	Yes Yes		38
lowa Idaho				
	No	No		14
Illinois	Yes	Yes		135
Indiana	No	No		91
Kansas	No	Yes		57
Kentucky	Yes	Yes		70
Louisiana	No	NL		94
Massachusetts	Yes	No		70
Maryland	Yes	No		48
Maine	Yes	Yes		17
Michigan	No	Yes		97
Minnesota	Yes	Yes		53
Missouri				77
Mississippi	Yes	Yes		61
Montana	No			13
North Carolina	Yes	No		97
North Dakota	No	Yes		8
Nebraska	Yes			28
New Hampshire	No	No		13
New Jersey	Yes	No		71
New Mexico	No	Yes		36
Nevada	Yes	No		20
New York	No	Yes		182
Ohio	No	Yes		138
Oklahoma	Yes	No		89
Oregon	Yes	Yes		36
Pennsylvania	Yes	Yes		167
Puerto Rico	No			2
Rhode Island	No	No		11
South Carolina	Yes	Yes		63
South Dakota	No	Yes		22
Tennessee	Yes	Yes		111
Texas	No			371

Table 1. Characteristics of NHSN Acute Care Hospitals reporting to NHSN by State¹, 2016: 1e. Hospital-onset methicillin-resistant Staphylococcus aureus bacteremia⁸

Utah	Yes		35
Virginia	Yes	Yes	80
Virgin Islands			2
Vermont	No	Yes	6
Washington	No		57
Wisconsin	No	Yes	74
West Virginia	Yes	Yes	30
Wyoming	No	No	11
All US			3,667

		onset <i>Clostridium difficile</i> ⁸ 2016	
State		Any idation⁴	
Alaska	Yes	Yes	8
Alabama	No		89
Arkansas	Yes		48
Arizona	No	No	68
California	Yes		339
Colorado	Yes	Νο	54
Connecticut	Yes		32
).C	М	Νο	7
Delaware			8
Iorida	No	No	199
Georgia	Yes	Yes	105
Guam	No	Νο	0
lawaii	Yes	Yes	16
owa	No	Yes	40
daho	No	No	14
llinois	Yes	Yes	135
ndiana	No	No	91
(ansas	No	Yes	57
Kentucky	Yes	Yes	70
ouisiana	No	103	95
lassachusetts	Yes	No	95 70
laryland	Yes	No	48
<i>l</i> aine	Yes	Yes	48
	No	Yes	97
/lichigan			
/innesota	Yes	Yes	54
Aissouri			77
/lississippi	Yes	Yes	61
<i>I</i> ontana	No		13
lorth Carolina	Yes	No	97
lorth Dakota	No	Yes	8
lebraska	Yes		28
lew Hampshire	No	No	13
lew Jersey	Yes	No	71
lew Mexico	No	Yes	37
levada	No	No	21
lew York	Yes		183
Dhio	No	Yes	140
Oklahoma	Yes	No	89
Dregon	Yes	Yes	36
Pennsylvania	Yes	Yes	168
Puerto Rico	No		5
Rhode Island	No	No	11
South Carolina	Yes	Yes	63

South Dakota	No	Yes	22
Tennessee	Yes	Yes	111
Texas	No		374
Utah	Yes		36
Virginia	Yes	Yes	80
Virgin Islands			2
Vermont	Yes	Yes	6
Washington	No		57
Wisconsin	No	Yes	74
West Virginia	Yes	Yes	30
Wyoming	No	No	11
All US			3,685

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 2016 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 acute care 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, a blank field indicates data not available. 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 October 1, 2017 for 2016 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 October 1, 2017 for 2016 data to confirm proper case ascertainment (although intensity of auditing activities varies by state). On Table 1c, 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, or the mandate covers only facilities above a certain bed size).

6. NICU locations included are those classified by NHSN CDC location codes as Level II/III and Level III neonatal critical care areas. A Level II/III neonatal critical care area is defined by NHSN as a combined nursery housing both Level II and III newborns and infants. A Level III neonatal critical care area is defined by NHSN as a hospital NICU organized with personnel and equipment to provide continuous life support and comprehensive care for extremely high-risk newborn infants and those with complex and critical illness.

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

8. 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 Acute Care Hospitals Reporting ¹	Total Patient Days
CLABSI, all⁴		3,531	121,163,842
lCUs⁵		3,125	18,973,520
Wards ⁶		3,479	102,190,322
NICUs ⁷		1,004	6,201,182
CAUTI, all ⁸		3,644	125,337,259
CAUTI, all		3,130	19,001,811
		3,598	106,335,448
VAE, all ⁸		1,953	12,895,443
		1,919	10,318,377
		302	2,577,066

1. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this may be differ

2. Percent of facilities with at least one predicted infection (event) that had an SIR significantly greater than or less

3. Facility-specific percentiles are only calculated if at least 20 facilities had ≥1.0 predicted HAI in 2016. If a facility's

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 location

6. Data from all wards (for this table wards also include step-down and specialty care areas [including hematology/c

7. Data from all NICU locations, including Level II/III and Level III nurseries. Both umbilical line and central line-asso

8. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. For VAE, pediatric lo IVAC-plus includes those events identified as infection-related ventilator-associated condition (IVAC) and possib

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

Total Device Days	No. of Infectio	ons (Events)		<u>95% CI 1</u>	for SIR	
	Observed	Predicted	SIR	Lower	Upper	No. Facil
						Predicted Ir
26,982,284	23,591	26,472.710	0.891	0.880	0.903	
9,197,999	9,055	9,726.020	0.931	0.912	0.950	
16,368,701	12,946	14,770.710	0.876	0.861	0.892	
1,415,584	1,590	1,975.980	0.805	0.766	0.845	
26,786,528	26,983	29,002.430	0.930	0.919	0.942	
10,692,640	12,959	13,978.920	0.927	0.911	0.943	
1,609,388	14,024	15,023.500	0.933	0.918	0.949	
3,628,885	24,039	24552.999	0.979	0.967	0.992	
3,449,560	23,457	23885.286	0.982	0.970	0.995	
179,325	582	667.713	0.872	0.803	0.945	

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

ns are excluded from SIR since pediatric and neonatal locations are excluded from VAE surveillance oncology, bone marrow transplant]). For VAE, pediatric locations are excluded from SIR since pedia ociated bloodstream infections are considered CLABSIs.

cations are excluded from SIR since pediatric and neonatal locations are excluded from VAE survei le ventilator-associated pneumonia (pVAP). IVAC-plus events are a subset of the total VAE, meanir

pendix A.

tional standardized infection ratios (SIRs) and facility-specific summary SIRs using HAI data repo associated bloodstream infections (CLABSIs), catheter-associated urinary tract infections (CAUT

lities with ≥1	<u>Facility-sp</u> No. Facilitie Significantly S	es with SIR	No. Facilitie Significantly <		5%	10%
fection (Event)	Significantly > N	² wational Six	Significantiy <	National Six	J /0	10 /0
2,345 1,708	245 133	10% 8%	259 108	11% 6%	0.000	0.000
1,977	176	9%	162	8%	0.000	0.000
456	30	7%	16	4%	0.000	0.000
2,591	267	10%	299	12%	0.000	0.000
1,944	174	9%	121	6%	0.000	0.000
2,231	198	9%	175	8%	0.000	0.000
1,473	298	20%	364	25%	0.000	0.000
1,461	296	20%	363	25%	0.000	0.000
132	14	11%	18	14%	0.000	0.000

ch, they exclude data from LTACHs, IRFs, and CAHs. 10 facilities had \geq 1.0 predicted HAI in 2016.

ne distribution of facility-specific SIRs.

Э.

atric and neonatal locations are excluded from VAE surveillance.

illance. Total VAE includes IVAC-plus events. Ig the IVAC-plus events are included in the total VAE SIR as well. =

					Percentile Distribution of Facility-specific SIRs ³ Median				
15%	20%	25%	30%	35%	40%	45%	50%	55%	60%
0.204	0.328	0.421	0.498	0.567	0.632	0.700	0.783	0.849	0.916
0.000	0.217	0.334	0.452	0.535	0.609	0.699	0.770	0.843	0.931
0.000	0.254	0.352	0.443	0.513	0.588	0.652	0.730	0.817	0.892
0.000	0.000	0.254	0.367	0.435	0.507	0.583	0.649	0.747	0.810
0.229	0.360	0.448	0.518	0.591	0.664	0.747	0.819	0.885	0.957
0.000	0.296	0.393	0.483	0.563	0.658	0.745	0.818	0.890	0.969
0.113	0.281	0.398	0.485	0.576	0.645	0.720	0.787	0.866	0.947
0.000	0.000	0.154	0.290	0.429	0.541	0.640	0.797	0.912	1.048
0.000	0.000	0.163	0.298	0.432	0.541	0.652	0.807	0.920	1.061
0.000	0.000	0.000	0.000	0.134	0.267	0.402	0.498	0.590	0.690

65%	70%	75%	80%	85%	90%	95%
0.996	1.085	1.217	1.326	1.502	1.792	2.239
1.032	1.135	1.281	1.455	1.647	1.944	2.479
0.983	1.095	1.201	1.354	1.586	1.845	2.307
0.882	0.962	1.095	1.293	1.487	1.706	2.195
1.038 1.076 1.045	1.131 1.178 1.148	1.250 1.289 1.271	1.371 1.461 1.392	1.541 1.632 1.537	1.790 1.932 1.799	2.184 2.385 2.262
1.204 1.208 0.800	1.349 1.353 0.930	1.525 1.546 1.229	1.720 1.740 1.483	1.946 1.946 1.755	2.215 2.214 2.334	2.653 2.649 2.767

HAI and Patient Population		Reporting
	No. of Acute Care Hospitals Reporting ¹	Total Admissions ²
Laboratory-identified MRSA bacteremia, facility-wide	3,602	36,052,090
Laboratory-identified C. difficile, facility-wide	3,605	33,251,802

1. The number of reporting facilities included in the SIR calculation. Due to SIR exclusion criteria, this ma

2. Total inpatient admissions reported from all inpatient locations, excluding counts from CMS-certified re

3. Total patient days reported from all inpatient units, excluding counts from CMS-certified rehabilitation a

4. Community-onset events are defined as those that were identified in an inpatient location on the first, s

5. Hospital-onset events are defined as those that were identified in an inpatient location on the 4th day (

6. Calculated from a negative binomial regression model. Risk factors used in the calculation of the numl

7. Percent of facilities with at least one predicted event that had an SIR significantly greater than or less t

8. Percentile distribution of facility-specific SIRs. This is only calculated if at least 20 facilities had ≥1.0 pr

Table 2b. National standardized infection ratios (SIF Laboratory-identified methicillin-resistant Staphylococc

<u>Hospitals</u>		Standardized Infection Ratio Data			
					95% CI
Total Patient Days ³	Inpatient Community-onset events⁴	Predicted Hospital-onset Hospital-onset events⁵ events ⁶		SIR	
					Lower
155,107,407	24,854	8,546	9,142.247	0.935	0.915
142,405,255	5 119,874	95,530	103,780.133	0.921	0.915

ay be different from the numbers shown in Table 1.

shabilitation and psychiatric locations. Admissions for *C.difficile* further excludes counts from NICUs and w and psychiatric locations. Patient days for *C.difficile* further excludes counts from NICUs and well-baby uni second, or third day of a patient's admission to the facility. For *C.difficile*, this excluded events in which the (or later) after admission to the facility.

ber of predicted events are listed in Appendix B.

than the nominal value of the national SIR for the given HAI type. This is only calculated if at least 10 facil edicted HAI in 2016. If a facility's predicted number of events was <1.0, a facility-specific SIR was neither

1100

<u>Response of the second second</u>

		Facility SIRs C	ompared to Na	tional SIR		
for SIR	No. Facilities with ≥1 Predicted Event	No. Facilitie Significantly >		No. Facilitie Significantly <	5%	
Upp	ber	Ν	% ⁷	Ν		
0.9	55 1,859	124	7%	67	4%	0.000
0.9	26 3,180	314	10%	644	20%	0.000

ell-baby units.

its.

patient was recently discharged from the reporting facility in the previous 4 weeks.

ities had \geq 1.0 predicted HAI in 2016.

calculated nor included in the distribution of facility-specific SIRs.

Percentile Distribution of Facility-spe

10%	15%	20%	25%	30%	35%	40%	45%	50%	55%
0.000	0.167	0.333	0.419	0.506	0.587	0.660	0.733	0.796	0.865
0.262	0.394	0.486	0.568	0.629	0.694	0.749	0.802	0.851	0.903

<u>cific SIRs⁸</u>							
60%	65%	70%	75%	80%	85%	90%	95%
0.947	1.057	1.172	1.324	1.492	1.684	1.956	2.382
0.963	1.011	1.073	1.144	1.219	1.307	1.466	1.729

Surgical Procedure	No. of Acute Care Hospitals Reporting ²	No. of Procedures
US, all NHSN procedures	3,346	2,623,800
US, SCIP procedures only⁵	3,318	1,686,684
AAA Abdominal aortic aneurysm repair⁵	250	1,429
AMP Limb amputation	145	7,799
APPY Appendix surgery	399	37,287
AVSD Shunt for dialysis	110	1,762
BILI Bile duct, liver or pancreatic surgery	308	10,942
BRST Breast surgery	226	15,631
CARD Cardiac surgery⁵	398	41,617
CABG- Coronary artery bypass graft ^{5,6}	759	124,281
CEA Carotid endarterectomy	279	9,841
CHOL Gallbladder surgery	423	64,227
COLO Colon surgery⁵	3,133	318,352
CRAN Craniotomy	151	25,054
CSEC Cesarean section	438	235,828
FUSN Spinal fusion	551	129,520
FX Open reduction of fracture	398	48,511
GAST Gastric surgery	384	37,447
HER Herniorrhaphy	222	10,635
HPRO Hip arthroplasty⁵	1,983	349,277
HTP Heart transplant	32	1,142
HYST Abdominal hysterectomy⁵	2,986	302,548
KPRO Knee arthroplasty⁵	1,939	504,333
KTP Kidney transplant	53	4,031
LAM Laminectomy	513	99,688
LTP Liver transplant	28	1,594
NECK Neck surgery	85	1,081
NEPH Kidney surgery	275	10,128
OVRY Ovarian surgery	367	37,806
PACE Pacemaker surgery	322	23,193
PRST Prostate surgery	106	3,486
PVBY Peripheral vascular bypass surgery⁵	294	9,346
REC Rectal surgery ⁵	330	7,854
RFUSN Refusion of spine	-	-
SB Small bowel surgery	387	26,324
SPLE Spleen surgery	246	2,596
THOR Thoracic surgery	320	25,887
THYR Thyroid and/or parathyroid surgery	122	3,932
VHYS Vaginal hysterectomy ⁵	738	27,647
VSHN Ventricular shunt	102	2,090
XLAP Abdominal surgery	395	59,654

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 seland 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 2C

No. of Inf	ections		95% CI	for SIR		Facility-
Observed	Predicted ³	SIR	Lower	Upper	No. Hosp with ≥1	No. Hosp
					Predicted Infection	Significantly >
-						N
19,253	20,374.957	0.945	0.932	0.958	2,409	193
14,583	15,578.517	0.936	0.921	0.951	2,352	174
5	9.757	0.512	0.188	1.136		
50	43.700	1.144	0.858	1.496		2
143	143.566	0.996	0.843	1.170		2
2	4.625	0.432	0.073	1.429	0	
299	336.561	0.888	0.792	0.993	61	5
121	148.217	0.816	0.680	0.972	45	3
116	148.852	0.779	0.647	0.931	39	1
855	913.694	0.936	0.875	1.000		21
6	8.047	0.746	0.302	1.551	0	
222	239.740	0.926	0.810	1.054	84	3
7,466	8,004.918	0.933	0.912	0.954	1,817	108
312	273.012	1.143	1.021	1.275		4
417	382.370	1.091	0.990	1.199	114	9
925 334	941.222 340.415	0.983 0.981	0.921 0.880	1.048 1.091	254 100	21 9
203	255.640	0.981	0.690	0.909	79	9
203 73	72.202	1.011	0.090	0.909 1.264	16	1
2,167	2,252.419	0.962	0.922	1.003	702	56
2,107	13.870	0.502	0.922	0.998	4	50
1,757	2,010.678	0.874	0.834	0.915	629	35
1,864	1,774.402	1.050	1.004	1.099	609	43
37	24.683	1.499	1.071	2.044	9	10
308	349.618	0.881	0.787	0.984	117	3
80	76.366	1.048	0.836	1.297	21	2
27	26.990	1.000	0.673	1.435	6	-
26	33.373	0.779	0.520	1.125	4	
29	24.279	1.194	0.815	1.693		
49	41.223	1.189	0.889	1.559	2	
18	9.133	1.971	1.205	3.055	0	
167	184.380	0.906	0.776	1.051	58	1
66	137.640	0.480	0.374	0.606	32	2
					0	
486	527.896	0.921	0.841	1.005	148	7
17	15.289	1.112	0.669	1.744	0	
63	89.107	0.707	0.548	0.899	18	1
3	3.029	0.990	0.252	2.695	0	
120	141.776	0.846	0.705	1.008	16	3
29	32.923	0.881	0.601	1.249	10	1
384	339.344	1.132	1.023	1.249	106	9

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

procedures that occurred in 2016 with a primary or other than primary skin closure technique, detected durir s may be different from the numbers shown in Table 1. Refer to the Technical Appendix for information about

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

cisions.

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

<u>specific SIRs</u>							
with SIR	No. Hosp with	SIR					
	Significantly < Nati	ional SIR	5%	10%	15%	20%	25%
%4							
8%		8%	0.000	0.000	0.215	0.365	0.454
7%	148	6%	0.000	0.000	0.204	0.349	0.450
11%	0	0%					
6%	0	0%	0.000	0.000	0.000	0.000	0.000
	:						
8%	4	7%	0.000	0.000	0.000	0.000	0.12
7%	1	2%	0.000	0.000	0.000	0.000	0.000
3%	0	0%	0.000	0.000	0.000	0.000	0.000
7%	4	1%	0.000	0.000	0.000	0.000	0.000
4%	0	0%	0.000	0.000	0.000	0.000	0.000
6%	65	4%	0.000	0.000	0.000	0.085	0.343
6%	1	1%	0.000	0.000	0.000	0.000	0.26
8%	5	4%	0.000	0.000	0.000	0.000	0.000
8%	11	4%	0.000	0.000	0.000	0.239	0.373
9%	1	1%	0.000	0.000	0.000	0.000	0.00
0%	1	1%	0.000	0.000	0.000	0.000	0.00
6%	0	0%	0.000	0.000	0.000	0.000	0.000
8%	23	3%	0.000	0.000	0.000	0.000	0.202
6%	10	2%	0.000	0.000	0.000	0.000	0.000
7%		2%	0.000	0.000	0.000	0.000	0.00
3%	0	0%	0.000	0.000	0.000	0.000	0.00
10%	1	5%	0.000	0.000	0.258	0.345	0.360
				•			
				•			
			•	•	•	•	
	•						
2%	0	0%	0.000	0.000	0.000	0.000	0.00
6%	0	0%	0.000	0.000	0.000	0.000	0.000
070	0	0 70	0.000	0.000	0.000	0.000	0.000
5%	0	0%	0.000	0.000	0.000	0.000	0.00
6%	0	0%					
19%	0	0%	•	•	•	•	
19%	0	0%	•	•	•	•	
8%		0% 2%	0.000	0.000	0.000	0.000	0.478
070	2	∠ 70	0.000	0.000	0.000	0.000	0.470

SIRs using adult surgical site infection (SSI) data1 reported to NHSN from NHSN Acute Care Hospi

ng the same admission as the surgical procedure or upon readmission to the same facility. It exclusion criteria.

ast 10 facilities had ≥ 1.0 predicted SSI in 2016. ∋ct (SCIP). Specific NHSN procedures

ed in the distribution of facility-specific SIRs.

itals during 2016 by surgical procedure.

Percentile Distribution of Facility-specific SIRs ⁷									
30%	35%	40%	45%	Median 50%	55%	60%	65%	70%	75%
0.549	0.619	0.696	0.766	0.835	0.900	0.978	1.068	1.170	1.26
0.536	0.609	0.682	0.758	0.835	0.905	0.992	1.079	1.177	1.28
0.000	0.636	0.784	0.820	0.930	0.987	1.128	1.390	1.714	1.86
•	•	•		•	•	•	•	•	
0.193	0.429	0.504	0.637	0.740	0.794	0.822	0.983	1.108	1.22
0.000	0.325	0.424	0.549	0.710	0.731	0.824	0.875	0.960	1.03
0.000	0.000	0.000	0.400	0.486	0.702	0.799	0.897	1.017	1.40
0.179	0.407	0.502	0.628	0.705	0.797	0.868	1.014	1.203	1.33
0.287	0.537	0.612	0.669	0.702	0.759	0.851	0.951	0.996	1.12
0.444	0.558	0.627	0.710	0.801	0.880	0.959	1.082	1.207	1.33
0.501	0.600	0.755	0.782	0.883	1.101	1.207	1.340	1.533	1.62
0.316	0.426	0.543	0.703	0.786	0.900	1.023	1.214	1.484	1.60
0.486	0.561	0.654	0.728	0.788	0.903	0.981	1.146	1.227	1.42
0.429	0.510	0.580	0.620	0.750	0.797	0.891	1.072	1.305	1.4
0.301	0.434	0.492	0.634	0.719	0.774	0.884	0.942	0.979	1.20
0.370	0.517	0.616	0.719	0.809	0.892	0.954	1.117	1.345	1.49
0.293	0.449	0.542	0.635	0.698	0.790	0.873	0.978	1.144	1.3
0.295	0.449	0.617	0.035	0.030	0.790	0.967	1.115	1.337	1.5
0.300	0.517	0.017	0.715	0.017	0.091	0.907	1.115	1.337	1.5
0.000	0.000	0.252	0.417	0.520	0.648	0.705	0.788	0.872	0.9
0.497	0.516	0.535	0.633	0.720	1.026	1.135	1.150	1.348	1.5
					•	•	•		
•	•	•	•	•	•	•	•	•	
0.360		0.472	0.557			0.815	0.027		1.3
	0.444			0.645	0.697		0.937	1.149	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.256	0.3
0.376	0.457	0.541	0.676	0.740	0.831	0.916	0.991	1.082	1.2
•									
					•	•			
0.543	0.656	0.740	0.843	0.898	1.010	1.119	1.404	1.492	1.5

85%	90%	95%
1.567	1.798	2.198
1.581	1.805	2.219
2.273	2.556	2.881
1.565	1.650	2.096
		2.474
		3.371
1.715	2.069	2.873
1 687	1 927	2.319
		2.337
		2.337
		3.123
		2.786
		2.825
1.551	1.665	2.020
1.913	2.386	2.974
1 7/2	2 036	2.536
		3.006
1.002	2.470	0.000
1.662	1.847	2.314
2.205	2.431	3.781
•	•	
1.707	1.855	2.194
0.489	0.796	2.022
1.558	1.872	2.489
		3.335
	1.567 1.581 2.273 1.565 1.538 1.937 1.715 1.687 1.683 1.970 2.101 1.802 1.764 1.551 1.913 1.742 1.962 1.662 2.205	1.567 1.798 1.581 1.805 1.581 1.805 2.273 2.556 1.565 1.650 1.538 2.295 1.937 2.378 1.715 2.069 1.687 1.927 1.687 1.927 1.683 1.919 1.970 2.136 2.101 2.668 1.802 1.963 1.764 1.988 1.551 1.665 1.913 2.386 1.962 2.478 1.662 1.847 2.205 2.431 $$ $$ 1.707 1.855 0.489 0.796 1.558 1.872 $$ $$ 1.558 1.872

Surgical Procedure	No. of Acute Care	No. of
ourgiour rooduito	Hospitals Reporting ²	Procedures
	licopitale Roporting	Trocourie
US, all NHSN procedures	1,291	51,754
	899	13,386
	•	
	0	0
AMP Limb amputation	0	10 570
APPY Appendix surgery AVSD Shunt for dialysis	350	12,572 0
BILI Bile duct, liver or pancreatic surgery	46	372
BRST Breast surgery	40	0
Dite i Diodet ourgely	83	6,751
	0	0
CEA Carotid endarterectomy	0	0
CHOL Gallbladder surgery	215	1,184
COLO Colon surgery⁵	693	5,711
CRAN Craniotomy (ALL AGE)	71	1,704
CRAN Craniotomy (<mark>AGE >=2</mark>)	66	1,335
CRAN Craniotomy (AGE <2)	32	369
CSEC Cesarean section	322	1,579
FUSN Spinal fusion (AGE >=2)	197	4,793
FX Open reduction of fracture	246	3,168
GAST Gastric surgery	0	0
HER Herniorrhaphy	46	742 236
HTP Heart transplant	0	230
	109	123
	119	194
KTP Kidney transplant	15	136
LAM Laminectomy	151	1,964
LTP Liver transplant	9	111
NECK Neck surgery	0	0
NEPH Kidney surgery	0	0
OVRY Ovarian surgery	0	0
PACE Pacemaker surgery	0	0
PRST Prostate surgery	0	0
	0	0
DEUCN Defusion of oning	43	371
RFUSN Refusion of spine	0	0
SB Small bowel surgery SPLE Spleen surgery	106	1,341 0
THOR Thoracic surgery	106	1,491
THYR Thyroid and/or parathyroid surgery	0	0
	0	0
VSHN Ventricular shunt	55	2,958
XLAP Abdominal surgery	166	2,549
	0	0

- 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
- These procedures were presented in previous versions of the HAI Progress Report and follow seland 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

Facility		or SIR	<u>95% CI 1</u>		No. of Infections	
No. Hos	No. Hosp with ≥1	Upper	Lower	SIR		Observed
Significantly	Predicted Infection					
ر۲ ۱						
-	81	0.968	0.797	0.879	465.129	409
	48	0.859	0.619	0.731	196.860	144
			01010			
	8	1.597	0.921	1.224	41.652	51
	0	1.228	0.115	0.451	6.650	3
(22	0.760	0.391	0.553	63.306	35
	0				0.872	0
(26	0.996	0.679	0.826	127.045	105
	8	1.277	0.444	0.779	17.962	14
	6	1.224	0.349	0.687	14.566	10
	0	2.841	0.374	1.178	3.396	4
	0	3.272	0.723	1.654	4.232	7
(15	1.188	0.670	0.901	52.168	47
	0	2.250	0.751	1.349	9.633	13
	0	2.911	-	0.000	1.029	0
	0				0.963	1
	0	2.793	0.142	0.846	2.365	2
	0	2.326	0.024	0.472	2.120	1
	0	6.025	0.306	1.824	1.097	2
	0	2.599	1.121	1.745	12.608	22
	2	1.809	0.400	0.914	7.655	7
	0	2.826		0.000	1.060	0
	1	1.914	0.713	1.204	13.286	16
	0	6.090	1.007	2.747	1.820	5
				•		
	24	1.056	0.622	0.818	67.276	55
	1	1.336	0.355	0.728	12.367	9

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

t procedures in pediatric patients less than 18 years that occurred in 2016 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 2016.

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

cisions.

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

Rs using pediatric surgical site infection (SSI) data¹ reported to NHSN from NHSN Acute Care Hos

specific SIRs							
with SIR	No. Hosp w		E0/	409/	4 6 0/	200/	259/
National SIR	Significantly < N	National SIR	5%	10%	15%	20%	25%
9%	5	6%	0.000	0.000	0.000	0.000	0.172
0%	1	2%	0.000	0.000	0.000	0.000	0.000
				•	•	•	•
			•	•			•
						•	
0%	0	0%	0.000	0.000	0.000	0.000	0.000
	•			•	•	•	•
0%	0	0%	0.000	0.000	0.000	0.000	0.000
				•			
0%	0	0%			•		•
						•	
				·	•	•	•
	•						
				•	•		•
				•		•	
				·	•	•	•
	•						
•	•		•	•	•	•	•
				•		•	•
	•			•	•	•	•
4%	0	0%	0.000	0.000	0.000	0.000	0.000
		-					

ry skin closure technique, detected during the same admission as the surgical procedure or upon readmis ut exclusion criteria. SIRs and accompanying

ast 10 facilities had \geq 1.0 predicted SSI in 2016. \Rightarrow ct (SCIP). Specific NHSN procedures

ed in the distribution of facility-specific SIRs.

pitals during 2016 by surgical procedure.

				Median					
30%	35%	40%	45%	50%	55%	60%	65%	70%	75%
0.442 0.000	0.538 0.000	0.578 0.307	0.647 0.416	0.724 0.438	0.769 0.538	0.859 0.666	0.932 0.770	0.973 0.840	1.239 0.908
				•					•
0.000	0.000	0.000	0.286	0.461	0.645	0.666	0.859	0.877	1.034
•	•	•		•	•	•	•	•	•
0.000	0.000	0.000	0.000	0.179	0.538	0.796	0.813	0.927	0.938
			•	•					•
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•		•	•	
•	•	•			•	•	•	•	
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•
•		•	-	•					
•	•	•			•	•	•	•	
•	•	•	•	•	•	•		•	•
			•	•					•
	•	•	•	•	•			•	•
0.221	0.292	0.362	0.398	0.551	0.861	0.886	0.953	0.962	1.236

sion to the same facility.

80%	85%	90%	95%
1.403	1.598	1.768	2.553
1.089	1.189	1.580	1.756
•	•	•	
		•	
			0.070
1.189	1.528	1.653	2.272
			4.00
0.950	1.224	1.360	1.924
•	•	•	
•	•	•	
•	•	•	
•	•	•	
	•		
1.656	1.882	1.957	2.201
	•	•	

			Table 3	3. State-specific	standardized i					summary meas	sures,					
				3a. Cen No. of Inf	ntral line-associ		ospitals rep Istream inf 95% Cl 1	ections (C	LABSI), all loca	ations ¹		Facili	ty chooific	SIRs at Ke	v Porcontil	
State	State NHSN Mandate ²	Any Validation ³	No. of Acute Care Hospitals Reporting⁴	Observed	Predicted	SIR	55% CT	Upper	No. of hosp with at least 1 predicted CLABSI	% of hosp with SIR sig higher than national SIR⁵	% of hosp with SIR sig lower than national SIR⁵	<u>raciii</u>	25%	Median (50%)	75%	<u>90%</u>
Alaska	Yes	Yes	9	28	32.340	0.866	0.587	1.234	5							
Alabama	Yes		77	564	503.340	1.121	1.031	1.216	36	31%	3%	0.146	0.800	1.156	1.591	1.804
Arkansas	Yes		49	291	292.560	0.995	0.885	1.114	25	4%	8%	0.342	0.622	0.938	1.265	1.597
Arizona	No	No	66	420	550.300	0.763	0.693	0.839	44	5%	9%	0.000	0.383	0.680	0.893	1.236
California	Yes		333	2,582	2,735.120	0.944	0.908	0.981	269	9%	9%	0.000	0.481	0.885	1.287	1.850
Colorado	Yes	No	50	234	325.410	0.719	0.631	0.816	31	3%	32%	0.000	0.175	0.596	0.941	1.284
Connecticut	Yes		32	247	240.980	1.025	0.903	1.159	24	17%	4%	0.000	0.545	0.878	1.204	1.629
D.C.	Yes	No	8	166	174.730	0.95	0.814	1.103	8							
Delaware	Ne	Nie	8	90	93.230	0.965	0.781	1.181	8		110/	0 192	0 479		1 200	1 906
Florida Georgia	No Yes	No	202 103	1,851 1,002	2,044.190 877.090	0.905 1.142	0.865 1.073	0.947 1.215	174 65	16% 26%	11% 9%	0.183 0.104	0.478 0.488	0.841 0.943	1.322 1.522	1.896 1.978
Georgia Guam	No	No	103	1,002	011.090	1.142	1.073	1.210	05	20%	970	0.104	0.400	0.543	1.522	1.910
Hawaii	Yes	Yes	16	56	106.610	0.525	0.401	0.677	13	0%	38%	•	•	•	•	·
lowa	No	Yes	39	136	214.300	0.635	0.534	0.748	23	0%	22%	0.000	0.115	0.459	0.843	0.919
Idaho	No	No	11	29	73.600	0.394	0.269	0.559	8	0,0			0.110	0.100	0.0.0	0.070
Illinois	Yes	Yes	133	677	968.260	0.699	0.648	0.753	102	3%	12%	0.000	0.316	0.632	0.938	1.452
Indiana	Yes	Yes	86	551	558.990	0.986	0.906	1.071	58	9%	7%	0.000	0.490	0.654	1.146	1.501
Kansas	No	Yes	51	176	207.330	0.849	0.73	0.982	19	0%	0%					
Kentucky	Yes	No	69	316	411.890	0.767	0.686	0.855	39	8%	18%	0.076	0.403	0.618	0.975	1.531
Louisiana	No	Yes	87	492	437.220	1.125	1.029	1.228	43	21%	12%	0.000	0.411	1.047	1.533	2.139
Massachusetts	Yes	Yes	67	463	605.980	0.764	0.697	0.836	48	2%	13%	0.000	0.279	0.575	0.814	1.438
Maryland	Yes	No	49	519	470.140	1.104	1.012	1.202	44	18%	14%	0.000	0.396	0.891	1.326	2.170
Maine	Yes	Yes	17	65	70.240	0.925	0.72	1.172	9							
Michigan	No	Yes	93	565	725.500	0.779	0.717	0.845	57	11%	11%	0.000	0.333	0.716	1.026	1.394
Minnesota	Yes	Yes	52	299	349.110	0.856	0.763	0.958	20	5%	10%	0.000	0.448	0.607	0.992	1.210
Missouri			75	619	662.920	0.934	0.862	1.01	48	10%	17%	0.000	0.412	0.684	1.085	1.569
Mississippi	Yes	Yes	55	232	251.050	0.924	0.811	1.049	29	14%	7%	0.000	0.492	0.853	1.252	2.042
Montana	No		13	26	37.690	0.69	0.46	0.996	9						•	
North Carolina	Yes	Yes	94	807	779.820	1.035	0.965	1.108	60	13%	8%	0.000	0.514	0.837	1.358	1.675
North Dakota	No	Yes	7	56	66.320	0.844	0.644	1.089	6			•				
Nebraska	М		26	126	161.370	0.781	0.653	0.926	18	11%	17%	•	•	•	•	
New Hampshire	Yes	Yes	13	67	69.860	0.959	0.749	1.21	11	9%	0%					
New Jersey	Yes	No	71	535	651.090	0.822	0.754	0.894	64	11%	17% 0%	0.202	0.369	0.725	1.187	1.942
New Mexico Nevada	Yes	No No	32 22	122 270	115.810 288.740	1.053 0.935	0.879 0.828	1.253 1.052	13 19	15% 16%	0% 16%	•	•	•	•	
	Yes	INO	22 174	1,726	1,767.320	0.935	0.828	1.052	133	10%	8%	0.329	0.593	0.926	1.326	2.363
New York Ohio	Yes No	Yes	174 137	938	1,767.320	0.977	0.931	0.891	96	7%	8% 14%	0.329	0.593	0.926	0.974	2.363
Ohio Oklahoma	Yes	No	77	326	399.860	0.815	0.73	0.891	30	6%	14 %	0.237	0.233	0.389	1.022	1.814
Oregon	Yes	Yes	36	160	234.260	0.683	0.583	0.795	25	0%	8%	0.207	0.064	0.479	1.004	1.547
Pennsylvania	Yes	Yes	163	1,286	1,360.550	0.085	0.895	0.998	108	8%	11%	0.000	0.363	0.764	1.134	1.604
Puerto Rico	No		13	60	67.350	0.891	0.686	1.139	10	10%	0%					
Rhode Island	No	No	11	76	74.120	1.025	0.814	1.276	9							
South Carolina	Yes	Yes	62	412	427.610	0.963	0.874	1.06	33	6%	3%	0.000	0.598	0.858	1.223	1.570
South Dakota	No	Yes	17	48	62.410	0.769	0.573	1.011	5							
Tennessee	Yes	Yes	105	584	749.660	0.779	0.718	0.844	60	15%	17%	0.000	0.314	0.731	1.147	1.911
Texas	Yes		328	1,915	2,205.270	0.868	0.83	0.908	203	9%	8%	0.000	0.450	0.806	1.148	1.690
Utah	Yes		34	116	138.750	0.836	0.694	0.999	13	0%	8%					
Virginia	Yes	Yes	83	402	589.310	0.682	0.618	0.751	54	4%	17%	0.000	0.226	0.547	1.043	1.476
Virgin Islands			2													
Vermont	Yes	Yes	6	18	26.430	0.681	0.416	1.055	2							
Washington	Yes		56	344	485.800	0.708	0.636	0.786	45	4%	13%	0.087	0.450	0.632	0.859	1.333
Wisconsin	No	No	72	318	397.850	0.799	0.715	0.891	44	7%	7%	0.000	0.452	0.777	1.023	1.463
West Virginia	Yes	Yes	29	168	194.660	0.863	0.74	1.001	20	15%	25%	0.000	0.127	0.320	1.389	2.134
Wyoming	No	No	10	5	13.750	0.364	0.133	0.806	2							
All US			3,531	23,591	26,472.710	0.891	0.880	0.903	2,345	10%	11%	0.000	0.421	0.783	1.217	2.239

1. Data from all ICUs, wards (and other non-critical care locations), and NICUs. CLABSIs identified as Mucosal Barrier Injury (MBI) are excluded from the SIRs. These tables contain data from acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

- 2. Yes indicates the presence of a state mandate to report CLABSI data from any location to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.
- 3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2016 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2016 NHSN data prior to October 1, 2017, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to October 1, 2017 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 2016.
- 5. Percent of facilities with at least one predicted CLABSI that had an SIR significantly greater or less than the nominal value of the 2016 national overall CLABSI SIR of 0.891. This is only calculated if at least 10 facilities had ≥ 1.0 predicted CLABSI in 2016.
- 6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted CLABSI in 2016. 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.

				0					teel ees to be a	• 1					
			3b. No. of Inf	<u>. Central line-as</u> ections	sociated t	95% CI f			ical care locat lity-specific SI		Facili	ty-specific \$	SIRs at Ke	y Percentil	es⁵
State		No. of Acute Care Hospitals Reporting ³	Observed	Predicted	SIR	Lower	Upper		% of hosp with SIR sig higher than	% of hosp with SIR sig lower than national SIR⁴	10%	25%		75%	90%
Alaska	Yes	7	12	8.074	1.486	0.805	2.527	2							
Alabama	Yes	68	196	190.885	1.027	0.890	1.178	30	10%	3%	0.000	0.653	0.988	1.678	2.208
Arkansas	Yes	42	118	103.558	1.139	0.947	1.360	19	5%	11%					
Arizona	No	53	164	206.567	0.794	0.679	0.923	37	3%	5%	0.000	0.337	0.742	1.134	1.382
California	Yes	311	970	972.359	0.998	0.936	1.062	198	8%	3%	0.000	0.428	0.917	1.395	1.997
Colorado	Yes	45	81	107.193	0.756	0.604	0.934	26	0%	8%	0.000	0.000	0.419	0.880	1.507
Connecticut	No	28	85	81.845	1.039	0.835	1.278	16	13%	0%					
D.C.	Yes	8	60	59.092	1.015	0.782	1.298	8							
Delaware	. 50	8 8	27	32.794	0.823	0.554	1.181	6	•						
Florida	No	195	705	782.465	0.901	0.836	0.969	139	10%	12%	0.000	0.289	0.747	1.287	2.039
Georgia	Yes	93	427	340.233	1.255	1.140	1.378	51	16%	4%	0.000	0.388	0.910	1.584	2.065
Guam	No	1		0.0.200				01	10,0	-170	0.000	0.000	0.010	1.001	2.000
Hawaii	Yes	15	17	35.875	0.474	0.285	0.743	9			•	•	•	•	
lowa	No	34	38	66.466	0.572	0.410	0.777	11	0%	17%	•	•	•	•	
Idaho	No	10	11	26.217	0.420	0.221	0.729	6	070	17.70	•	•	•	•	
Illinois	Yes	126	270	343.273	0.787	0.697	0.885	71	1%	4%	0.000	0.000	0.705	1.104	1.480
Indiana	Yes	71	194	211.395	0.918	0.795	1.054	39	3%	4 % 3%	0.000	0.000	0.705	0.998	1.480
		37	59	72.669	0.812	0.624	1.040	13	3 % 8%	0%	0.000	0.200	0.711	0.990	1.730
Kansas	No	37 65	137	176.587	0.812	0.654	0.914	31	8% 3%	0% 13%		0.147	. 720	1.199	4 40
Kentucky	Yes	66	200	160.617	1.245	1.081	1.427		3% 20%	-	0.000		0.736		1.466
Louisiana	No		200		0.829	0.713	0.958	30		7%	0.000	0.448	1.150	1.783	2.545
Massachusetts	Yes	63	176	212.401 158.372	0.829	0.713	1.326	25	4%	12%	0.000	0.062	0.734	0.890	1.293
Maryland	Yes	46			1.149	0.991		29	17%	3%	0.000	0.061	0.624	1.287	2.344
Maine	Yes	14	26	22.256			1.687	4							4 50
Michigan	No	87	274	318.842	0.859	0.762	0.966	50	2%	4%	0.000	0.265	0.778	1.209	1.523
Minnesota	Yes	41	112	120.614	0.929	0.768	1.113	17	6%	0%					
Missouri		71	173	227.981	0.759	0.652	0.878	36	3%	11%	0.000	0.307	0.583	0.976	1.418
Mississippi	Yes	44	81	89.211	0.908	0.726	1.123	16	13%	0%		•			
Montana	No	10	4	11.980	0.334	0.106	0.805	5							
North Carolina	Yes	86	352	296.201	1.188	1.069	1.318	36	17%	6%	0.103	0.528	0.814	1.615	1.836
North Dakota	No	5	18	23.713	0.759	0.464	1.176	5							
Nebraska	No	19	32	48.364	0.662	0.460	0.923	11	0%	9%	•	•		•	
New Hampshire	Yes	13	16	23.104	0.693	0.410	1.101	6	•		•	•		•	
New Jersey	Yes	71	178	232.716	0.765	0.659	0.884	54	6%	9%	0.000	0.152	0.555	1.165	1.923
New Mexico	Yes	29	59	46.939	1.257	0.966	1.610	10	30%	0%					
Nevada	Yes	19	113	120.740	0.936	0.775	1.121	16	6%	6%					
New York		163	540	582.193	0.928	0.852	1.008	98	6%	6%	0.000	0.374	0.830	1.166	1.983
Ohio	No	125	400	445.730	0.897	0.813	0.989	75	11%	13%	0.000	0.169	0.568	0.973	1.734
Oklahoma	Yes	52	111	150.859	0.736	0.608	0.883	21	5%	14%	0.000	0.074	0.536	0.816	1.507
Oregon	Yes	33	53	75.446	0.702	0.532	0.912	15	0%	0%					
Pennsylvania	Yes	147	581	522.056	1.113	1.025	1.206	84	10%	2%	0.000	0.404	0.816	1.361	1.733
Puerto Rico	No	13	21	22.171	0.947	0.602	1.423	6							
Rhode Island	No	10	24	23.793	1.009	0.661	1.478	5							
South Carolina	Yes	55	141	146.767	0.961	0.812	1.129	20	15%	0%	0.447	0.618	0.832	1.169	2.425
South Dakota	No	11	19	14.470	1.313	0.814	2.013	3							
Tennessee	Yes	87	257	287.670	0.893	0.789	1.008	43	9%	7%	0.000	0.515	0.739	1.185	1.917
Texas	Yes	261	818	868.670	0.942	0.879	1.008	153	9%	5%	0.000	0.416	0.926	1.431	2.213

Utah	Yes	28	50	59.563	0.839	0.630	1.098	10	10%	20%					
Virginia	Yes	79	166	207.321	0.801	0.686	0.930	36	8%	8%	0.000	0.000	0.590	1.058	1.472
Virgin Islands		2													
Vermont	Yes	5	2	7.658	0.261	0.044	0.863	1							
Washington	Yes	50	105	154.438	0.680	0.559	0.820	34	3%	6%	0.000	0.144	0.596	1.105	1.660
Wisconsin	No	66	111	142.692	0.778	0.643	0.933	26	0%	12%	0.000	0.000	0.730	1.011	1.963
West Virginia	Yes	29	82	77.365	1.060	0.848	1.309	13	15%	0%					
Wyoming	No	8	2	3.808	0.525	0.088	1.735	2							
All US		3,125	9,055	9,726.020	0.931	0.912	0.950	1,708	8%	6%	0.000	0.334	0.770	1.281	2.479

1. Data from all ICUs; excludes wards (and other non-critical care locations), NICUs. CLABSIs identified as Mucosal Barrier Injury (MBI) are excluded from the SIRs. These tables contain data from acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report CLABSI data from critical care units to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2016. A blank field indicates data not available. Note that almost all acute care 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.

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 2016.
 Percent of facilities with at least one predicted ICU CLABSI that had an SIR significantly greater or less than the nominal value of the 2016 national ICU CLABSI SIR of 0.931 This is only calculated if at least 10 facilities had at least one predicted ICU CLABSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ICU CLABSI in 2016. 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. Stat	•				nd facility-specific rting during 2016	SIR summary n	neasures,					
			3c. Cent				• •	BSI), ward (non-cr	ritical care) loca	tions					
			<u>No. of Inf</u>	ections		<u>95% CI f</u>	or SIR	Facility-	specific SIRs						
04-4-			Observed	Due die te d	010						400/	05%		750/	00%
State Alaska	Yes	9	Observed 15	Predicted 20.040	0.748	Lower 0.435	Upper 1.207	4			10%	25%		75%	90%
Alabama	No	74	280	257.890	1.086	0.435	1.207	31	16%	3%	0.258	0.601	0.982	1.423	1.676
Arkansas	Yes	48	152	158.360	0.96	0.816	1.122	20	10%	10%	0.000	0.457	0.762	1.095	1.737
Arizona	No	66	235	311.100	0.755	0.663	0.857	38	8%	5%	0.000	0.369	0.660	0.863	1.203
California	Yes	333	1,452	1,557.280	0.932	0.885	0.981	225	9%	7%	0.000	0.458	0.785	1.293	1.908
Colorado	No	47	126	194.920	0.646	0.541	0.767	26	0%	8%	0.000	0.000	0.363	0.771	1.140
Connecticut	Yes	32	151	143.670	1.051	0.893	1.229	21	14%	5%	0.000	0.375	0.811	1.184	1.894
D.C.	Yes	8	97	98.220	0.988	0.805	1.199	7							
Delaware		8	52	52.610	0.988	0.746	1.286	7							
Florida	No	197	1,047	1,131.830	0.925	0.87	0.982	158	13%	8%	0.000	0.429	0.769	1.312	2.117
Georgia	Yes	101	489	451.860	1.082	0.989	1.181	59	17%	3%	0.213	0.458	0.949	1.492	2.201
Guam	No	0													
Hawaii	Yes	16	25	57.710	0.433	0.287	0.63	10	0%	40%					
lowa	No	39	89	128.450	0.693	0.56	0.849	19	0%	16%					
Idaho	No	11	13	41.500	0.313	0.174	0.522	8							
Illinois	Yes	131	359	545.770	0.658	0.592	0.729	81	1%	14%	0.000	0.236	0.616	0.906	1.476
Indiana	No	84	315	314.240	1.002	0.896	1.118	43	5%	5%	0.000	0.412	0.751	1.312	1.551
Kansas	No	51	106	124.520	0.851	0.7	1.025	15	7%	0%					
Kentucky	Yes	68	162	211.800	0.765	0.654	0.89	34	6%	9%	0.000	0.337	0.602	1.148	2.097
Louisiana	No	85	256	230.850	1.109	0.979	1.251	34	18%	3%	0.000	0.292	0.615	1.367	1.925
Massachusetts	Yes	67	259	370.230	0.7	0.618	0.789	39	3%	13%	0.000	0.211	0.502	0.876	1.149
Maryland	Yes	49 16	318	280.840	1.132	1.013	1.262	41	17%	10%	0.000	0.440	0.980	1.297	2.218
Maine	M	92	36	44.710	0.805	0.573	1.103	7		12%	0.000	0.278	0.669	1.032	1.684
Michigan Minnesota	No Yes	92 51	255 178	343.680 211.920	0.742 0.84	0.655 0.723	0.837 0.97	51 19	8% 5%	12%	0.000	0.276	0.009	1.032	1.004
Minnesota Missouri	res	74	398	383.790	1.037	0.723	1.143	41	5% 12%	10%	0.000	0.310	0.791	1.251	1.774
Mississippi	Yes	55	133	139.670	0.952	0.939	1.143	21	12 %	10%	0.000	0.310	0.870	1.431	2.202
Montana	No	13	133	21.870	0.869	0.539	1.332	6	1070	10 /0	0.000	0.404	0.070	1.401	2.202
North Carolina	Yes	94	399	417.750	0.955	0.865	1.052	47	9%	9%	0.000	0.111	0.688	1.283	1.763
North Dakota	No	7	29	35.080	0.827	0.564	1.172	6	570	570	0.000	0	0.000		
Nebraska	No	25	89	107.370	0.829	0.67	1.015	16	13%	13%					
New Hampshire	No	13	48	44.110	1.088	0.811	1.431	10	10%	0%					
New Jersey	No	70	330	380.680	0.867	0.777	0.964	61	7%	10%	0.177	0.444	0.739	1.267	1.710
New Mexico	Yes	32	57	59.230	0.962	0.736	1.238	9							
Nevada	Yes	22	150	140.620	1.067	0.906	1.248	18	22%	11%					
New York		172	1,112	1,070.940	1.038	0.979	1.101	120	18%	6%	0.000	0.502	1.077	1.630	3.167
Ohio	No	135	485	597.910	0.811	0.741	0.886	78	8%	8%	0.000	0.290	0.649	1.088	1.688
Oklahoma	Yes	76	189	217.360	0.87	0.752	1	25	8%	4%	0.000	0.333	0.715	1.150	2.048
Oregon	Yes	36	95	147.230	0.645	0.525	0.785	21	0%	10%	0.000	0.024	0.489	0.875	1.792
Pennsylvania	Yes	163	631	763.850	0.826	0.763	0.892	98	5%	9%	0.000	0.234	0.629	0.969	1.522
Puerto Rico	No	13	36	43.160	0.834	0.593	1.142	8							
Rhode Island	No	11	50	46.100	1.085	0.814	1.418	6							
South Carolina	Yes	62	233	249.630	0.933	0.819	1.059	25	8%	4%	0.000	0.606	0.837	1.046	1.346
South Dakota	No	17	25	41.380	0.604	0.4	0.879	3							
Tennessee	Yes	103	290	402.920	0.72	0.64	0.806	49	8%	14%	0.000	0.285	0.589	1.204	2.205
Texas	No	314	922	1,109.810	0.831	0.778	0.886	161	7%	7%	0.000	0.369	0.767	1.188	1.689
Utah	Yes	34	54	56.850	0.95	0.721	1.23	8							
Virginia	Yes	82	201	338.020	0.595	0.517	0.681	46	4%	15%	0.000	0.184	0.500	0.824	1.852
Virgin Islands		2													

Vermont	No	6	15	17.240	0.87	0.505	1.403	2							
Washington	Yes	56	227	306.770	0.74	0.648	0.841	40	3%	5%	0.000	0.354	0.651	1.055	1.348
Wisconsin	No	71	175	228.320	0.766	0.659	0.887	37	3%	0%	0.000	0.055	0.634	1.050	1.325
West Virginia	Yes	28	79	108.190	0.73	0.582	0.905	16	13%	13%					
Wyoming	No	10	3	9.940	0.302	0.077	0.821	2							
All US		3,479	12,946	14,770.710	0.876	0.861	0.892	1,977	9%	8%	0.000	0.352	0.730	1.201	2.307

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 acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs

2. Yes indicates the presence of a state mandate to report CLABSI data from ward locations to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

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 2016.

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 2016 national ward CLABSI SIR of 0.876. This is only calculated if at least 10 facilities had at least one predicted ward CLABSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ward CLABSI in 2016. 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.

				1	HSN Acut	te Care Hos	spitals repor	nd facility-specific ting during 2016	-						
			3d. Cer No. of Inf		ated blood	Istream inf 95% CI 1		ABSI), neonatal cr Facility-	itical care loca specific SIRs	tions ¹					
State			Observed	Predicted	SIR	Lower	Upper	<u>r acinty</u> -	specific onto		10%	25%		75%	90%
Alaska	Yes	1													
Alabama	Yes	14	88	54.562	1.613	1.301	1.977	10	60%	0%					
Arkansas	Yes	9	21	30.644	0.685	0.436	1.030	5							
Arizona	No	17	21	32.639	0.643	0.409	0.967	9							
California	Yes	133	160	205.473	0.779	0.665	0.907	51	6%	0%	0.000	0.458	0.785	1.293	1.90
Colorado	Yes	20	27	23.294	1.159	0.779	1.663	6							
Connecticut	Yes	11	11	15.462	0.711	0.374	1.237	2							
D.C.	Yes	7	9	17.413	0.517	0.252	0.948	4							
Delaware		2													
Florida	No	59	99	129.894	0.762	0.623	0.924	26	8%	8%	0.000	0.429	0.769	1.312	2.11
Georgia	Yes	35	86	85.000	1.012	0.814	1.243	21	5%	0%	0.213	0.458	0.949	1.492	2.20
Guam	No	0		00.000		0.011					0.2.10	0.100	0.010		2.20
Hawaii	Yes	2	•						•		·	•			
lowa	No	10	9	19.382	0.464	0.226	0.852	4	•	ï					
Idaho	No	0	9 5	5.878	0.464	0.220	1.885	3		· ·					
Illinois	Yes	9 42	48	5.070 79.224	0.606	0.312	0.797	3 21	5%	0%	0.000	0.236	0.616	0.906	1.47
Indiana	Yes	42 25	48 42	79.224 33.353	1.259	0.452	1.686	21	570	0 /0	0.000	0.230	0.010	0.900	1.47
		25							•		•				
Kansas	No	Ŭ	11	10.141	1.085	0.570	1.885	4	•		•		•		
Kentucky	Yes	15	17	23.501	0.723	0.435	1.135	4			•	•		•	
Louisiana	No	28	36	45.749	0.787	0.559	1.078	10	0%	20%	•		•	•	
Massachusetts	Yes	10	28	23.344	1.199	0.813	1.710	8	•		•		•	•	
Maryland	Yes	17	19	30.930	0.614	0.381	0.942	8					•		
Maine	Yes	3													
Michigan	No	20	36	62.980	0.572	0.406	0.783	14	0%	0%					
Minnesota	Yes	11	9	16.573	0.543	0.265	0.997	3							
Missouri		22	48	51.149	0.938	0.700	1.234	8							
Mississippi	Yes	13	18	22.163	0.812	0.496	1.259	3							
Montana	No	5	3	3.844	0.781	0.199	2.124	1							
North Carolina	Yes	24	56	65.866	0.850	0.648	1.096	11	0%	9%					
North Dakota	No	6	9	7.524	1.196	0.583	2.195	1							
Nebraska	No	5	5	5.627	0.889	0.326	1.970	2							
New Hampshire	Yes	3													
New Jersey	Yes	24	27	37.693	0.716	0.482	1.028	12	0%	0%					
New Mexico	Yes	6	6	9.643	0.622	0.252	1.294	3							
Nevada	Yes	8	7	27.375	0.256	0.112	0.506	7							
New York	100	53	74	114.189	0.648	0.513	0.809	29	0%	3%	0.000	0.502	1.077	1.630	3.16
Ohio	No	20	53	78.271	0.677	0.513	0.809	16	13%	6%	0.000	0.002	1.077	1.000	0.10
Oklahoma	Yes	20	26	31.640	0.822	0.548	1.187	6		075					
Oregon	Yes	0	12	11.584	1.036	0.540	1.761	3							
Pennsylvania	Yes	9 43	74	74.640	0.991	0.561	1.238	3 16	6%	6%	•	•	•	•	
		43							070	0 /0	•	•	•	•	
Puerto Rico	No	0	3	2.017	1.488	0.378	4.049	0			•	•	•	•	
Rhode Island	No	1									•	•	•	•	
South Carolina	Yes	9	38	31.207	1.218	0.874	1.654	5				•		•	
South Dakota	No	3									•	•		•	
Tennessee	Yes	26	37	59.071	0.626	0.448	0.854	12	0%	17%					
Texas	Yes	121	175	226.789	0.772	0.664	0.893	52	2%	2%	0.000	0.369	0.767	1.188	1.68
Utah	Yes	13	12	22.336	0.537	0.291	0.913	5							
Virginia	Yes	26	35	43.965	0.796	0.563	1.095	11	9%	0%	•		•	•	
Virgin Islands		2													
Vermont	Yes	1													
Washington	Yes	15	12	24.588	0.488	0.264	0.830	7							
Wisconsin	No	18	32	26.831	1.193	0.830	1.664	10	20%	0%					
West Virginia	Yes	5	7	9.104	0.769	0.336	1.521	3						-	

Wyoming	No	0													
All US		1,004	1,590	1,975.980	0.805	0.766	0.845	456	7%	4%	0.000	0.254	0.649	1.095	2.195

1. Data from all NICUs including Level II/III and Level III nurseries. Both umbilical line and central line-associated bloodstream infections are considered CLABSIs. CLABSIs identified as Mucosal Barrier Injury (MBI) are excluded from the SIRs. These tables contain data from acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report CLABSI data from NICUs to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available. Note that almost all acute care hospitals are required to report CLABSI data from NICUs 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 NICU in 2016.

4. Percent of facilities with at least one predicted NICU CLABSI that had an SIR significantly greater or less than the nominal value of the 2016 national NICU CLABSI SIR of 0.805. This is only calculated if at least 10 facilities had at least one predicted NICU CLABSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted NICU CLABSI in 2016. If a facility's predicted number of NICU CLABSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

				-	NHSN Ac	ute Care H	lospitals re	porting d	uring 2016							
				4a.	Catheter-assoc	iated urina	ary tract in	ections (C	AUTI), all locations	1						
				<u>No. of Inf</u>	ections		95% CI 1	or SIR	Facility	-specific SIRs						
State				Observed	Predicted	SIR	Lower	Upper	No. of hosp with at least 1 predicted CAUTI			10%	25%		75%	90%
Alaska	Yes	Yes	10	52	28.540	1.822	1.375	2.371	6			10 /0	2070		1070	3070
Alabama	Yes	100	88	528	612.370	0.862	0.791	0.938	45	7%	9%	0.000	0.477	0.810	1.269	1.566
Arkansas	Yes		49	339	334.480	1.014	0.910	1.126	30	3%	7%	0.000	0.524	0.911	1.131	1.981
Arizona	No	No	67	377	547.560	0.689	0.622	0.761	46	0%	20%	0.000	0.389	0.655	0.993	1.206
California	No	No	335	3,262	2,932.930	1.112	1.075	1.151	284	19%	9%	0.000	0.478	0.926	1.489	1.988
Colorado	No	No	50	310	370.340	0.837	0.748	0.934	33	12%	18%	0.105	0.453	0.947	1.429	1.699
Connecticut	Yes	Yes	32	251	264.050	0.951	0.838	1.074	25	4%	4%	0.199	0.728	0.910	1.220	1.408
D.C.	Yes	No	8	142	130.000	1.092	0.923	1.284	8	-170	-170	0.100	0.720	0.010	1.220	1.400
Delaware	100		8	68	73.680	0.923	0.722	1.163	8	·		•	•	•		
Florida	No	No	202	1,893	2,300.800	0.823	0.786	0.860	182	9%	18%	0.155	0.442	0.694	1.032	1.548
Georgia	Yes	Yes	106	974	961.290	1.013	0.951	1.078	75	11%	8%	0.088	0.517	0.809	1.316	1.893
Guam	No	No	1													
Hawaii	Yes	Yes	16	63	85.400	0.738	0.572	0.938	13	15%	31%					
lowa	No	Yes	40	218	217.610	1.002	0.875	1.142	26	15%	15%	0.000	0.449	0.847	1.218	2.010
Idaho	No	No	15	55	97.910	0.562	0.427	0.726								
Illinois	Yes	No	134	856	1,011.280	0.846	0.791	0.905	109	5%	11%	0.000	0.396	0.719	1.126	1.522
Indiana	Yes	Yes	88	464	561.360	0.827	0.754	0.904	55	9%	13%	0.271	0.461	0.741	1.067	1.601
Kansas	No	Yes	53	202	216.660	0.932	0.810	1.068	25	0%	8%	0.000	0.549	0.810	1.143	1.356
Kentucky	Yes	No	71	412	493.880	0.834	0.757	0.918	49	10%	10%	0.000	0.284	0.751	1.163	1.416
Louisiana	No		90	515	595.730	0.864	0.792	0.942	54	9%	9%	0.000	0.407	0.808	1.381	2.023
Massachusetts	Yes	Yes	69	611	646.540	0.945	0.872	1.022	57	12%	11%	0.000	0.485	0.709	1.212	1.811
Maryland	Yes	No	49	540	511.980	1.055	0.969	1.147	43	26%	9%	0.292	0.666	1.050	1.727	2.128
Maine	No	Yes	17	100	70.630	1.416	1.158	1.715	11	18%	0%	0.202	0.000			
Michigan	No	Yes	95	793	926.690	0.856	0.798	0.917	65	3%	14%	0.042	0.423	0.764	1.011	1.357
Minnesota	Yes	Yes	53	363	334.900	1.084	0.977	1.200	26	15%	12%	0.000	0.600	1.023	1.548	2.048
Missouri	100		76	621	673.430	0.922	0.852	0.997	58	5%	3%	0.000	0.565	0.754	1.039	1.328
Mississippi	Yes		60	251	335.990	0.747	0.659	0.844	33	0%	9%	0.000	0.469	0.788	1.066	1.244
Montana	No		13	38	41.910	0.907	0.651	1.232	9	0,0	0.0	0.000	0.100	0.100		
North Carolina	Yes		94	824	907.200	0.908	0.848	0.972	74	8%	8%	0.000	0.406	0.849	1.153	1.733
North Dakota	No	Yes	7	74	68.700	1.077	0.852	1.345	6	0,0	070	0.000	0.100	0.010	1.100	1.100
Nebraska	No	100	27	114	131.600	0.866	0.718	1.037	17	0%	24%		•			
New Hampshire	Yes	Yes	13	113	95.400	1.185	0.981	1.419	13	8%	8%		•			
New Jersey	Yes	No	71	630	723.700	0.871	0.805	0.941	70	9%	7%	0.283	0.519	0.758	1.104	1.842
New Mexico	No	110	32	181	146.240	1.238	1.067	1.428	14	29%	7%	0.200	0.010	0.100	1.104	1.012
Nevada	No	No	22	264	299.180	0.882	0.781	0.994	18	22%	28%				•	
New York	No	Yes	176	2,187	1,986.490	1.101	1.056	1.148	148	20%	12%	0.191	0.567	0.964	1.422	1.988
Ohio	No	Yes	139	1,062	1,375.870	0.772	0.727	0.819	140	6%	12 %	0.000	0.468	0.698	0.964	1.484
Oklahoma	Yes	No	86	398	394.410	1.009	0.914	1.112	38	13%	10 %	0.000	0.400	0.520	1.173	2.007
Oregon	Yes	Yes	37	251	282.040	0.890	0.914	1.005	28	13%	11%	0.000	0.619	0.320	1.048	1.796
Pennsylvania	Yes	Yes	37 174	1,447	1,515.790	0.890	0.785	1.005	124	8%	6%	0.000	0.619	0.807	1.048	1.616
Puerto Rico	No	100	14	87	118.170	0.935	0.593	0.904	124	7%	21%	0.000	0.400			1.010
Rhode Island	No	Yes	14	07 91	79.110	1.150	0.593	0.904 1.406	9	1 70	2170					
South Carolina	No	No	63	422	456.210	0.925	0.932	1.406	9 42	21%	10%	0.000	0.347	0.922	1.677	2.294
South Dakota		Yes	21	422	456.210 65.000	1.062	0.840	1.335	42	2170	10 %	0.000	0.347	0.922	1.077	2.294
	No	res				0.894		0.961	67	9%	19%		0.404	0.000	1 467	1.902
Tennessee	Yes		106	711	795.750		0.830			9% 5%		0.000	0.421	0.806	1.167	
Texas	M		359	1,840	2,232.230	0.824	0.787	0.863	216		14%	0.000	0.370	0.727	1.064	1.509
Utah	Yes		35	174	139.470	1.248	1.072	1.444	18	11%	11%	0.000	0.000	0.334	1.094	1.736

Virginia	Yes	Yes	83	627	631.670	0.993	0.917	1.073	60	12%	10%	0.000	0.286	0.794	1.265	1.631
Virgin Islands			2													
Vermont	No	Yes	6	30	41.080	0.730	0.502	1.029	3							
Washington	No	No	59	490	477.300	1.027	0.939	1.121	44	9%	7%	0.251	0.633	0.977	1.225	1.678
Wisconsin	No	Yes	72	394	381.960	1.032	0.933	1.137	45	9%	9%	0.154	0.499	1.015	1.398	2.170
West Virginia	Yes	Yes	29	180	252.250	0.714	0.615	0.824	22	0%	18%	0.000	0.109	0.502	0.760	1.069
Wyoming	No	No	11	9	22.020	0.409	0.199	0.750	3							
All US			3,644	26,983	29,002.430	0.930	0.919	0.942	2,591	10%	12%	0.000	0.448	0.747	1.250	2.184

1. Data from all ICUs and wards (and other non-critical care locations). This excludes NICUs. These tables contain data from acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report CAUTI data from any location to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2016 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2016 NHSN data prior to October 1, 2017, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to October 1, 2017 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 2016.

5. Percent of facilities with at least one predicted CAUTI that had an SIR significantly greater or less than the nominal value of the 2016 national overall CAUTI SIR of 0.930. This is only calculated if at least 10 facilities had at least one predicted CAUTI in 2016.

6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted CAUTI in 2016. 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.

								rting during 2016							
			No. of Inf		sociated u	rinary tract 95% CI f		(CAUTI), critical ca	re locations ¹ specific SIRs						
			<u>NO. 01 III.</u>	ections		<u>35 / 011</u>		<u>r aciiity-</u>	specific onto						
State			Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%
Alaska	Yes	7	17	8.750	1.942	1.169	3.046	2							
Alabama	Yes	68	258	358.570	0.720	0.636	0.811	37	0%	5%	0.000	0.484	0.744	1.142	1.443
Arkansas	Yes	43	166	146.890	1.130	0.968	1.312	23	9%	9%	0.000	0.301	0.832	1.321	1.626
Arizona	No	53	210	270.690	0.776	0.676	0.886	40	5%	10%	0.000	0.290	0.681	1.053	1.605
California	No	312	1493	1284.750	1.162	1.104	1.222	219	16%	4%	0.000	0.515	1.010	1.583	2.321
Colorado	No	45	136	166.600	0.816	0.688	0.963	27	4%	15%	0.000	0.143	0.940	1.659	2.249
Connecticut	Yes	28	112	128.890	0.869	0.719	1.042	22	5%	0%	0.000	0.212	0.787	1.251	1.840
D.C.	м	8	85	77.170	1.101	0.885	1.355	8							
Delaware		8	33	37.580	0.878	0.614	1.219	6							
Florida	No	194	946	1137.980	0.831	0.780	0.886	155	8%	12%	0.000	0.320	0.704	1.198	1.667
Georgia	Yes	93	490	492.660	0.995	0.909	1.086	57	14%	11%	0.000	0.341	0.732	1.337	2.098
Guam	No	1													
Hawaii	Yes	15	27	37.500	0.720	0.484	1.033	9							
lowa	No	34	97	92.820	1.045	0.852	1.269	14	7%	0%					
Idaho	No	10	21	37.410	0.561	0.357	0.843	6							
Illinois	Yes	127	401	458.520	0.875	0.792	0.963	81	4%	2%	0.000	0.283	0.715	1.049	1.635
ndiana	Yes	71	230	280.090	0.821	0.720	0.933	44	7%	2%	0.075	0.356	0.752	0.987	1.931
Kansas	No	37	86	109.690	0.784	0.631	0.964	14	0%	0%					
Kentucky	Yes	65	225	254.940	0.883	0.773	1.004	36	6%	3%	0.000	0.060	0.690	1.117	1.381
Louisiana	No	66	257	280.160	0.917	0.810	1.035	36	8%	3%	0.289	0.604	1.091	1.514	1.946
Massachusetts	Yes	63	290	308.050	0.941	0.838	1.055	37	11%	3%	0.000	0.407	0.824	1.482	1.979
Maryland	Yes	46	246	242.660	1.014	0.893	1.147	33	15%	6%	0.000	0.564	0.934	1.406	2.182
Maine	No	14	46	30.700	1.498	1.110	1.981	4							
Michigan	No	87	440	520.550	0.845	0.769	0.927	54	4%	6%	0.250	0.545	0.733	1.053	1.375
Minnesota	Yes	42	200	169.610	1.179	1.024	1.351	18	28%	11%					
Missouri		71	317	321.150	0.987	0.883	1.100	40	5%	0%	0.000	0.427	0.850	1.263	1.686
Mississippi	Yes	44	115	156.440	0.735	0.610	0.879	23	0%	4%	0.000	0.449	0.898	1.275	1.683
Montana	No	10	10	15.710	0.636	0.323	1.135	5							
North Carolina	Yes	86	417	459.700	0.907	0.823	0.997	46	11%	9%	0.000	0.256	0.785	1.291	1.787
North Dakota	No	5	33	31.110	1.061	0.742	1.473	5							
Nebraska	No	19	58	51.000	1.137	0.872	1.460	11	9%	0%					
New Hampshire	Yes	13	58	36.280	1.599	1.225	2.052	7							
New Jersey	Yes	71	279	330.070	0.845	0.750	0.949	60	3%	10%	0.000	0.298	0.657	1.178	1.634
New Mexico	No	28	95	70.110	1.355	1.102	1.649	10	30%	0%					
Nevada	No	19	112	159.990	0.700	0.579	0.839	16	0%	19%					
New York		163	860	883.500	0.973	0.910	1.040	116	10%	8%	0.000	0.372	0.892	1.345	1.782
Ohio	No	124	523	688.130	0.760	0.697	0.827	85	2%	6%	0.000	0.311	0.760	1.092	1.809
Oklahoma	Yes	52	177	181.970	0.973	0.837	1.124	22	9%	5%	0.000	0.125	0.595	1.168	1.421
Oregon	Yes	33	112	108.600	1.031	0.853	1.236	18	11%	0%					
Pennsylvania	Yes	147	701	744.550	0.942	0.874	1.013	94	10%	4%	0.000	0.462	0.800	1.256	1.811
Puerto Rico	No	13	32	45.320	0.706	0.491	0.985	11	0%	9%					
Rhode Island	No	10	35	36.600	0.956	0.676	1.315	6							
South Carolina	No	56	206	226.020	0.911	0.793	1.042	25	12%	12%	0.000	0.080	0.868	1.188	1.996
South Dakota	No	11	16	19.610	0.816	0.483	1.296	3			•		-		
Tennessee	Yes	87	385	403.230	0.955	0.863	1.054	51	10%	6%	0.000	0.309	0.736	1.040	1.766
Texas	Yes	265	985	1174.070	0.839	0.788	0.893	166	9%	8%	0.000	0.395	0.751	1.247	1.725
Utah	Yes	28	102	77.930	1.309	1.073	1.582	12	17%	8%					

Virginia	Yes	79	309	293.920	1.051	0.939	1.174	39	15%	3%	0.000	0.424	0.921	1.432	2.133
Virgin Islands		2													
Vermont	No	5	6	15.750	0.381	0.154	0.792	2							
Washington	No	49	197	201.290	0.979	0.849	1.123	38	5%	5%	0.000	0.564	0.874	1.198	1.840
Wisconsin	No	66	209	177.190	1.180	1.028	1.348	31	10%	0%	0.000	0.461	0.940	1.533	2.341
West Virginia	Yes	29	87	127.340	0.683	0.551	0.839	17	6%	12%					
Wyoming	No	8	3	6.230	0.481	0.122	1.310	2							
All US		3,130	12,959	13,978.920	0.927	0.911	0.943	1,944	9%	6%	0.000	0.393	0.745	1.289	2.385

1. Data from all ICUs; excludes wards (and other non-critical care locations) and NICUs. These tables contain data from acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report CAUTI data from critical care units to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available. Note that almost all acute care 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 2016.

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 2016 national ICU CAUTI SIR of 0.927. This is only calculated if at least 10 facilities had at least one predicted ICU CAUTI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ICU CAUTI in 2016. 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.

Arkanash Yes 44 173 187590 0.922 0.717 0.708 43 0% 928 0.000 0.428 0.729 1.776 0.828 0.830 0.000 0.432 0.729 1.776 0.828 0.168 0.000 0.469 0.877 0.484 California No 44 174 0.0074 0.848 1.214 2.28 0.474 0.848 1.121 0.777 1.124 0.777 1.124 0.777 1.124 0.777 1.242 0.777 1.124 0.777 1.242 0.777 1.242 0.777 1.777 1.727 1.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.777 1.727 0.778 0.777 1.727 0.777 1.728 1.044 0.000				4c. Ca				• •	ing during 2016 I). ward (non-critic	cal care) locatio	ns¹					
Nanka Ves 10 35 19760 1780 1282 2433 6 Ves 46 173 187.590 0.022 0.792 1.088 2.5 44% 0.00 0.420 0.721 1.778 Variona No 67 72.680 0.063 0.177 0.282 1.778 1.778 1.778 1.789 1.821 1.24 2.5 1.5% 6% 0.000 0.260 0.824 1.127 Correcticut Yes 32 139 135.150 1.128 0.688 1.211 2.2 0% 5% 0.282 0.777 1.119 1.422 0.46 0.868 0.201 0.616 0.690 0.824 1.127 0.474 0.868 1.211 2.2 0.47 0.816 0.477 1.128 0.477 1.232 0.441 0.479 0.337 0.477 0.477 0.477 0.337 0.441 1.451 0.4790 0.334									·· · · · · · · · · · · · · · · · · · ·							
Alaska Yes 10 35 19.780 1.781 2.211 2.22 0.44 1.770 1.781 1.422 0.777 1.191 1.420 0.868 1.211 2.20 0.450 0.282 0.777 1.191 1.420 0.777 1.191 1.420 0.777 1.191 1.420 0.777 1.191 1.420 0.440 0.800 0.222 0.777 1.191 1.102 1.101 <th>State</th> <th></th> <th></th> <th>Observed</th> <th>Predicted</th> <th>SIR</th> <th>Lower</th> <th>Upper</th> <th></th> <th></th> <th></th> <th>10%</th> <th>25%</th> <th></th> <th>75%</th> <th>90%</th>	State			Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%
Akarass Yes 46 173 17500 0.222 0.762 1.769 27.20 1.779 0.728 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.779 0.729 0.777 0.729 0.777 0.729 0.777 0.729 0.777 0.729 0.777 0.729 0.777 0.729 0.777 0.729 0.777 0.729 0.777 0.729 0.777 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.727 0.728 0.761 0.776 0.72 0.721 0.777 1.734 1.73 1.747 1.727 1.737 1.737 1.737 1.737 1.777 1.733 1.77 </td <td></td> <td>Yes</td> <td>10</td> <td>35</td> <td></td> <td>1.769</td> <td>1.252</td> <td><u></u></td> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		Yes	10	35		1.769	1.252	<u></u>	6							
Aircon No 67 1769 1769 1769 1769 1764 1764 1764 1764 1764 1764 1764 1764 1764 1764 1764 1764 1764 1764 1764 1764 1774 1764 1774 1764 1774 1774 1714 1774 1714 1774 1714 1	Alabama	Yes	88	270	253.800	1.064	0.943	1.197	36	14%	0%	0.000	0.460	0.948	1.307	1.898
California No 327 1,769 1,644,180 1,073 1,024 1,124 255 13% 5% 0,000 0,450 0,877 1,489 Conoracio Yes 32 139 135,150 1028 0,880 1,211 22 0,76 5% 0,222 0,77 1,119 1,420 Delayance 6 57 5,283 0,70 0,868 1,334 6 -	Arkansas	Yes	49	173	187.590	0.922	0.792	1.068	25	4%	12%	0.000	0.432	0.729	1.178	1.396
Calorado No 4.8 17.4 203.740 0.884 0.724 1.92 10% 10% 0.165 0.500 0.824 1.12 Connecticut M 6 77 52.830 0.670 0.825 1.388 8 <td< td=""><td>Arizona</td><td>No</td><td>67</td><td>167</td><td>276.880</td><td>0.603</td><td>0.517</td><td>0.700</td><td>43</td><td>0%</td><td>9%</td><td>0.000</td><td>0.226</td><td>0.577</td><td>0.828</td><td>1.161</td></td<>	Arizona	No	67	167	276.880	0.603	0.517	0.700	43	0%	9%	0.000	0.226	0.577	0.828	1.161
Connecticut Yes 32 139 135,150 1.028 0.88 1.211 22 0.75 D.282 0.77 1.19 1.428 Delavare 8 35 36100 0.970 0.886 1.334 6	California	No	327	1,769	1,648.180	1.073	1.024	1.124	255	13%	5%	0.000	0.450	0.877	1.495	2.017
D.C. M B 57 5.2.8.0 1.0.79 0.8.25 1.3.84 6	Colorado	No	48	174	203.740	0.854	0.734	0.988	29	10%	10%	0.165	0.509	0.824	1.127	1.845
Delaware B 36.100 0.970 0.868 1.334 6 Finda No 198 947 11.62.200 0.814 0.784 0.886 160 6% 6% 0.000 0.319 0.747 1.272 Garaja Yes 16 34 47.800 0.752 0.534 1.025 9	Connecticut	Yes	32	139	135.150	1.028	0.868	1.211	22	0%	5%	0.282	0.777	1.119	1.420	1.601
Finda No 198 947 1,162,202 0.814 0.764 0.680 100 64'// 1727 Georging Yes 105 444 488,630 1.033 0.944 1.128 64' 14%'// 500 0.519 0.747 1.272 Guarn No 0 121 124,750 0.752 0.554 1.025 64'/// 976'// 0.000 0.271 0.771 1.361 Idaho No 40 121 124,750 0.822 0.76 0.50'/// 976'// 0.000 0.271 0.712 1.361 Idaho No 67 234 2812/7 0.832 0.730 0.944 48'/// 6%'// 0.000 0.21'// 0.72'// 0.733 0.73'// 1.02'// 9%'// 0.000 0.48'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.73'// 0.7	D.C.	М	8	57	52.830	1.079	0.825	1.388	8							
Georgia (Gam) Yes 105 464 468.830 1.033 0.944 1.128 64 14% 5% 0.000 0.519 0.777 1.272 Guarn No 16 36 47.900 0.752 0.534 1.023 9	Delaware		8	35	36.100	0.970	0.686		6							
Guam No 0 . <td></td> <td>1.076</td> <td>1.421</td>															1.076	1.421
Hawaii Yes 16 36 47 900 0.752 0.534 1.152 9 lowa No 15 34 60.500 0.870 0.80 1.154 2.3 4% 96 0.00 0.711	-		105	484	468.630	1.033	0.944	1.128	64	14%	5%	0.000	0.519	0.747	1.272	1.905
No 40 121 124 790 0.808 1.754 23 4% 9% 0.000 0.271 0.771 1.361 Idaho No 153 455 552.750 0.823 0.730 0.901 52 2% 9% 0.000 0.271 0.728 1.064 Indiana No 67 234 231.70 0.823 0.730 0.944 48 6% 10% 0.000 0.221 0.728 1.051 Karnask No 67 187 238.940 0.738 0.676 0.901 38 8% 5% 0.000 0.285 0.731 1.262 Marsachusetts No 68 251 335.400 0.48 0.492 1.263 4% 1.000 0.285 0.773 1.201 Marsachusetts No 16 54 293.930 1.352 1.026 1.463 1.467 0.299 3% 1.201 Marsachusetts 0.000 0.302 0	Guam	No	0													
Idaho No 15 34 60,00 0.52 0.335 0.770 8 Unit Unit <thunit< th=""> <thunit< th=""> <thunit< td="" th<=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></thunit<></thunit<></thunit<>																
Nime Yes 133 4455 552/750 0.823 0.750 0.901 92 2% 9% 0.000 0.271 0.728 10.61 Kansas No 53 116 106.980 1.084 0.901 1.286 22 14% 5% 0.000 0.128 0.731 1.082 Kantucky Yes 70 187 238.440 0.730 0.901 38 8% 5% 0.000 0.268 0.731 1.020 Massachusetts No 66 321 338.490 0.948 0.972 1.922 42 19% 7% 0.000 0.325 0.731 1.217 Maryand Yes 49 294 2.932 1.922 1.925 0.59 3% 12% 0.000 0.325 0.711 1.96 Maryand Yes 53 4.061.40 0.869 0.775 1.147 2.2 9% 18% 0.000 0.332 0.717 1.338	lowa	No	-							4%	9%	0.000	0.271	0.771	1.361	2.122
Indiana Kansas No S7 224 221.70 0.832 0.730 0.944 48 6% 10% 0.000 0.318 0.731 1.051 Kansas No S3 116 106.980 1.084 0.900 1.286 0.731 1.082 1.051 Kansas No 68 228 315.560 0.818 0.722 0.411 10% 12% 0.000 0.265 0.820 1.221 Massachusetts No 66 329 0.026 0.829 1.221 42 19% 7% 0.266 0.659 1.201 Maryland Yes 49 296.33 406.140 0.869 0.772 1.221 42 19% 7% 0.266 0.659 1.717 1.338 Minesoti Yes 53 163 165.300 0.760 0.774 0.583 27 7% 7% 0.000 0.380 0.775 0.588 Minsouti Yes <td< td=""><td></td><td>No</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		No														
Kansas No 53 116 106.800 0.184 0.900 1.286 22 14% 5% 0.000 0.128 0.731 10.282 Kentucky Yes 70 187 238.940 0.763 0.676 0.901 38 8% 5% 0.000 0.428 0.731 1.262 Massachusetts No 69 321 338.490 0.948 0.491 1.056 48 8% 10% 0.000 0.385 0.773 1.221 Mariand Yes 49 242.02 1.922 0.921 1.924 1.93 1.041 9% 0.000 0.325 0.731 1.337 Mainesota Yes 53 163 165.100 0.780 0.863 0.79 3% 2.99 1.936 Minesota Yes 53 163 165.00 0.790 0.864 4.8 4% 4% 0.000 0.490 0.775 1.938 Mississipi Y	Illinois	Yes											0.271		1.064	1.482
Kentucky Yes 70 187 238.940 0.783 0.676 0.901 38 8% 5% 0.000 0.468 0.734 1262 Louisiana No 66 321 338.490 0.948 0.848 0.848 0.849 1.066 48 8% 0.96 0.035 0.737 1.201 Maryland Yes 49 294 269.320 1.092 0.721 1.222 42 19% 7% 0.266 0.699 1.188 1.717 Maryland Yes 53 163 166.300 0.966 0.782 0.963 59 3% 12% 0.000 0.392 0.711 1.096 Missouri 74 344 352.290 0.663 0.770 0.964 48 4% 4% 0.000 0.392 0.775 1.337 Missouri Yes 60 138 179.50 0.757 0.838 0.893 27 0% 0.40 0.489	Indiana														1.051	1.311
Louisiana No 88 258 315,580 0.818 0.722 0.922 41 10% 12% 0.000 0.265 0.820 1.220 Massachusetts No 68 321 338,490 0.948 0.849 1.056 48 8% 01% 0.000 0.285 0.820 1.221 Maine No 16 54 39.30 1.352 1.026 1.751 11 9% 0.000 0.322 0.771 1.201 Minesota Yes 53 163 165.300 0.986 0.843 1.147 22 9% 18% 0.000 0.332 0.737 1.337 Missustpi Yes 60 13 1555 0.757 0.638 0.830 27 0.7% 0.000 0.430 0.726 1.137 Monthana No 13 28 26.190 0.069 0.724 1.524 7 0.7% 0.700 0.430 0.726 1.155 <td>Kansas</td> <td>No</td> <td></td> <td>116</td> <td>106.980</td> <td>1.084</td> <td>0.900</td> <td>1.296</td> <td>22</td> <td>14%</td> <td></td> <td>0.000</td> <td>0.128</td> <td>0.731</td> <td>1.082</td> <td>1.518</td>	Kansas	No		116	106.980	1.084	0.900	1.296	22	14%		0.000	0.128	0.731	1.082	1.518
Massachusetts No 68 221 338.490 0.948 0.849 1.056 48 9% 10% 0.000 0.385 0.737 1.201 Maryland Yes 45 294 269.320 1.092 0.727 1.222 42 19% 7% 0.266 0.659 1.188 1.71 Michigan No 95 353 406.140 0.869 0.751 1.187 22 9% 18% 0.000 0.392 0.711 1.036 Missouri 74 304 352.290 0.863 0.770 0.964 448 4% 4% 0.000 0.469 0.775 0.986 Missouri 74 304 352.90 0.757 0.583 0.893 27 0% 7% 0.000 0.400 0.726 1.152 Morthaat No 7 41 37.600 0.999 0.824 1.001 655 5% 3% 0.000 0.430 0.726	Kentucky	Yes	-				0.676					0.000			1.262	1.546
Maryland Yes 49 294 269.320 1.092 0.972 1.222 42 19% 7% 0.266 0.659 1.188 1.717 Maine No 05 53.3 406.140 0.866 0.752 0.963 59 3% 12% 0.000 0.373 0.737 1.337 Minnesota Yes 53 163 165.300 0.966 0.843 1.147 22 9% 18% 0.000 0.373 0.737 0.337 Missusipi Yes 60 136 179.550 0.757 0.638 0.893 27 0.00 0.300 0.726 1.135 Morth Carolina Yes 94 407 447.500 0.909 0.824 1.001 65 5% 3% 0.000 0.430 0.76 1.135 North Carolina Yes 94 47.500 0.909 0.824 1.001 65 5% 3% 0.000 0.406 1.55 <t< td=""><td>Louisiana</td><td>No</td><td></td><td></td><td>315.580</td><td>0.818</td><td></td><td></td><td></td><td></td><td></td><td>0.000</td><td></td><td>0.820</td><td>1.229</td><td>1.830</td></t<>	Louisiana	No			315.580	0.818						0.000		0.820	1.229	1.830
Maine No 16 54 39.930 1.352 1.026 1.751 11 9% 0% Michigan No 95 353 406.140 0.869 0.782 0.963 59 3% 12% 0.000 0.332 0.711 1.036 Minnesota Yes 53 163 165.300 0.966 0.843 1.147 22 9% 18% 0.000 0.339 0.775 0.986 Mississippi Yes 60 136 179.550 0.757 0.683 0.893 27 0% 7% 0.000 0.489 0.775 0.986 Morthar No 13 28 6.109 0.724 1.524 7 . <td< td=""><td></td><td>No</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.201</td><td>1.781</td></td<>		No													1.201	1.781
Michigan No 95 353 406.140 0.869 0.782 0.963 59 3% 12% 0.000 0.392 0.711 1.036 Minssoti 74 304 352.290 0.863 0.770 0.964 48 4% 4% 0.000 0.373 0.737 1.337 Missoti 74 304 352.290 0.863 0.770 0.964 48 4% 4% 0.000 0.489 0.775 0.963 Missoti Yes 60 136 179.550 0.757 0.638 0.893 27 0% 76 0.000 0.360 0.726 1.153 Morth Carolina Yes 94 407 447.500 0.909 0.784 1.624 6 -	· ·		-									0.266	0.659	1.188	1.717	2.225
Minesota Yes 53 163 165.300 0.986 0.843 1.147 22 9% 18% 0.000 0.373 0.737 1.337 Missouri 74 304 352.290 0.863 0.770 0.964 48 4% 4% 0.000 0.489 0.775 0.986 Missosippi Yes 60 136 179.550 0.757 0.68 0.893 27 0% 7% 0.000 0.360 0.726 1.986 Montana No 13 28 26.190 1.069 0.724 1.524 7 .	Maine	No			39.930											
Missouri Yes 60 136 1352.290 0.863 0.770 0.964 48 4% 4% 0.000 0.489 0.775 0.988 Missispipi Yes 60 136 179.550 0.777 0.638 0.993 27 0% 7% 0.000 0.489 0.775 1.988 Montana Noo 13 28 26.190 1.069 0.724 1.524 7 .	Michigan	No		353	406.140	0.869	0.782	0.963				0.000	0.392	0.711	1.036	1.322
Mississippi Yes 60 136 179,550 0.757 0.638 0.893 27 0% 7% 0.000 0.360 0.726 1.103 Montana No 13 28 26.190 1.069 0.724 1.524 7 . <		Yes													1.337	1.915
Montane No 13 28 26.190 1.069 0.724 1.524 7 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.988</td><td>1.413</td></th<>															0.988	1.413
North Carolina Yes 94 407 447.500 0.909 0.824 1.001 65 5% 3% 0.000 0.430 0.726 1.155 North Dakota No 7 41 37.600 1.091 0.793 1.465 6 .										0%	7%	0.000	0.360	0.726	1.103	1.448
North Dakota No 7 41 37.600 1.091 0.793 1.465 6			-									•	•	•	•	
Nebraska No 27 56 80.610 0.695 0.530 0.896 16 0% 13% . <			94							5%	3%	0.000	0.430	0.726	1.155	1.585
New Hampshire No 13 55 59.120 0.930 0.708 1.202 12 0% 0% 1 1 1 New Jersey Yes 70 351 393.630 0.892 0.802 0.989 63 5% 6% 0.040 0.548 0.766 1.311 New Mexico No 32 86 76.130 1.130 0.909 1.388 12 0% 0% . <td></td> <td></td> <td>7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>•</td> <td>•</td> <td>•</td> <td>•</td> <td></td>			7									•	•	•	•	
New Jersey Yes 70 351 393.630 0.892 0.802 0.989 63 5% 6% 0.040 0.548 0.766 1.311 New Mexico No 32 86 76.130 1.130 0.909 1.388 12 0% 0%												•	•	•	•	
New Mexico No 32 86 76.130 1.130 0.909 1.388 12 0% 0% 1 <														•		
Nevada No 22 152 139.190 1.092 0.929 1.276 18 28% 11% <												0.040	0.548	0.766	1.311	1.831
New York 175 1,327 1,102.990 1.203 1.140 1.269 135 21% 3% 0.000 0.589 1.048 1.502 Ohio No 137 539 687.740 0.784 0.720 0.852 88 6% 14% 0.000 0.349 0.637 0.971 Oklahoma Yes 85 221 212.440 1.040 0.910 1.184 28 18% 14% 0.000 0.349 0.637 0.971 Oregon Yes 37 139 173.440 0.801 0.676 0.943 24 4% 8% 0.123 0.398 0.748 1.169 Pento kico No 13 55 72.850 0.755 0.574 0.975 11 9% 7% 0.000 0.364 0.818 1.159 Pueto Rico No 11 56 72.850 0.755 0.574 0.975 11 9% 2% . . <														•		
Ohio No 137 539 687.740 0.784 0.720 0.852 88 6% 14% 0.000 0.349 0.637 0.971 Oklahoma Yes 85 221 212.440 1.040 0.910 1.184 28 18% 14% 0.000 0.349 0.637 0.971 Oregon Yes 37 139 173.440 0.801 0.676 0.943 24 4% 8% 0.123 0.398 0.748 1.169 Pennsylvania Yes 174 746 771.240 0.967 0.900 1.039 111 9% 7% 0.000 0.364 0.818 1.159 Puerto Rico No 13 55 72.850 0.755 0.574 0.975 11 9% 27% . <td></td> <td>No</td> <td></td> <td>•</td> <td></td> <td></td>		No												•		
Oklahoma Yes 85 221 212.440 1.040 0.910 1.184 28 18% 14% 0.000 0.000 0.580 1.393 Oregon Yes 37 139 173.440 0.801 0.676 0.943 24 4% 8% 0.123 0.398 0.748 1.169 Pennsylvania Yes 174 746 771.240 0.967 0.900 1.039 111 9% 7% 0.000 0.364 0.818 1.159 Puerto Rico No 13 55 72.850 0.755 0.574 0.975 11 9% 27% .																2.097
Yes 37 139 173.440 0.801 0.676 0.943 24 4% 8% 0.123 0.398 0.748 1.169 Pennsylvania Yes 174 746 771.240 0.967 0.900 1.039 111 9% 7% 0.000 0.364 0.818 1.159 Puerto Rico No 13 55 72.850 0.755 0.574 0.975 11 9% 7% 0.000 0.364 0.818 1.159 Rhode Island No 11 56 42.510 1.317 1.005 1.698 6 . </td <td>-</td> <td></td> <td>1.370</td>	-															1.370
Pensylvania Yes 174 746 771.240 0.967 0.900 1.039 111 9% 7% 0.000 0.364 0.818 1.159 Puerto Rico No 13 55 72.850 0.755 0.574 0.975 11 9% 27% . <																1.922
Puerto Rico No 13 55 72.850 0.755 0.574 0.975 11 9% 27% Rhode Island No 11 56 42.510 1.317 1.005 1.698 6 .	· ·															1.746
No 11 56 42.510 1.317 1.005 1.698 6 .	· ·											0.000	0.364	0.818	1.159	1.717
South Carolina No 62 216 230.190 0.938 0.819 1.070 32 13% 6% 0.000 0.388 0.876 1.138 South Dakota No 21 53 45.380 1.168 0.884 1.516 4 . <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>9%</td><td>27%</td><td>•</td><td>•</td><td></td><td>•</td><td></td></td<>										9%	27%	•	•		•	
South Dakota No 21 53 45.380 1.168 0.884 1.516 4 . <											·					
Tennessee Yes 104 326 392.520 0.831 0.744 0.924 55 11% 15% 0.000 0.389 0.678 1.303 Texas No 348 855 1,058.160 0.808 0.755 0.864 175 5% 10% 0.000 0.237 0.666 1.051 Utah Yes 35 72 61.530 1.170 0.922 1.465 12 17% 8% .										13%	6%	0.000	0.388	0.876	1.138	1.943
No 348 855 1,058.160 0.808 0.755 0.864 175 5% 10% 0.000 0.237 0.666 1.051 Utah Yes 35 72 61.530 1.170 0.922 1.465 12 17% 8% .														•		
Utah Yes 35 72 61.530 1.170 0.922 1.465 12 17% 8%																2.161
												0.000	0.237	0.666	1.051	1.646
														·		
Virginia Yes 82 318 337.750 0.942 0.842 1.049 55 13% 7% 0.000 0.277 0.716 1.324 Virgin Islands 2 . </td <td>*</td> <td>Yes</td> <td>82</td> <td>318</td> <td>337.750</td> <td>0.942</td> <td>0.842</td> <td>1.049</td> <td>55</td> <td>13%</td> <td>7%</td> <td>0.000</td> <td>0.277</td> <td>0.716</td> <td>1.324</td> <td>2.079</td>	*	Yes	82	318	337.750	0.942	0.842	1.049	55	13%	7%	0.000	0.277	0.716	1.324	2.079

Vermont	No	6	24	25.330	0.948	0.621	1.388	2							
Washington	No	59	293	276.020	1.062	0.945	1.188	43	7%	5%	0.237	0.725	0.935	1.302	1.543
Wisconsin	No	72	185	204.770	0.903	0.780	1.041	36	6%	8%	0.000	0.497	0.816	1.118	1.734
West Virginia	Yes	28	93	124.900	0.745	0.604	0.908	19	0%	11%					
Wyoming	No	11	6	15.790	0.380	0.154	0.790	2							
All US		3,598	14,024	15,023.500	0.933	0.918	0.949	2,231	9%	8%	0.000	0.398	0.787	1.271	2.262

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 acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report CAUTI data from ward locations to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

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 2016.

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 2016 national ward CAUTI SIR of 0.933. This is only calculated if at least 10 facilities had at least one predicted ward CAUTI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ward CAUTI in 2016. 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.

							Hospitals r	•	-							
				No. of E		ator-assoc			Il locations ¹	anasifia SIDa						
				<u>No. of E</u>			<u>95% Cl f</u>		No. of hosp with at least 1 predicted	<u>specific SIRs</u>						
State				Observed	Predicted	SIR	Lower	Upper	VAE			10%	25%		75%	90%
Alaska	No	No	7	57	44.481	1.281	0.980	1.648	4		•					
Alabama	No	No	39	411	443.729	0.926	0.840	1.019	29	14%	24%	0.000	0.440	0.672	1.073	1.68
Arkansas	No	No	20	123	157.461	0.781	0.652	0.929	15	13%	40%					
Arizona	No	No	30	544	396.787	1.371	1.259	1.490	19	42%	21%					0.00
California	No	No	168	1678	2049.729	0.819	0.780	0.859	148	16%	33%	0.000	0.000	0.598	1.368	2.08
Colorado	No	No	36	401	345.135	1.162	1.052	1.280	25	24%	20%	0.163	0.354	0.899	1.670	2.31
Connecticut	No	No	16	364	234.990	1.549	1.396	1.714	15	47%	7%	•	•	•	•	
D.C.	No	No	3		•					•	ŀ					
Delaware			3					0.000								
Florida	No	No	113	1643	2000.713	0.821	0.782	0.862	103	21%	35%	0.000	0.104	0.801	1.588	2.362
Georgia	No	No	66	1155	1058.174	1.092	1.030	1.156	52	15%	15%	0.000	0.364	0.980	1.510	1.74
Guam	No	No	0							•	ŀ					
Hawaii	No	No	6	10	31.357	0.319	0.162	0.568	6			•	•	•	•	
lowa	No	No	14	57	47.157	1.209	0.924	1.555	10	10%	10%					
Idaho	No	No	/	56	55.470	1.010	0.770	1.301	6							0.00
Illinois	No	No	60	514	503.639	1.021	0.935	1.112	44	14%	16%	0.000	0.386	0.869	1.361	2.08
Indiana	No	No	63	839	763.359	1.099	1.027	1.175	47	21%	23%	0.000	0.290	0.830	1.488	2.13
Kansas	No	No	31	213	174.536	1.220	1.065	1.393	16	19%	6%					
Kentucky	No	No	40	360	262.999	1.369	1.233	1.516	22	18%	27%	0.000	0.059	0.698	2.069	2.32
Louisiana	No	Yes	31	124	194.053	0.639	0.534	0.759	20	10%	25%	0.000	0.028	0.411	0.950	1.79
Massachusetts	No	No	22	430	282.821	1.520	1.382	1.669	18	39%	6%					
Maryland	No	No	24	204	254.962	0.800	0.696	0.916	22	14%	32%	0.000	0.240	0.755	1.263	1.978
Maine	No	No	12	186	96.390	1.930	1.667	2.222	7					•		
Michigan	No	Yes	74	1537	1309.598	1.174	1.116	1.233	54	28%	13%	0.290	0.566	1.073	1.745	2.069
Minnesota	No	No	10	185	156.532	1.182	1.021	1.362	6			•		•		
Missouri			36	483	528.828	0.913	0.835	0.998	26	19%	31%	0.000	0.103	0.820	1.419	2.49
Mississippi	No	No	26	95	134.131	0.708	0.576	0.862	18	11%	44%	•		•		
Montana	No	No	4			•	•					•	-			
North Carolina	No	No	40	802	541.109	1.482	1.382	1.587	29	34%	10%	0.000	0.529	1.611	2.129	2.73
North Dakota	No	No	1			•				•	ŀ	•	•			
Nebraska	No	No	12	203	116.243	1.746	1.518	1.999	9			•		•	•	
New Hampshire	No	No	10	24	34.508	0.696	0.456	1.019	8			•		•	•	
New Jersey	No	No	47	600	757.497	0.792	0.731	0.857	46	24%	26%	0.000	0.154	0.567	1.504	2.29
New Mexico	No	No	19	158	93.474	1.690	1.442	1.970	8							
Nevada	No	No	19	237	439.512	0.539	0.474	0.611	16	0%	75%					
New York	No	No	134	1608	2359.138	0.682	0.649	0.716	118	14%	34%	0.000	0.074	0.524	0.925	1.939
Ohio	No	No	77	1310	1069.119	1.225	1.160	1.293	63	32%	17%	0.000	0.401	1.201	1.947	2.454
Oklahoma	No	No	34	312	344.093	0.907	0.810	1.012	19	5%	16%					
Oregon	No	No	24	164	164.388	0.998	0.853	1.159	17	18%	18%					
Pennsylvania	Yes	Yes	140	2199	2372.284	0.927	0.889	0.966	106	20%	21%	0.000	0.176	0.771	1.472	2.110
Puerto Rico	No	No	7	71	65.705	1.081	0.850	1.355	6							
Rhode Island	No	No	9	69	86.052	0.802	0.629	1.009	7							
South Carolina	Yes	Yes	53	956	758.862	1.260	1.182	1.342	35	31%	14%	0.000	0.427	0.981	1.599	3.658
South Dakota	No	No	6	26	20.459	1.271	0.848	1.836	1							
Tennessee	No	No	52	701	646.690	1.084	1.006	1.167	32	28%	19%	0.000	0.309	0.864	2.022	2.528
Texas	No	No	125	1030	1399.259	0.736	0.692	0.782	90	12%	32%	0.000	0.172	0.618	1.272	2.092
Utah	М	No	7	27	20.946	1.289	0.867	1.850	4							

Virginia	No	No	64	886	812.184	1.091	1.021	1.165	45	22%	16%	0.000	0.340	1.293	1.623	2.166
Virgin Islands			1													
Vermont	No	No	0													
Washington	No	No	31	174	215.012	0.809	0.696	0.936	26	19%	35%	0.000	0.000	0.017	1.547	2.217
Wisconsin	No	Yes	57	466	315.793	1.476	1.346	1.614	32	31%	13%	0.000	0.599	1.399	1.939	2.715
West Virginia	No	No	18	81	157.217	0.515	0.412	0.637	12	0%	25%					
Wyoming	No	No	5	10	7.877	1.270	0.645	2.263	1							
All US			1,953	24,039	24,552.999	0.979	0.967	0.992	1,473	20%	25%	0.000	0.154	0.797	1.525	2.215

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 acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report VAE data from any location to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2016 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2016 NHSN data prior to October 1, 2017, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to October 1, 2017 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 2016.

5. Percent of facilities with at least one predicted VAE that had an SIR significantly greater or less than the nominal value of the 2016 national overall VAE SIR of 0.979. This is only calculated if at least 10 facilities had at least one predicted VAE in 2016.

6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted VAE in 2016. 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.

					NHSN Acut	te Care Hos	spitals report	d facility-specific ing during 2016	-						
			No. of E		ntilator-ass	sociated ev 95% CI 1		ritical care locati <u>Facility-</u>	ions ¹ specific SIRs						
State			Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%
Alaska	No	5	11	26.141	0.421	0.221	0.731	3							
Alabama	No	39	411	443.273	0.927	0.841	1.020	29	14%	24%	0.000	0.440	0.672	1.073	1.68
Arkansas	No	20	123	156.892	0.784	0.654	0.932	15	13%	40%		•			
vrizona	No	25	544	394.717	1.378	1.266	1.498	19	42%	16%		•			
California	No	166	1656	1983.646	0.835	0.795	0.876	148	17%	32%	0.000	0.000	0.608	1.360	2.08
Colorado	No	36	387	336.784	1.149	1.039	1.268	25	24%	20%	0.163	0.375	0.899	1.670	2.31
Connecticut	No	16	364	234.035	1.555	1.402	1.721	15	47%	7%		•		•	
D.C.	No	3			•							•		•	
Delaware		3													
Florida	No	113	1628	1966.319	0.828	0.788	0.869	103	21%	35%	0.000	0.104	0.801	1.588	2.36
Georgia	No	66	1152	1050.184	1.097	1.035	1.162	52	15%	15%	0.000	0.366	0.980	1.510	1.74
Guam	No	0									•	•	•	•	
Hawaii	No	6	10	30.466	0.328	0.167	0.585	6		·	•	•	•	•	
owa	No	14	57	47.113	1.210	0.925	1.556	10	10%	10%		•		•	
daho	No	7	56	55.470	1.010	0.770	1.301	6							
llinois	No	60	511	494.101	1.034	0.947	1.127	44	14%	18%	0.000	0.386	0.867	1.398	2.08
ndiana	No	61	822	750.749	1.095	1.022	1.172	46	22%	24%	0.000	0.290	0.876	1.776	2.13
Kansas	No	30	213	173.737	1.226	1.069	1.399	16	19%	13%		•		•	
Kentucky	No	40	359	262.797	1.366	1.230	1.513	22	18%	27%	0.000	0.059	0.698	2.069	2.31
Louisiana	No	29	123	189.847	0.648	0.541	0.770	19	11%	26%					
Massachusetts	No	22	426	279.314	1.525	1.385	1.675	18	39%	6%					
Maryland	No	24	196	248.445	0.789	0.684	0.905	22	14%	32%	0.000	0.240	0.755	1.284	1.97
Maine	No	12	182	93.631	1.944	1.676	2.242	7				•		•	
Vichigan	No	73	1533	1297.441	1.182	1.124	1.242	54	28%	15%	0.290	0.566	1.073	1.745	2.06
Minnesota	No	7	167	142.801	1.169	1.002	1.357	5							
Vissouri		36	481	526.096	0.914	0.835	0.999	26	19%	31%	0.000	0.103	0.812	1.397	2.49
Mississippi	No	25	95	131.311	0.723	0.589	0.880	17	12%	47%					
Montana	No	4													
North Carolina	No	40	746	517.387	1.442	1.341	1.548	29	34%	10%	0.000	0.529	1.528	2.129	2.73
North Dakota	No	1										•			
Nebraska	No	10	168	103.760	1.619	1.388	1.878	8							
New Hampshire	No	10	24	34.478	0.696	0.456	1.020	8							
New Jersey	No	47	574	733.689	0.782	0.720	0.848	46	24%	26%	0.000	0.155	0.567	1.504	2.37
New Mexico	No	19	158	93.474	1.690	1.442	1.970	8			•	•			
Nevada	No	18	235	432.948	0.543	0.477	0.616	16	0%	69%		•			
New York		133	1509	2179.629	0.692	0.658	0.728	116	13%	34%	0.000	0.085	0.540	0.980	1.90
Dhio	No	75	1272	1035.659	1.228	1.162	1.297	63	30%	17%	0.000	0.401	1.108	1.883	2.51
Oklahoma	No	34	312	344.093	0.907	0.810	1.012	19	5%	16%		•		•	
Dregon	No	23	159	156.721	1.015	0.866	1.182	16	19%	19%		•			
Pennsylvania	Yes	137	2119	2303.591	0.920	0.881	0.960	105	20%	22%	0.000	0.184	0.825	1.477	2.11
Puerto Rico	No	7	65	61.808	1.052	0.818	1.332	6							
Rhode Island	No	9	63	82.299	0.766	0.593	0.973	7							
South Carolina	Yes	53	952	750.566	1.268	1.190	1.351	35	31%	14%	0.000	0.427	0.981	1.599	3.65
South Dakota	No	6	24	19.466	1.233	0.808	1.806	1	•						
Tennessee	No	52	685	630.798	1.086	1.007	1.170	32	28%	16%	0.000	0.309	0.864	1.991	2.52
Texas	No	122	1016	1378.631	0.737	0.693	0.783	88	14%	33%	0.000	0.161	0.612	1.284	2.15
Jtah	No	7	27	20.946	1.289	0.867	1.850	4							
Virginia	No	64	868	786.403	1.104	1.032	1.179	45	20%	16%	0.000	0.340	1.293	1.644	1.95
/irgin Islands		1													

Vermont	No	0	•												
Washington	No	30	174	214.372	0.812	0.698	0.939	26	19%	35%	0.000	0.000	0.017	1.547	2.217
Wisconsin	No	56	464	309.047	1.501	1.369	1.643	32	31%	13%	0.000	0.599	1.472	1.939	2.715
West Virginia	No	18	81	157.092	0.516	0.412	0.638	12	0%	25%					
Wyoming	No	5	10	7.877	1.270	0.645	2.263	1							
All US		1,919	23,457	23,885.286	0.982	0.970	0.995	1,461	20%	25%	0.000	0.163	0.807	1.546	2.214

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 acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report VAE data from critical care units to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

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 2016.

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 2016 national ICU VAE SIR of 0.982. This is only calculated if at least 10 facilities had at least one predicted ICU VAE in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ICU VAE in 2016. 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.

					IHSN Acut										
I			No. of E		r-associat	ed events (95% CI 1		n-critical care) Facility-	locations ¹ specific SIRs						
			<u></u>			<u></u>									
State			Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%
Alaska	No	2	Observed	Treateted	UIIX	LOWEI	Opper				1070	20/0			3070
labama	No	1	•			•		·	·		•				
vrkansas	No	1	•	·	•	•		•			•	•		•	
vrizona	No	7	0	2.070	0.000	•	1.447	1			•	•		•	
California	No	31	22	66.083	0.333	0.214	0.496	14	0%	21%					
Colorado	No	6	14	8.351	1.676	0.954	2.746	3	0,0	2170					
Connecticut	No	2			1.070	0.001	2.740	0	·		•				
).C.	No	2		•									•	•	
).o. Delaware	140	1				•	1				•	•	•	•	
Florida	No	14	15	34.393	0.436	0.253	0.703	7			•	•	•	•	
Georgia	No	14	15	04.000	0.400	0.200	0.705	'	•		•	•	•	•	
Guam	No	0			•	•			•		•	•	•	•	
lawaii	No	1			•	•	1		•		•	•	•	•	
owa	No	1			•	•			•		•	•	•	•	
daho	No				•	•			•		•	•	•	•	
linois	No	10	3	9.538	0.315	0.080	0.856	2	•		•	•	•	•	
ndiana	No	6	17	12.609	1.348	0.812	2.115	2	•		•	•	•	•	
ansas	No	2	17	12.009	1.540	0.012	2.115	4	•		•		•	•	
	No	1	•	•	•	•			•		•		•	•	
Kentucky .ouisiana	No	2	•	·				·	•			•	•	•	
lassachusetts	No	2	•	•	•	•			•		•		•	•	
Nassachuseus Naryland	No	2	8	6.517	1.228	0.570	2.331	3	•		•		•	•	
laine	No	5	0	0.517	1.220	0.570	2.331	3	•			•	•	•	
lichigan	No	1			•						•	•	•	•	
linnesota	No	4	•	·				·	•			•	•	•	
	INO	4	•	·				·	•			•	•	•	
Aissouri Aissississi	Na	4			•	•					•	•	•	•	
Aississippi	No	1			•	•					•	•	•	•	
Iontana	No	0						÷			•	•	•	•	
lorth Carolina	No	5	56	23.722	2.361	1.800	3.043	4	•				•	•	
lorth Dakota lebraska	No	0			•	•	·			·	•	•	•	•	
	No	4			•	•	·			·	•	•	•	•	
lew Hampshire	No	1			1 000	0.700						•	•		
New Jersey	No	11	26	23.808	1.092	0.729	1.577	4				•	•		
lew Mexico	No	0										•	•		
levada	No	5	2	6.564	0.305	0.051	1.007	2							0.00
lew York	N1 -	46	99	179.508	0.552	0.451	0.669	30	10%	20%	0.000	0.000	0.345	1.012	2.28
Dhio	No	20	38	33.460	1.136	0.815	1.543	7	•			•			
Oklahoma	No	0	•	·	•	•	·	•	•		•	•	•	•	
Dregon	No	4									•	•	•	•	
Pennsylvania	Yes	36	80	68.693	1.165	0.930	1.442	12	17%	8%	•	•	•	•	
Puerto Rico	No	5	6	3.897	1.540	0.624	3.202	2	•		•	•	•	•	
Rhode Island	No	1										•			
South Carolina	No	8	4	8.296	0.482	0.153	1.163	2				•			
South Dakota	No	1			•	•	•		•		•	•	•	•	
ennessee	No	6	16	15.892	1.007	0.596	1.600	5							
exas	No	11	14	20.628	0.679	0.386	1.112	4	•						
Jtah	No	0													

All US		302	582	667.713	0.872	0.803	0.945	132	11%	14%	0.000	0.000	0.498	1.229	2.334
Wyoming	No	0													
West Virginia	No	1													
Wisconsin	No	7	2	6.746	0.296	0.050	0.980	3							
Washington	No	4													
Vermont	No	0													
Virgin Islands		0													
Virginia	No	12	18	25.781	0.698	0.427	1.082	5							

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 acute care hospitals; as such, they exclude data from LTACHs, IRFs, and CAHs.

2. Yes indicates the presence of a state mandate to report VAE data from ward locations to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

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 2016.

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 2016 national ward VAE SIR of 0.872. This is only calculated if at least 10 facilities had at least one predicted ward VAE in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ward VAE in 2016. 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.

						NHSN Acute Ca	re Hospita	Is reporting	g during 2	2016							
							•	•		adults, ≥ 18years							
					No. of Inf	ections		95% CI f	for SIR	Facility	-specific SIRs						
			No. of Acute Care Hospitals	No. of						No. of hosp with at least 1 predicted							
State			Reporting ⁴	Procedures	Observed	Predicted	SIR	Lower	Upper	SSI			10%	25%		75%	90%
Alaska	Yes	Yes	7	608	4	15.289	0.262	0.083	0.631	5							
Alabama	Yes	Yes	66	6,109	102	150.453	0.678	0.556	0.820	29	0%	21%	0.000	0.000	0.402	0.883	1.54
Arkansas	Yes	Yes	38	3,086	63	69.917	0.901	0.698	1.145		0%	5%	0.000	0.000	0.586	1.174	1.69
Arizona	No	No	58	6,682	185	160.743	1.151	0.994	1.326	34	12%	0%	0.000	0.431	0.924	1.648	2.569
California	Yes		306	28,424	677	706.845	0.958	0.888	1.032	189	5%	3%	0.000	0.412	0.880	1.331	1.862
Colorado	Yes	No	46	4,934	113	116.793	0.968	0.801	1.159	29	3%	0%	0.000	0.501	0.935	1.356	1.870
Connecticut	Yes	Yes	30	3,716	107	95.228	1.124	0.925	1.352	22	5%	5%	0.423	0.787	1.251	1.682	1.846
D.C.	М	No	7	1,048	35	36.639	0.955	0.676	1.314	5							
Delaware			7	1,157	32	31.239	1.024	0.713	1.429	5							
Florida	No	No	187	25,914	482	595.380	0.810	0.740	0.884	. 141	7%	6%	0.000	0.342	0.668	1.156	1.742
Georgia	Yes	Yes	89	10,247	262	264.216	0.992	0.877	1.117	53	8%	0%	0.000	0.361	0.857	1.265	1.716
Guam	No	No	0														
Hawaii	Yes	Yes	13	1,075	22	27.177	0.810	0.520	1.206	7							
lowa	No	Yes	35	3,082	70	74.144	0.944	0.742	1.186	21	14%	0%	0.000	0.372	0.686	1.666	2.307
Idaho	No	No	12	1,269	29	29.773	0.974	0.665	1.381	8							
Illinois	Yes	No	125	11,641	266	305.550	0.871	0.771	0.980	77	3%	3%	0.000	0.317	0.811	1.395	1.829
Indiana	Yes	Yes	77	6,890	158	170.391	0.927	0.791	1.081	42	5%	2%	0.000	0.400	0.795	1.371	1.759
Kansas	No	Yes	41	2,816	86	69.872	1.231	0.991	1.513	14	7%	7%					
Kentucky	Yes	No	65	5,272	127	128.876	0.985	0.825	1.168	31	6%	3%	0.000	0.000	0.854	1.488	2.218
Louisiana	No	No	71	5,325	113	133.037	0.849	0.703	1.017	33	3%	0%	0.000	0.000	0.867	1.309	1.703
Massachusetts	Yes	Yes	61	7,022	147	174.405	0.843	0.715	0.988	42	2%	2%	0.000	0.000	0.754	1.190	1.490
Maryland	Yes	No	45	5,516	154	156.028	0.987	0.840	1.152	33	9%	0%	0.000	0.389	0.731	1.505	1.763
Maine	No	Yes	17	1,553	44	34.764	1.266	0.931	1.684	8							
Michigan	No	Yes	86	11,107	260	284.908	0.913	0.807	1.029	51	4%	6%	0.296	0.593	0.889	1.422	1.810
Minnesota	Yes	Yes	50	5,542	156	149.582	1.043	0.889	1.217	22	5%	5%	0.133	0.658	1.022	1.309	1.510
Missouri			64	7,457	152	184.092	0.826	0.702	0.965	37	5%	5%	0.000	0.271	0.787	1.139	1.954
Mississippi	Yes		41	3,031	60	70.118	0.856	0.659	1.094	21	10%	5%	0.000	0.000	0.491	1.024	1.494
Montana	No	No	12	877	17	18.244	0.932	0.561	1.462	7							
North Carolina	Yes	Yes	88	10,445	216	269.170	0.802	0.701	0.915	50	0%	8%	0.000	0.000	0.568	1.135	1.961
North Dakota	No	No	6	831	35	20.282	1.726	1.221	2.373	6							
Nebraska	No		22	2.041	72	51.743	1.392	1.097	1.742	12	25%	0%	-		-	-	
New Hampshire	Yes	Yes	13	1,317	32	32.875	0.973	0.677	1.358	11	0%	0%					
New Jersey	Yes	No	70	8,152	151	204.338	0.739	0.628	0.864	47	2%	6%	0.000	0.331	0.647	0.953	1.459
New Mexico	No	No	28	1,308	35	29.248	1.197	0.847	1.646	. 9	270	0,0	0.000	0.001	0.017	0.000	
Nevada	No	No	19	2,414	67	52.740	1.270	0.992	1.603	14	14%	0%			•		
New York	Yes		164	19,287	576	529.176	1.088	1.002	1.180	107	9%	1%	0.000	0.476	0.873	1.603	2.093
Ohio	No	Yes	124	14,362	314	388.896	0.807	0.722	0.901	79	4%	4%	0.000	0.153	0.661	1.161	1.945
Oklahoma	Yes	No	58	4,242	111	103.176	1.076	0.889	1.291	22	9%	4% 0%	0.000	0.343	1.070	1.405	1.878
Oregon	Yes	Yes	34	3,918	69	98.907	0.698	0.539	0.878	22	4%	0 % 4%	0.000	0.096	0.618	1.403	1.743
Pennsylvania	Yes	Yes	150	15,792	342	415.969	0.822	0.738	0.913	91	3%	3%	0.000	0.324	0.742	1.236	1.773
Puerto Rico	No	No	0	13,792	542	415.505	0.022	0.750	0.913	51	370	370	0.000	0.324	0.742	1.230	1.775
Rhode Island	No	No	11	1,167	33	28.295	1.166	0.816	1.619	6	•		•			•	
South Carolina	Yes	Yes	55	4.880	117	113.559	1.030	0.810	1.019	27	4%	0%	0.000	0.214	0.740	1.668	2.094
South Dakota	No	Yes	55 14	4,880	26	22.313	1.030	0.856	1.230	4	+ 70	0%	0.000	0.214	0.740	1.000	2.094
Tennessee	Yes	res	87	8,156	20 195	22.313	0.920	0.777	1.083	4 45	9%	4%	0.000	0.434	0.794	0.965	1.705
		Yes	87 268	8,156 23,143	195 522	211.935 585.140	0.920	0.798	0.971	45 141	9% 4%	4% 6%	0.000	0.434 0.244	0.794	0.965	
Texas	Yes	res		-, -	522 62			0.818		141	4 %	0%	0.000	0.244	0.700	1.344	1.951
Utah	Yes		32	2,125		51.984	1.193		1.519								1.000
Virginia Virgin Islanda	Yes	Yes	74	7,594	208	183.020	1.136	0.990	1.299	40	10%	3%	0.000	0.583	1.031	1.572	1.900
Virgin Islands			2								•		•	•	•	•	
Vermont	No	Yes	6	485	21	11.037	1.903	1.209	2.859	2							
Washington	Yes		48	5,849	128	145.539	0.879	0.737	1.042	34	9%	9%	0.000	0.210	0.793	1.511	2.000
Wisconsin	No		68	6,025	140	141.477	0.990	0.836	1.164	34	9%	3%	0.000	0.337	0.716	1.602	2.208
West Virginia	Yes	Yes	26	2,108	64	53.882	1.188	0.922	1.507	15	7%	0%	•		•		
Wyoming	No	No	10	291	6	6.134	0.978	0.396	2.034	2							

All US 3,133 318,352 7,466 8,004.918 0.933 0.912 0.954 1,817 6% 4% 0.000 0.343 0.801 1.336 1.919
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1. Note that almost all acute care hospitals are 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 2016 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 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2016 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2016 NHSN data prior to October 1, 2017, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to October 1, 2017 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.

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 2016.

5. Percent of facilities with at least one predicted colon surgery SII that had an SIR significantly greater or less than the nominal value of the 2016 national colon surgery SIR of 0.933. This is only calculated if at least 10 facilities had at least one predicted colon surgery SII in 2016.

6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted colon surgery SSI in 2016. 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. Stat		IARDIZED INTECTION				ific SIR summary I6	measures,						
				6b. Surg	ical site infectio	ns (SSI) followi		ninal hyster	ectomy sur	gery¹ in adults, ≥ ·							
			No. of Acute Care Hospitals	No. of	<u>No. of Inf</u>	ections		<u>95% CI f</u>	or SIR	Facility	- <u>specific SIRs</u>						
State			Reporting ⁴	Procedures	Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%
Alaska	Yes	Yes	7	480	0	2.943	0.000		1.018	1							
Alabama	Yes	Yes	58	7,068	31	42.820	0.724	0.501	1.015	10	0%	0%					
Arkansas	Yes	Yes	39	3,403	11	20.754	0.530	0.279	0.921	6							
Arizona	No	No	51	6,884	45	40.230	1.119	0.826	1.483	15	0%	0%					
California	Yes		295	24,523	143	167.427	0.854	0.722	1.003	58	5%	0%	0.000	0.344	0.715	1.470	2.467
Colorado	Yes	Yes	46	5,360	34	34.183	0.995	0.700	1.374	13	8%	0%					
Connecticut	Yes	Yes	29	3,817	25	26.466	0.945	0.625	1.374	8							
D.C.	М	No	7	768	0	6.943	0.000		0.431	2							
Delaware			7	627	8	4.436	1.804	0.838	3.425	1							
Florida	No	No	, 179	20,562	119	130.321	0.913	0.760	1.089	45	4%	0%	0.000	0.000	0.702	1.312	1.695
	Yes	Yes	84	12.223	74	79.562	0.930	0.736	1.161	28	0%	0%	0.000	0.416	0.845	1.332	1.942
Georgia Guam	No	No	04 0	12,223	74	19.002	0.900	0.130	1.101	20	0 /0	0 /0	0.000	0.410	0.040	1.332	1.542
		Yes	11	650	. 4	4.219	0.948	0.301	2.287	2			•			•	
Hawaii	Yes											·			•		
lowa	No	Yes	31	3,252	14	20.050	0.698	0.397	1.144	4		·		•		•	
Idaho	No	No	12	918	4	5.890	0.679	0.216	1.638	3							
Illinois	Yes	No	122	11,209	60	82.688	0.726	0.559	0.928	26	4%	0%	0.000	0.000	0.365	1.062	1.901
Indiana	Yes	Yes	74	5,844	33	39.364	0.838	0.587	1.164	10	0%	0%					
Kansas	No	Yes	39	3,223	9	20.259	0.444	0.217	0.815	5							
Kentucky	Yes	No	58	5,233	40	34.879	1.147	0.830	1.546	9							
Louisiana	No	No	68	5,198	30	33.101	0.906	0.623	1.278	11	9%	0%					
Massachusetts	Yes	Yes	52	4,545	37	31.336	1.181	0.844	1.610	8							
Maryland	Yes	No	42	5,238	29	37.282	0.778	0.531	1.103	10	0%	0%					
Maine	No	Yes	16	1.086	3	6.911	0.434	0.110	1.181	1							
Michigan	No	Yes	81	9,561	62	69.925	0.887	0.686	1.129	30	7%	3%	0.000	0.000	0.837	1.447	2.166
Minnesota	Yes	Yes	50	4,220	30	27.914	1.075	0.738	1.515	9	1.70	0.0	0.000	0.000	0.001		2.100
Missouri	105	105	62	6,805	41	46.024	0.891	0.648	1.197	13	15%	15%					
Mississippi	Yes		42	3,721	33	21.982	1.501	1.051	2.084	7	1070	1070					
Montana	No	No	12	723	1	4.239	0.236	0.012	1.163	, 1						•	
		Yes				4.239 67.047		0.012	0.958			5%	•				
North Carolina	Yes		85	9,672	49		0.731			19	0%	5%		•	•	•	
North Dakota	No	No	6	715	3	3.798	0.790	0.201	2.150	1				•			
Nebraska	No		21	2,087	15	12.756	1.176	0.683	1.896	5			•	•		•	
New Hampshire	Yes	Yes	13	1,088	1	6.991	0.143	0.007	0.705	1							
New Jersey	Yes	No	60	7,171	26	50.511	0.515	0.343	0.743	17	0%	0%					
New Mexico	No	No	25	1,766	9	10.084	0.892	0.435	1.638	3							
Nevada	No	No	17	1,770	15	11.076	1.354	0.787	2.184	5							
New York			150	18,259	128	128.365	0.997	0.835	1.182	44	16%	0%	0.000	0.000	0.811	1.674	2.244
Ohio	No	Yes	120	12,495	79	89.269	0.885	0.705	1.097	27	7%	0%	0.000	0.000	0.636	1.373	1.791
Oklahoma	Yes	No	60	4,300	12	27.128	0.442	0.240	0.752	6							
Oregon	Yes	Yes	33	2.966	11	19.691	0.559	0.294	0.971	7							
Pennsylvania	Yes	Yes	134	12,738	98	91.409	1.072	0.875	1.301	25	8%	4%	0.000	0.407	0.806	1.324	2.065
Puerto Rico	No	No	0	,	20												2.2.90
Rhode Island	No	No	10	1,280	13	8.088	1.607	0.894	2.680	2							
South Carolina	Yes	Yes	53	5,671	34	35.787	0.950	0.668	1.313	13	0%	0%	•			•	
		Yes	16	1,130	34 12	6.920	1.734	0.000	2.948	2	0 /0	0 /0	•			•	
South Dakota Tennessee	No Yes	res	81	9,558	12	6.920 58.157	1.734	0.940	2.948	2 15	7%	0%	•	•	•	•	
		V-													0 457		4 500
Texas	Yes	Yes	276	27,998	113	188.284	0.600	0.497	0.719	58	2%	3%	0.000	0.000	0.457	0.970	1.586
Utah	Yes		30	3,048	25	17.623	1.419	0.938	2.063	6		· ·		•	•	•	
Virginia	Yes	Yes	65	8,347	53	50.926	1.041	0.787	1.351	14	7%	0%					
Virgin Islands			2														
Vermont	Yes	Yes	6	385	6	2.638	2.274	0.922	4.730	1							
Washington	Yes		48	5,562	21	33.357	0.630	0.400	0.946	8							
Wisconsin	No		65	5,089	28	32.250	0.868	0.588	1.238	9							
West Virginia	Yes	Yes	26	1,892	23	13.965	1.647	1.069	2.432	5							
Wyoming	No	No	10	323	1	1.817	0.550	0.028	2.715	0							
AII US			2,986	302,548	1,757	2,010.678	0.874	0.834	0.915	629	6%	2%	0.000	0.000	0.698	1.353	2.036

1. Note that almost all acute care hospitals are 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 2016 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 2016. M indicates midyear implementation of a mandate.
- No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.
- 3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2016 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2016 NHSN data prior to October 1, 2017, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to October 1, 2017 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 2016.
- 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 2016 national abdominal hysterectomy SIR of 0.874 This is only calculated if at least 10 facilities had at least one predicted abdominal hysterectomy SSI in 2016.
- 6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted abdominal hysterectomy SSI in 2016. 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.

			Ia	DIE D. STATE-SPE	ecific standardize NHSN			orting during		nary measures	,					
				6c. S <u>No. of In</u> f	urgical site infec	tions (SSI) fo	llowing hip 95% CI f			ars specific SIRs						
		o. of Acute Care														
State		lospitals eporting ³	No. of Procedures	Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%
Alaska	No	3														
Alabama	No	9	1,713	17	12.121	1.402	0.844	2.200	5							
Arkansas	No	16	2,146	6	13.984	0.429	0.174	0.892	5							
Arizona	No	25	5,853	38	44.339	0.857	0.615	1.164	16	6%	6%					
California	Yes	300	47,544	256	296.699	0.863	0.762	0.974	107	6%	4%	0.000	0.000	0.782	1.461	2.234
Colorado	Yes	48	10,523	68	58.381	1.165	0.912	1.468	20	15%	0%	0.000	0.203	0.915	1.928	3.364
Connecticut	No	10	1,645	7	11.250	0.622	0.272	1.231	5							
D.C.	No	3														
Delaware		3														
Florida	No	54	10,402	62	61.835	1.003	0.775	1.277	21	5%	0%	0.000	0.294	0.995	1.611	1.721
Georgia	No	54	9,469	70	65.361	1.071	0.841	1.345	26	8%	0%	0.000	0.292	0.785	1.676	2.059
Guam	No	0	2,.00	10							270					
Hawaii	No	3				•				•		•		•		
lowa	No	15	1.720	10	11.400	0.877	0.446	1.564	2	•		•		•		
Idaho	No	5	1,326	3	7.569	0.396	0.101	1.079	2	•				•	•	
Illinois	No	45	7,200	48	44.695	1.074	0.801	1.412	18	11%	0%			•	•	
Indiana	No	43	6,640	40 51	40.948	1.245	0.001	1.625	10	29%	0%	•		•	•	•
Kansas	No	43 28	3,713	23	25.422	0.905	0.937	1.336	7	2970	0 76	•	•		•	
		20 12		13				3.550	1	•			•		•	
Kentucky	No		828		6.104	2.130	1.185		-			•		•	•	
Louisiana	No	25	2,831	40	23.415	1.708	1.237	2.303	7							0.450
Massachusetts	М	58	14,104	87	91.176	0.954	0.769	1.171	21	10%	10%	0.000	0.346	1.034	1.507	2.152
Maryland	Yes	45	8,959	39	62.045	0.629	0.453	0.851	18	0%	6%	•		•		
Maine	No	5	1,432	4	7.216	0.554	0.176	1.337	1							
Michigan	No	54	12,615	84	94.423	0.890	0.714	1.096	25	4%	12%	0.000	0.370	0.852	1.195	1.862
Minnesota	No	21	4,820	42	29.890	1.405	1.026	1.881	8			•			•	
Missouri		56	10,954	50	75.508	0.662	0.497	0.866	20	0%	5%	0.000	0.000	0.375	0.966	1.795
Mississippi	No	22	2,979	31	22.726	1.364	0.943	1.912	7	•						
Montana	No	4														
North Carolina	No	25	4,868	29	33.726	0.860	0.587	1.219	8							
North Dakota	No	1														
Nebraska	No	2														
New Hampshire	No	6	1,223	6	6.604	0.909	0.368	1.890	1							
New Jersey	No	28	5,530	32	33.130	0.966	0.672	1.347	10	10%	0%					
New Mexico	No	7	526	2	2.366	0.845	0.142	2.793	0							
Nevada	Yes	18	4,068	18	28.034	0.642	0.393	0.995	9							
New York		160	33,460	170	206.416	0.824	0.707	0.955	58	3%	3%	0.000	0.000	0.626	1.123	1.813
Ohio	No	31	7,141	43	46.650	0.922	0.675	1.230	15	0%	0%					
Oklahoma	No	21	2,432	16	18.347	0.872	0.516	1.386	4							
Oregon	Yes	33	7.849	64	45.725	1.400	1.087	1.776	15	20%	0%					1
Pennsylvania	Yes	151	27,838	163	176.037	0.926	0.792	1.077	57	5%	0%	0.000	0.475	0.784	1.555	2.546
Puerto Rico	No	0	21,000	100		0.020	0.102		0.1	0,0	0,0	0.000	00	0.101		2.010
Rhode Island	No	5	861	6	4.636	1.294	0.525	2.692	1							-
South Carolina	Yes	55	8,379	65	54.148	1.200	0.934	1.520	19	21%	11%	•	•	•	•	-
South Dakota	No	5	365	2	1.932	1.200	0.934	3.421	0	21/0	1 1 70	•	•	·	•	
Tennessee	No	5 44	9,736	87	74.733	1.035	0.174	1.429	22	14%	5%	0.202	0.417	0.962	2.059	2.782
	NO Yes								22 59	14% 12%	5% 5%				2.059	-
Texas		283	31,539	213	214.960	0.991	0.864	1.131	59	12%	5%	0.000	0.193	0.764	1.844	2.811
Utah	No	0													•	
Virginia	No	20	5,588	40	37.896	1.056	0.764	1.423	11	9%	0%	•	•	•	•	
Virgin Islands		0														

Vermont	Yes	6	909	11	5.419	2.030	1.067	3.528	2							
Washington	Yes	47	13,378	64	64.705	0.989	0.768	1.255	24	8%	0%	0.000	0.139	0.849	1.047	1.769
Wisconsin	No	56	8,662	50	51.907	0.963	0.723	1.260	18	6%	0%					
West Virginia	No	9	1,144	11	11.755	0.936	0.492	1.627	3							
Wyoming	No	4														
All US		1,983	349,277	2,167	2,252.419	0.962	0.922	1.003	702	8%	3%	0.000	0.202	0.809	1.495	2.386

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-defined inpatient hip arthroplasty procedures that occurred in 2016 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.

2. Yes indicates the presence of a state mandate to report SSIs following hip arthroplasty surgery to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

3. The number of reporting facilities included in the SIR calculation. 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 hip arthroplasty in 2016.

4. Percent of facilities with at least one predicted hip arthroplasty SSI that had an SIR significantly greater or less than the nominal value of the 2016 national hip arthroplasty SIR of 0.962. This is only calculated if at least 10 facilities had at least one predicted hip arthroplasty SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted hip arthroplasty SSI in 2016. If a facility's predicted number of hip arthroplasty SSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

				6d Su	rgical site infecti	ons (SSI) foll	owing know	arthronlastv ¹	in adults > 18	vears						
				No. of Inf			<u>95% CI 1</u>			-specific SIRs						
			No. of													
State			Procedures	Observed	Predicted	SIR	Lower	Upper				10%	25%		75%	90%
Alaska	No	3		•	•							•	•		•	
Alabama	No	11	3,147	28	13.482	2.077	1.407	2.961	4			•	•		•	
Arkansas	No	17	3,999	11	14.063	0.782	0.411	1.360	6			•				
Arizona	No	25	7,877	32	31.227	1.025	0.713	1.429	14	7%	0%	•	•	•	•	
California	Yes	291	63,814	198	230.877	0.858	0.744	0.983	83	4%	1%	0.000	0.000	0.617	1.068	1.774
Colorado	Yes	49	16,098	65	51.020	1.274	0.991	1.613	19	16%	0%	•				
Connecticut	No	10	2,002	15	8.268	1.814	1.054	2.925	4			•				
D.C.	No	3		•						•			•			
Delaware		2														
Florida	No	54	14,726	31	49.429	0.627	0.434	0.879	19	0%	0%					
Georgia	No	50	12,224	69	46.847	1.473	1.155	1.853	19	5%	0%					
Guam	No	0														
Hawaii	No	3														
lowa	No	13	3,140	9	8.142	1.105	0.539	2.028	3							
Idaho	No	5	2,081	6	6.591	0.910	0.369	1.893	2							
Illinois	Yes	117	30,538	104	111.743	0.931	0.764	1.123	44	5%	2%	0.000	0.000	0.835	1.240	1.833
Indiana	No	44	10,902	41	36.726	1.116	0.812	1.500	14	0%	7%					
Kansas	No	27	5,647	23	18.662	1.232	0.800	1.820	7							
Kentucky	No	13	1,654	8	6.616	1.209	0.562	2.296	1							
Louisiana	No	24	4,544	29	19.326	1.501	1.024	2.127	5							
Massachusetts	Yes	58	18,381	77	66.223	1.163	0.924	1.445	18	17%	6%					
Maryland	Yes	45	14,110	38	53.671	0.708	0.508	0.962	18	0%	6%					
Maine	No	5	1,809	1	4.657	0.215	0.011	1.059	2							
Michigan	No	53	18,133	91	69.244	1.314	1.064	1.606	24	13%	0%	0.000	0.427	1.071	2.319	3.455
Minnesota	No	23	6,854	36	24.877	1.447	1.029	1.982	7							
Missouri		34	9,837	22	33.931	0.648	0.417	0.966	10	0%	10%					
Mississippi	No	21	4,853	28	18.931	1.479	1.002	2.109	6							
Montana	No	5	1,426	6	4.005	1.498	0.607	3.116	2				•	·		
North Carolina	No	23	7,416	26	29.029	0.896	0.598	1.294	7	·	·		•			
North Dakota	No	1	1,410	20	20.020	0.000	0.000	1.204		·	·		•			
Nebraska	No	3					•					•				
New Hampshire	Yes	13	3,501	6	12.701	0.472	0.191	0.983	3			•				
New Jersey	Yes	69	17,337	85	58.314	1.458	1.172	1.793	23	9%	0%	0.459	0.701	0.911	1.530	2.121
New Mexico	No	7	1,039	1	2.665	0.375	0.019	1.851	23	970	0 70	0.459	0.701	0.911	1.550	2.121
Nevada	Yes	18	4,666	12	18.970	0.633	0.019	1.075	6	•		•	•			
New York	res	35	4,000	51	45.784		0.343	1.453	13	0%	0%	•	•			
	Ne					1.114						•	•	•	•	
Ohio	No	32	12,068	41	38.660	1.061	0.771	1.425	14	7%	0%					
Oklahoma	No	21	4,190	22	15.773	1.395	0.896	2.077	5							
Oregon	Yes	33	9,938	44	32.525	1.353	0.995	1.800	10	20%	0%					4.044
Pennsylvania	Yes	150	43,913	145	144.546	1.003	0.850	1.177	51	8%	0%	0.000	0.000	0.717	1.271	1.945
Puerto Rico	No	0		•			'		•	•			•	•	•	
Rhode Island	No	5	1,200	2	4.322	0.463	0.078	1.529	1							
South Carolina	Yes	55	12,626	54	42.867	1.260	0.956	1.631	17	18%	0%					
South Dakota	No	5	751	1	1.831	0.546	0.027	2.693	0	•			•	•	•	
Tennessee	No	39	14,623	56	56.661	0.988	0.754	1.274	17	6%	6%		•	•	•	
Texas	Yes	285	54,651	195	193.678	1.007	0.873	1.156	57	7%	4%	0.000	0.329	0.867	1.817	2.801
Utah	No	0														
Virginia	No	19	7,305	41	26.599	1.541	1.121	2.071	11	18%	0%					
Virgin Islands		0														

Vermont	Yes	6	1,143	3	3.817	0.786	0.200	2.139	2							
Washington	Yes	46	17,002	47	49.929	0.941	0.700	1.241	19	5%	0%					
Wisconsin	No	56	12,737	33	40.912	0.807	0.564	1.120	13	8%	0%					
West Virginia	No	9	1,811	11	7.262	1.515	0.797	2.633	3							
Wyoming	No	4														
All US		1,939	504,333	1,864	1,774.402	1.050	1.004	1.099	609	7%	2%	0.000	0.000	0.817	1.522	2.478

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-defined inpatient knee arthroplasty procedures that occurred in 2016 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.

2. Yes indicates the presence of a state mandate to report SSIs following knee arthroplasty surgery to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

3. The number of reporting facilities included in the SIR calculation. 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 knee arthroplasty in 2016.

4. Percent of facilities with at least one predicted knee arthroplasty SSI that had an SIR significantly greater or less than the nominal value of the 2016 national knee arthroplasty SIR of 1.050. This is only calculated if at least 10 facilities had at least one predicted knee arthroplasty SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted knee arthroplasty SSI in 2016. If a facility's predicted number of knee arthroplasty SSI was <1.0, a facility-specific SIR was neither calculated nor included in the distribution of facility-specific SIRs.

				06.0	uluical sile ill
				<u>No. of Inf</u>	urgical site in <u>ections</u>
tate			No. of Procedures	Observed	Predicted
laska	No	0			
labama	No	0			
rkansas	No	0			
rizona	No	4			
alifornia	Yes	252	5,455	53	91.183
olorado	No	2			
connecticut	No	0			
.C.	No	0			
elaware		0			
lorida	No	3			
Georgia	No	1			
Guam	No	0			
lawaii	No	0			
owa	No	1			
laho	No	0			
linois	No	2			
ndiana	No	1			
ansas	No	0			
entucky	No	0			
ouisiana	No	3			
lassachusetts	No	1			
laryland	No	0		·	
laine	No	1		·	
lichigan	No	2		•	
linnesota	No	1			
lissouri		1			
lississippi	No	0			
lontana	No	1		•	
lorth Carolina	No	0		•	
lorth Dakota	No	0		•	
lebraska	No	0		•	
lew Hampshire	No			·	
	No No	1			
lew Jersey lew Mexico	No	2		•	
levada	No	3			
lew York	N	1			
)hio	No	5	137	0	2.056
oklahoma	No	0		•	
oregon Jennsylvania	No Yes	1 26	852	5	18.746

All US		330	7,854	66	137.640
Wyoming	No	0			
West Virginia	No	3			
Wisconsin	No	3			
Washington	No	4			
Vermont	No	0			
Virgin Islands		0			
Virginia	No	0			
Utah	No	0			
Texas	No	3			
Tennessee	No	1			
South Dakota	No	0			
South Carolina	No	0			
Rhode Island	No	0			
Puerto Rico	No	0			

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-de detected during the same admission as the surgical procedure or upon readmission to the same fa

- 2. Yes indicates the presence of a state mandate to report SSIs following rectal surgery to NHSN at No indicates that a state mandate did not exist during 2016. A blank field indicates data not available
- 3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following rect:
- 4. Percent of facilities with at least one predicted rectal surgery SSI that had an SIR significantly grea at least 10 facilities had at least one predicted rectal surgery SSI in 2016.
- 5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted recta SIR was neither calculated nor included in the distribution of facility-specific SIRs.

zed infection ratios (SIRs) and facility-specific SIR summary measures, I Acute Care Hospitals reporting during 2016

	<u>95% CI 1</u>	or SIR	<u>racility</u>	<u>-specific SIRs</u>			
SIR	Lower	Upper				10%	25%
•	•		•				
•	•		•				
0.581	0.440	0.754	18	11%	0%	•	
	•						
			•				
			•				
•				•			
•	•		•	•		•	
			-				
•			•				
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			•	•			
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	•						
			-				
•	•		•	•			
•	•	·	•				
•		·	•		·		
0.000	•	1.457	1		:	•	
			•				
0.267	0.098	0.591	5				

iections (SSI) following rectal surgery¹ in adults, ≥ 18years

0.480	0.374	0.606	32	6%	0%	0.000	0.000
•	•					•	•
	•					•	
•	•		•			•	•
•	•		•			•	•
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•	•		•	•		•	•
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		1			1		

fined inpatient rectal surgery procedures that occurred in 2016 with a primary or other than primary skin clos acility.

the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

al surgery in 2016.

ter or less than the nominal value of the 2016 national rectal surgery SIR of 0.480. This is only calculated if

al surgery SSI in 2016. If a facility's predicted number of rectal surgery SSI was <1.0, a facility-specific

	75%	90%
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<u> </u>		
0.000	0.335	0.796

sure technique,

Table 6. State-specific standardi:

NHSN 6f. Surgical site infecti

				<u>No. of Inf</u>	<u>ections</u>
State			No. of Procedures	Observed	Predicted
Alaska	No	0			-
Alabama	No	1			
Arkansas	No	1			
Arizona	No	1			
California	Yes	275	9,281	37	45.401
Colorado	No	18	746	0	3.989
Connecticut	No	0			
D.C.	No	0			
Delaware		1			
Florida	No	7	111	0	0.469
Georgia	No	1			
Guam	No	0			
Hawaii	No	0			
lowa	No	3			
Idaho	No	1			
Illinois	No	5	208	1	0.945
Indiana	No	3			
Kansas	No	1			
Kentucky	No	1			
Louisiana	No	6	94	0	0.610
Massachusetts	Yes	50	1,605	17	9.394
Maryland	No	3			
Maine	No	1			
Michigan	No	6	270	2	1.820
Minnesota	No	4			
Missouri		2			
Mississippi	No	7	644	0	2.761
Montana	No	2			
North Carolina	No	1			
North Dakota	No	0			
Nebraska	No	1			
New Hampshire	No	2			
New Jersey	No	3			
New Mexico	No	3			
Nevada	No	0			
New York		3			
Ohio	No	12	520	0	2.669
Oklahoma	No	5	97	0	0.410
Oregon	No	2			
Pennsylvania	Yes	24	971	4	6.265

All US		738	27,647	120	141.776
Wyoming	No	0			-
West Virginia	No	2			
Wisconsin	No	8	233	3	1.311
Washington	No	20	831	3	3.525
Vermont	No	0			
Virgin Islands		0			
Virginia	No	0			
Utah	No	1			
Texas	Yes	241	9,366	41	46.304
Tennessee	No	4			
South Dakota	No	1			
South Carolina	No	5	200	4	1.458
Rhode Island	No	0			
Puerto Rico	No	0			

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-de detected during the same admission as the surgical procedure or upon readmission to the same fa

2. Yes indicates the presence of a state mandate to report SSIs following vaginal hysterectomy surge No indicates that a state mandate did not exist during 2016. A blank field indicates data not availal

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following vagi

4. Percent of facilities with at least one predicted vaginal hysterectomy SSI that had an SIR significar at least 10 facilities had at least one predicted vaginal hysterectomy SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted vagil SIR was neither calculated nor included in the distribution of facility-specific SIRs.

zed infection ratios (SIRs) and facility-specific SIR summary measures, I Acute Care Hospitals reporting during 2016

	<u>95% CI 1</u>	for SIR	<u>Facility-s</u>	<u>pecific SIRs</u>		
SIR	Lower	Upper			10%	25%
•			·	·		
				·		
0.815	0.582	1.111	0			
0.000		0.751	0			
•	•					
·	•		0			
			0			
			0			
			·	·		
•	•					
			0			
1.810	1.089	2.839	1			
1.099	0.184	3.630	0			
•	•		·	·		
0.000		1.085	1	·		
			•	•		
•	•					
0.000		1.122	0			
			0			
		1 E 4 0	1			
0.638	0.203	1.540	1		·I ·	

ons (SSI) following vaginal hysterectomy¹ in adults, \ge 18years

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fined inpatient vaginal hysterectomy procedures that occurred in 2016 with a primary or other than primary sacility.

ery to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

nal hysterectomy in 2016.

tly greater or less than the nominal value of the 2016 national vaginal hysterectomy SIR of 0.846. This is on

nal hysterectomy SSI in 2016. If a facility's predicted number of vaginal hysterectomy SSI was <1.0, a facility-

	75%	90%
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		-

kin closure technique,

ly calculated if

-specific

	Table 6. State-specific standa NH				
				6g. Surgical	site infection
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	1			
Alabama	No	5	740	12	4.853
Arkansas	No	7	1,465	11	9.504
Arizona	No	7	645	3	3.929
California	Yes	130	15,362	94	106.450
Colorado	Yes	15	1,819	13	11.791
Connecticut	No	0			
D.C.	No	1			
Delaware		1			
Florida	No	12	2,579	11	16.198
Georgia	No	10	2,847	22	20.628
Guam	No	0			
Hawaii	No	1			
lowa	No	1			
Idaho	No	1			
Illinois	Yes	62	7,068	47	54.511
Indiana	No	13	1,688	12	13.047
Kansas	No	4			
Kentucky	No	2			
Louisiana	No	9	1,376	9	11.337
Massachusetts	Yes	14	4,113	22	32.556
Maryland	Yes	10	2,727	17	18.920
Maine	No	1	· .		
Michigan	No	9	1,496	23	13.733
Minnesota	No	3	,		
Missouri		28	4,698	23	38.132
Mississippi	No	10	1,300	4	9.009
Montana	No	3	1,000		0.000
North Carolina	No	4		·	
North Dakota	No	0		·	
Nebraska	No	2			
New Hampshire	Yes	4			
New Jersey	Yes	18	4,915	39	34.836
New Mexico	No	0	4,313	59	54.050
Nevada	Yes	12	1,802	9	11.929
New York	162	37	10,960	9 111	
	NI -				93.963
Ohio	No	14	1,690	7	12.557
Oklahoma	No	6	591	6	4.553
Oregon	Yes	15	2,462	8	16.261
Pennsylvania	Yes	61	9,384	61	68.765

All US		759	124,281	855	913.694
Wyoming	No	0			
West Virginia	No	1			
Wisconsin	No	18	2,574	15	17.587
Washington	Yes	17	3,520	11	24.253
Vermont	No	1			
Virgin Islands		0			
Virginia	No	10	2,177	17	17.925
Utah	No	0			
Texas	Yes	137	16,486	122	110.874
Tennessee	Yes	24	6,944	48	51.791
South Dakota	No	0			
South Carolina	Yes	17	3,624	33	26.189
Rhode Island	No	1			
Puerto Rico	No	0			

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-de detected during the same admission as the surgical procedure or upon readmission to the same fa

2. Yes indicates the presence of a state mandate to report SSIs following coronary artery bypass gra No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following coro

4. Percent of facilities with at least one predicted coronary artery bypass graft SSI that had an SIR signat least 10 facilities had at least one predicted coronary artery bypass graft SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted coro SIR was neither calculated nor included in the distribution of facility-specific SIRs.

ized infection ratios (SIRs) and facility-specific SIR summary measures, N Acute Care Hospitals reporting during 2016

		pecific SIRs	Facility-s	or SIR	<u>95% CI f</u>	
10% 25%				Upper	Lower	SIR
		•			1 240	
		•	2 3	4.204 2.012	1.340 0.609	2.473 1.157
		•	0	2.012	0.009	0.763
0.000 0.213	0%	3%	32	1.076	0.718	0.883
0.000 0.213	0 70	570	2	1.838	0.613	1.102
			2	1.000	0.010	1.102
		•	•		·	·
		•	•		•	•
			7	1.180	0.357	0.679
			9	1.588	0.685	1.067
	0%	17%	18	1.137	0.641	0.862
			4	1.564	0.498	0.920
			2	1.457	0.387	0.794
			9	1.006	0.434	0.676
			6	1.409	0.541	0.899
					•	
			7	2.473	1.087	1.675
	7%	0%	15	0.891	0.392	0.603
		•	3	1.071	0.141	0.444
			•		•	
				-	•	•
					•	•
		•	•		•	•
	0%	7%	14	1.515	0.807	1.120
	0 /0	170		1.010		1.120
			5	1.384	0.368	0.754
0.000 0.000	0%	16%	31	1.417	0.976	1.181
	0,0		5	1.103	0.244	0.557
		•	2	2.741	0.534	1.318
]		8	0.934	0.228	0.492
0.000 0.000	0%	7%	29	1.132	0.684	0.887

s (SSI) following coronary artery bypass graft¹ in adults, ≥ 18years

0.454 0.853	0.238 0.496	0.788 1.375	10 4	0%	0%	· · ·	· · ·
			4	0%	0%		•
				0%	0%	•	
•	•	•				•	•
0.948	0.571	1.488	6				
1.100	0.918	1.309	33	3%	0%	0.000	0.353
0.927	0.691	1.219	19	5%	5%		
1.260	0.882	1.749	11	9%	0%		
	1.100	0.927 0.691 1.100 0.918	 1.260 0.882 1.749 11 0.927 0.691 1.219 19 1.100 0.918 1.309 33

fined inpatient coronary artery bypass graft procedures that occurred in 2016 with a primary or other than prir acility.

ft surgery to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

nary artery bypass graft in 2016.

gnificantly greater or less than the nominal value of the 2016 national coronary artery bypass graft SIR of 0.93

nary artery bypass graft SSI in 2016. If a facility's predicted number of coronary artery bypass graft SSI was <

	75%	90%
•		
•		-
0.706	1.163	1.660
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•	•	
	•	
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		•
•		
0.835	1.335	2.317
•	•	•
0.643	1.124	1.642

0.896	1.647	1.934
•	•	
•	•	
•	•	
0.705	1.335	2.069

nary skin closure technique,

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6. This is only calculated if

1.0, a facility-specific

				Ch Cura	ical site infec
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	1			
Alabama	No	0			
Arkansas	No	1			
Arizona	No	3			
California	Yes	166	13,490	33	45.726
Colorado	No	4			
Connecticut	No	0		•	
D.C.	No	0			
Delaware		0			
Florida	No	7	467	2	1.149
Georgia	No	2			
Guam	No	0			
Hawaii	No	0			
owa	No	1			
daho	No	1			
llinois	No	6	161	1	0.799
ndiana	No	2			
Kansas	No	3			
Kentucky	No	2			
_ouisiana	No	5	664	1	2.787
Massachusetts	No	2			
Maryland	No	1			
Vaine	No	1			
Vichigan	No	5	562	2	1.979
Vinnesota	No	3			
Vissouri		4			
Vississippi	No	3			
Vontana	No	2			
North Carolina	No	1			
North Dakota	No	0			
Nebraska	No	2			
New Hampshire	No	1		-	
New Jersey	No	3			
New Mexico	No	0	·		
Nevada	No	0		•	
New York		6	1,790	2	7.264
Ohio	No	9	572	0	2.046
Oklahoma	No	4	572	0	2.040
Oregon	No	4 5	874	1	2.632
orogon	Yes	69	7,754	26	2.032

All US		398	41,617	116	148.852
Wyoming	No	0			
West Virginia	No	1			
Wisconsin	No	16	1,664	5	5.835
Washington	Yes	20	2,867	8	9.713
Vermont	No	0			
Virgin Islands		0			
Virginia	No	4			
Utah	No	0			
Texas	Yes	21	760	0	2.110
Tennessee	No	9	1,196	2	4.872
South Dakota	No	0			
South Carolina	No	1			
Rhode Island	No	1			
Puerto Rico	No	0			

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-de detected during the same admission as the surgical procedure or upon readmission to the same fa

Yes indicates the presence of a state mandate to report SSIs following other cardiac surgery to NI No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following othe

4. Percent of facilities with at least one predicted other cardiac surgery SSI that had an SIR significar at least 10 facilities had at least one predicted other cardiac surgery SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted othe SIR was neither calculated nor included in the distribution of facility-specific SIRs.

ized infection ratios (SIRs) and facility-specific SIR summary measures, N Acute Care Hospitals reporting during 2016

	<u>95% CI 1</u>	<u>for SIR</u>	Facility-s	specific SIRs			
SIR	Lower	Upper				10%	25%
0.722	0.505	1.002	12	0%	0%		
0.722	0.505	1.002			. 0 78	•	
•	•		•	•		•	
1.740	0.292	5.749	0				
•	•			•			
•	•		0	•		•	
0.359	0.018	1.769	1				
•	•		•	•		•	
1.011	0.169	3.339	0				
•	•						
•	•						
0.275 0.000	0.046	0.910 1.464	2 0	•			
0.000		1.404		•		•	
0.380	0.019	1.873	0				
0.901	0.601	1.301	8				

ions (SSI) following other cardiac surgery¹ in adults, ≥ 18years

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	 0.779	0.647	0.931	39	3%	0%	0.000	0.000
. .								•
. .		•					•	
. .	0.857	0.314	1.899	1	•		•	•
. .				3			•	
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	•	•		•	•		·	•
0.411 0.069 1.356 2	•	•		•	•			•
0.411 0.069 1.356 2	•	•		•	•			•
0.411 0.069 1.356 2	01000	•		·	•		·	•
				0				
	0.411	0.069	1.356	2				
		•			•		•	
		•			•			

fined inpatient other cardiac surgery procedures that occurred in 2016 with a primary or other than primary sk cility.

HSN at the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

r cardiac surgery in 2016.

tly greater or less than the nominal value of the 2016 national other cardiac surgery SIR of 0.779. This is only

r cardiac surgery SSI in 2016. If a facility's predicted number of other cardiac surgery SSI was <1.0, a facility-

	75%	90%
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(in closure technique,

y calculated if

specific

				6i. Surgical site	NHSN infections (SS
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	0			
Alabama	No	0			
Arkansas	No	0			
Arizona	No	0			
California	No	47	1,049	14	20.354
Colorado	No	2			
Connecticut	No	0			
D.C.	No	0			
Delaware		1			
Florida	No	5	239	9	4.725
Georgia	No	2			
Guam	No	0			
Hawaii	No	0			
lowa	No	1			
Idaho	No	0			-
Illinois	No	3		•	
Indiana	No	0		•	
Kansas	No	0		•	•
Kentucky	No	0			
Louisiana	No	4			
Massachusetts	No	3			
Maryland	No	5 1		•	•
Maine	No	1		•	•
	No	1		•	•
Michigan		4		•	
Minnesota	No	3			
Missouri		3			
Mississippi	No	2		•	•
Montana	No	1		•	
North Carolina	No	1			
North Dakota	No	0			
Nebraska	No	0			
New Hampshire	No	2			
New Jersey	No	2			
New Mexico	No	0			
Nevada	No	1			
New York		2			
Ohio	No	7	380	5	8.834
Oklahoma	No	1			
Oregon	No	4			
Pennsylvania	Yes	23	902	31	20.701

All US		294	9,346	167	184.380
Wyoming	No	0			
West Virginia	No	1			•
Wisconsin	No	5	122	4	2.302
Washington	No	8	220	10	4.686
Vermont	No	0			
Virgin Islands		0			•
Virginia	No	1			
Utah	No	0			
Texas	Yes	151	4,353	56	78.746
Tennessee	No	0			
South Dakota	No	0			
South Carolina	No	2			
Rhode Island	No	0			
Puerto Rico	No	0			

2. Yes indicates the presence of a state mandate to report SSIs following peripheral vascular bypass No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following perig

4 Percent of facilities with at least one predicted peripheral vascular bypass surgery SSI that had an at least 10 facilities had at least one predicted peripheral vascular bypass surgery SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted peri SIR was neither calculated nor included in the distribution of facility-specific SIRs.

zed infection ratios (SIRs) and facility-specific SIR summary measures, I Acute Care Hospitals reporting during 2016

<u>95% CI for SIR</u>			Facility-specific SIRs				
SIR	Lower	Upper				10%	25%
•			•				•
0.688	0.392	1.127	5				
•							
				· ·		-	•
1.905	0.929	3.496	2				•
	•						
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	•			•			•
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	•			· .	•		•
•							
0.566	0.207	1.255	3	•			•
				•	•		•
1.498	1.035	2.100	10	0%	0%	.	

3) following peripheral vascular bypass surgery¹ in adults, ≥ 18years

 0.906	0.776	1.051	58	2%	0%	0.000	0.000
 •			•				<u> </u>
1.738	0.552	4.192	0	•		•	•
2.134	1.084	3.804	2			•	•
				•		•	•
	•		•			•	•
	•		•	·		•	•
	•		•			•	•
	0.012	0.017		270	0,10	0.000	0.000
0.711	0.542	0.917	22	0%	0%	0.000	0.000
•	•		•	•		•	•
•	•		·	•			•
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fined inpatient peripheral vascular bypass surgery procedures that occurred in 2016 with a primary or other t acility.

surgery to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

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pheral vascular bypass surgery in 2016.

SIR significantly greater or less than the nominal value of the 2016 national peripheral vascular bypass surge

pheral vascular bypass surgery SSI in 2016. If a facility's predicted number of peripheral vascular bypass surg

	75%	90%
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0.458	0.937	1.712
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0.645	1.310	1.855

than primary skin closure technique,

ery SIR of 0.906. This is only calculated if

gery SSI was <1.0, a facility-specific

			Ta	ble 6. State-spe	cific standard NHS
				6j. Surgical sit	e infections (
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	0			
Alabama	No	0			
Arkansas	No	0			
Arizona	No	0			
California	Yes	117	562	2	3.837
Colorado	No	2			
Connecticut	No	0			
D.C.	No	0			
Delaware		0			
Florida	No	2			
Georgia	No	1			
Guam	No	0			
Hawaii	No	0			
owa	No	0			
ldaho	No	0			
llinois	No	1			
Indiana	No	0			
Kansas	No	0			
Kentucky	No	0			
Louisiana	No	3			
Massachusetts	No	2			
Maryland	No	0			
Maine	No	1			
Michigan	No	1			
Minnesota	No	1			
Missouri		0			
Mississippi	No	1			
Montana	No	0			
North Carolina	No	0			
North Dakota	No	0			
Nebraska	No	0			
New Hampshire	No	1			
New Jersey	No	0			
New Mexico	No	0			
Vevada	No	0		•	
New York		1		·	
Ohio	No	4		·	
Oklahoma	No	0		·	
Oregon	No	0			
Pennsylvania	Yes	16	127	0	0.867

All US		250	1,429	5	9.757
Wyoming	No	0			
West Virginia	No	2			•
Wisconsin	No	3			•
Washington	No	3			•
Vermont	No	0			•
Virgin Islands		0			•
Virginia	No	0			
Utah	No	0			•
Texas	Yes	88	573	2	3.912
Tennessee	No	0			
South Dakota	No	0			
South Carolina	No	0			
Rhode Island	No	0			
Puerto Rico	No	0			

2. Yes indicates the presence of a state mandate to report SSIs following abdominal aortic aneurysm No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following abdo

4. Percent of facilities with at least one predicted abdominal aortic aneurysm repair SSI that had an S at least 10 facilities had at least one predicted abdominal aortic aneurysm repair SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted abdc SIR was neither calculated nor included in the distribution of facility-specific SIRs.

ized infection ratios (SIRs) and facility-specific SIR summary measures, N Acute Care Hospitals reporting during 2016

 <u>95% CI for SIR</u>			Facility-sp			
SIR	Lower	Unnor			10%	259/
 JIK	Lower	Upper			10%	25%
						· · ·
0.521	0.087	1.722	0			
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						· · ·
•	•			•		· ·
			0			

SI) following abdominal aortic aneurysm repair¹ in adults, ≥ 18years

				•		•	
0.511	0.086	1.689	0				•
· ·				•	•	·	
							•
•						•	•
0.512	0.188	1.136	0	•	•		

fined inpatient abdominal aortic aneurysm repair procedures that occurred in 2016 with a primary or other that acility.

repair surgery to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate. ble.

for information about exclusion criteria. SIRs and accompanying

ominal aortic aneurysm repair in 2016.

SIR significantly greater or less than the nominal value of the 2016 national abdominal aortic aneurysm repair

ominal aortic aneurysm repair SSI in 2016. If a facility's predicted number of abdominal aortic aneurysm repair

	750/	00%
	75%	90%
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an primary skin closure technique,

SIR of 0.512. This is only calculated if

r SSI was <1.0, a facility-specific

				6k. Surgica	al site infectio
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	1			
Alabama	No	3			
Arkansas	No	3			
Arizona	No	1			
California	Yes	242	141,124	209	203.604
Colorado	No	9	1,918	5	2.548
Connecticut	No	0			
D.C.	No	1			
Delaware		0			
Florida	No	5	2,465	6	4.413
Georgia	No	3			
Guam	No	0			
Hawaii	No	0			
lowa	No	1			
Idaho	No	1			
Illinois	No	3			
Indiana	No	4			
Kansas	No	1			
Kentucky	No	1			
Louisiana	No	5	2,364	3	3.482
Massachusetts	Yes	1			
Maryland	No	3			
Maine	No	1			
Michigan	No	7	4,440	13	13.385
Minnesota	No	1			
Missouri		11	7,538	12	12.950
Mississippi	No	5	1,264	1	3.207
Montana	No	2			
North Carolina	No	2			
North Dakota	No	0			
Nebraska	No	2			
New Hampshire	No	3			
New Jersey	No	4			
New Mexico	No	1			
Nevada	No	4		•	
New York		3		•	
Ohio	No	14	7,037	14	13.021
Oklahoma	No	4	,,001		10.021
Oregon	No	- 0			
Pennsylvania	Yes	23	11,441	25	32.288

All US		438	235,828	417	382.370
Wyoming	No	0			
West Virginia	No	2			
Wisconsin	No	13	5,779	21	8.821
Washington	No	8	3,968	2	4.503
Vermont	No	0			
Virgin Islands		0			
Virginia	No	3			
Utah	No	0			
Texas	No	26	11,291	22	20.982
Tennessee	No	5	3,595	5	9.815
South Dakota	No	0			
South Carolina	No	4			
Rhode Island	No	1			
Puerto Rico	No	1			

2. Yes indicates the presence of a state mandate to report SSIs following cesarean section surgery No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following cesa

4. Percent of facilities with at least one predicted cesarean section surgery SSI that had an SIR sign at least 10 facilities had at least one predicted cesarean section surgery SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted ces SIR was neither calculated nor included in the distribution of facility-specific SIRs.

ized infection ratios (SIRs) and facility-specific SIR summary measures, N Acute Care Hospitals reporting during 2016

	<u>95% CI 1</u>	for SIR	<u>Facility</u>	<u>specific SIRs</u>			
SIR	Lower	Upper				10%	25%
1.027	0.894	1.173	66	6%	3%	0.000	0.000
1.962	0.719	4.350	0			0.000	0.000
•	•		•			•	
1.360	0.551	2.828	2				
			•				
	•					•	
	•		•				
0.862	0.219	2.345	1				
	•					•	
0.971	0.540	1.619	3				
0.927	0.502	1.575	3				
0.312		1.538	1				
	•						
	•			•			•
	•					•	
1.075	0.612	1.761	4	•		•	•
			•				
. 774							
0.774	0.512	1.126	6		ŀ	•	•

ns (SSI) following cesarean section surgery¹ in adults, ≥ 18years

 1.091	0.990	1.199	114	8%	4%	0.000	0.000
 			·	·			·
2.381	1.513	3.577	4	•		•	
0.444	0.074	1.467	2			•	•
							-
							-
1.049	0.674	1.561	6				
0.509	0.187	1.129	2				-
						-	

fined inpatient cesarean section surgery procedures that occurred in 2016 with a primary or other than prima acility.

to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

arean section surgery in 2016.

ificantly greater or less than the nominal value of the 2016 national cesarean section surgery SIR of 1.091. T

arean section surgery SSI in 2016. If a facility's predicted number of cesarean section surgery SSI was <1.0,

		75%	90%
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0	.663	1.328	2.56
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ary skin closure technique,

his is only calculated if

a facility-specific

					ical site infec
				<u>No. of Inf</u>	<u>ections</u>
State			No. of Procedures	Observed	Predicted
Alaska	No	0			
Alabama	No	3			
Arkansas	No	2			
Arizona	No	5	2,260	27	24.514
California	Yes	222	38,108	234	277.290
Colorado	No	25	6,573	43	42.168
Connecticut	No	2			
D.C.	No	0			
Delaware		1			
Florida	No	10	2,845	16	18.983
Georgia	No	12	4,497	56	32.485
Guam	No	0			
Hawaii	No	1			
lowa	No	2			
ldaho	No	2			
Illinois	No	7	2,136	9	16.847
Indiana	No	8	3,866	15	21.757
Kansas	No	4			
Kentucky	No	2			
Louisiana	No	7	2,137	24	14.832
Massachusetts	No	4			
Maryland	No	8	2,211	14	15.079
Maine	No	2			
Michigan	No	7	2,721	13	14.596
Minnesota	No	4			
Missouri		11	2,645	12	16.165
Mississippi	No	9	1,936	13	14.516
Montana	No	2	· .		
North Carolina	No	1			
North Dakota	No	0			
Nebraska	No	0			-
New Hampshire	No	4		•	-
New Jersey	No	5	1,132	4	7.490
New Mexico	No	0	.,	·	
Nevada	No	13	5,127	37	31.668
New York	110	10	4,488	37	39.039
Ohio	No	13	3,487	39	20.823
Oklahoma	No	2	0,-07	00	20.020
Oregon	No	10	2,945	21	20.483
Pennsylvania	Yes	35	2,945 9,455	92	76.635

All US		551	129,520	925	941.222
Wyoming	No	0			
West Virginia	No	0			
Wisconsin	No	14	2,833	16	14.492
Washington	No	16	4,904	25	27.007
Vermont	No	1			
Virgin Islands		0			
Virginia	No	3			
Utah	No	1			
Texas	Yes	41	6,480	30	44.044
Tennessee	No	7	3,538	21	32.665
South Dakota	No	0			
South Carolina	No	4			
Rhode Island	No	1			
Puerto Rico	No	0			

2. Yes indicates the presence of a state mandate to report SSIs following fusion surgery to NHSN at No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following spin

4. Percent of facilities with at least one predicted fusion surgery SSI that had an SIR significantly great least 10 facilities had at least one predicted fusion surgery SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted fusic SIR was neither calculated nor included in the distribution of facility-specific SIRs.

ized infection ratios (SIRs) and facility-specific SIR summary measures, N Acute Care Hospitals reporting during 2016

	<u>95% CI 1</u>	for SIR	<u>Faci</u>	ility-specific SIF	<u>Rs</u>		
SIR	Lower	Upper				10%	25%
	•		-				
			-				
1.101	0.741	1.580	. 2			•	
0.844		0.957	79	5%	5%	0.000	0.13
1.020		1.361	14	0%	0%	0.000	0.10
1.020	0.7 17	1.001			0,0		
0.843	0.499	1.340	8				
1.724	1.315	2.222	11	45%	0%		
	•		•	•		•	
						•	
0.534		0.980		•			
0.689	0.401	1.112	7			•	
						•	
1.618	1.061	2.371	6			•	
1.010	1.001	2.071	Ŭ	·		•	
0.928	0.528	1.521	5				
0.891	0.495	1.485	5				
0.742	0.402	1.262	5				
0.896	0.498	1.493	5				
						•	
	•					•	
			•	•			
	•					•	
0.534	0.170	1.288	3			•	
0.004	0.170	1.200	0	·		•	
1.168	0.835	1.594	9	•	•	•	
0.948		1.293	9				
1.873		2.535	6				
1.025	0.652	1.540	5				
1.200	0.973	1.465	18	11%	6%		

ions (SSI) following spinal fusion surgery¹ in adults, ≥ 18years

0.468 0.612 0.654	0.960 1.346 1.755	13 9 4	0%	8%	· · · · · ·	· · · · · ·
0.612	1.346	9	0%	8%	· · · · ·	· · · · ·
0.612	1.346	9	0%	8%	· · · ·	· · · ·
			0%	8%	• • • •	· · · ·
0.468	0.960	13	0%	8%	· · ·	· · ·
0.468	0.960 - - -	13	0%	8%	· · ·	· · ·
0.468	0.960	13	0%	8%		
0.468	0.960	13	0%	8%	•	•
0.468	0.960	13	0%	8%	•	•
				~ ^/		
0.409	0.966	5				
		•				
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		•				

fined inpatient fusion surgery procedures that occurred in 2016 with a primary or other than primary skin closu acility.

the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

al fusion surgery in 2016.

ater or less than the nominal value of the 2016 national fusion surgery SIR of 0.983. This is only calculated if

on surgery SSI in 2016. If a facility's predicted number of fusion surgery SSI was <1.0, a facility-specific

75% 90% 0.728 1.195 1.896 . . <
0.728 1.195 1.896
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0.788	1.427	1.963
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Jre technique,

				6m, Surg	ical site infec
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	2			
Alabama	No	2			
Arkansas	No	1			
Arizona	No	4			
California	Yes	228	36,283	107	120.903
Colorado	No	17	2,757	6	8.774
Connecticut	No	2			
D.C.	No	0			
Delaware		0			
Florida	No	6	1,239	3	4.339
Georgia	No	9	3,395	10	13.717
Guam	No	0			
Hawaii	No	0			
lowa	No	1			
Idaho	No	2			
Illinois	No	3			
Indiana	No	7	2,523	7	9.287
Kansas	No	3			
Kentucky	No	1			
Louisiana	No	4			
Massachusetts	No	3			
Maryland	No	6	1,125	4	3.978
Maine	No	2	, -		
Michigan	No	7	1,877	6	6.202
Minnesota	No	2	.,		
Missouri		7	1,296	9	4.487
Mississippi	No	9	1,245	6	4.975
Montana	No	2	1,210	0	
North Carolina	No	2		·	
North Dakota	No	0			
Nebraska	No	1		•	
New Hampshire	No	4		•	
New Jersey	No	4	1,516	7	4.805
New Mexico	No	0	1,510	1	4.000
Nevada	Yes	0 17	3,794	8	13.351
New York	165	17		8 5	9.271
	NI -		2,550		
Ohio	No	10	2,591	9	9.645
Oklahoma	No	0			00.000
Oregon	Yes	23	6,526	8	22.389
Pennsylvania	Yes	37	7,173	35	26.959

All US		513	99,688	308	349.618
Wyoming	No	0			<u>.</u>
West Virginia	No	1			
Wisconsin	No	10	1,778	2	5.834
Washington	No	12	2,703	8	8.274
Vermont	No	0			
Virgin Islands		0			
Virginia	No	4			
Utah	No	0			
Texas	Yes	31	3,885	6	13.931
Tennessee	No	4			
South Dakota	No	0			
South Carolina	No	2			
Rhode Island	No	1			
Puerto Rico	No	0			

Yes indicates the presence of a state mandate to report SSIs following laminectomy surgery to NI-No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following lami

4. Percent of facilities with at least one predicted laminectomy surgery SSI that had an SIR significan at least 10 facilities had at least one predicted laminectomy surgery SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted lami SIR was neither calculated nor included in the distribution of facility-specific SIRs.

zed infection ratios (SIRs) and facility-specific SIR summary measures, I Acute Care Hospitals reporting during 2016

	<u>95% CI 1</u>	for SIR	Facility-specific SIRs				
SIR	Lower	Upper				10%	25%
	•			-		•	
			•	•			
0.885	0.729	1.065	37	0%	0%	0.000	0.00
0.684	0.723	1.422	3	070	070	0.000	0.00
0.691	0.176	1.882	2				
0.729	0.370	1.299	6				
•	•		•	•		•	
						·	
			·				
0.754	0.330	1.491	5		•	•	
0.704	0.000	1.401	Ū	•			
1.006	0.320	2.425	1				
0.968	0.392	2.012	1			•	
2.006	0.978	3.681	2				
1.206	0.489	2.508	.1			•	
	•		•	•		•	
						•	
1.457	0.637	2.882	2				
0.599	0.278	1.138	4				
0.539	0.198	1.195	2			•	
0.933	0.455	1.712	3				
						•	
0.357	0.166	0.679	10	0%	0%		
1.298	0.918	1.786	10	10%	0%	•	

ions (SSI) following laminectomy surgery¹ in adults, ≥ 18years

	0.881	0.787	0.984	117	3%	0%	0.000	0.000
. .		•					•	
. .								
. .	0.343	0.057	1.133	3				
. .				_				
	•	•		•	•		•	•
. 0.431 0.175 0.896 5 		•					•	
	0.431	0.175	0.896	5				
		•						
		•					•	•
		•					•	•
		•					•	•
		•			•		•	•

fined inpatient laminectomy surgery procedures that occurred in 2016 with a primary or other than primary slacility.

HSN at the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

for information about exclusion criteria. SIRs and accompanying

nectomy surgery in 2016.

tly greater or less than the nominal value of the 2016 national laminectomy surgery SIR of 0.881. This is only

nectomy surgery SSI in 2016. If a facility's predicted number of laminectomy surgery SSI was <1.0, a facility-

	760/	0.0%
	75%	90%
0.671	1.118	1.802
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<u> </u>		
0.520	0.966	1.847

kin closure technique,

y calculated if

specific

				6n. Surgical si	ite infections
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	0			
Alabama	No	1		•	
Arkansas	No	0			
Arizona	No	2			
California	Yes	309	45,459	280	250.827
Colorado	No	2			
Connecticut	No	0			
D.C.	No	0			
Delaware		0			
Florida	No	3			
Georgia	No	1			
Guam	No	0			
Hawaii	No	0			
owa	No	2			
daho	No	0			
llinois	No	3			
Indiana	No	0			
Kansas	No	1			
Kentucky	No	1		•	
Louisiana	No	3		•	
Massachusetts	No	1		•	
Maryland	No	1			
Maine	No	0			
Michigan		-		•	
Minnesota	No No	3		•	
Missouri	INO	1			
	Na	-		•	
Mississippi	No	0			
Montana	No	1			
North Carolina	No	0			
North Dakota	No	0		•	
Nebraska	No	1	·	•	
New Hampshire	No	1			
New Jersey	No	2			
New Mexico	No	1			
Nevada	No	0			
New York		1			
Ohio	No	4			
Oklahoma	No	0			
Oregon	No	0			
Pennsylvania	Yes	30	7,626	53	53.114

All US		395	59,654	384	339.344
Wyoming	No	0			<u> </u>
West Virginia	No	3			
Wisconsin	No	3			
Washington	No	4			
Vermont	No	0			
Virgin Islands		0			
Virginia	No	0			
Utah	No	0			
Texas	No	9	177	0	0.727
Tennessee	No	0			
South Dakota	No	0			
South Carolina	No	0			
Rhode Island	No	0			
Puerto Rico	No	0			

2. Yes indicates the presence of a state mandate to report SSIs following exploratory laparotomy sur No indicates that a state mandate did not exist during 2016. A blank field indicates data not availa

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical Appendix statistics are only calculated for states in which at least 5 facilities reported SSI data following expl

4. Percent of facilities with at least one predicted exploratory laparotomy surgery SSI that had an SIR at least 10 facilities had at least one predicted exploratory laparotomy surgery SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted expl SIR was neither calculated nor included in the distribution of facility-specific SIRs.

zed infection ratios (SIRs) and facility-specific SIR summary measures, I Acute Care Hospitals reporting during 2016

<u>95% CI for SIR</u>			<u>Faci</u>	Facility-specific SIRs			
SIR	Lower	Upper				10%	25%
•			•			•	
	•			•			
				-			0.00
1.116	0.991	1.253	81	7%	1%	0.000	0.00
•	•		•	•			
•			•			•	
•	•		•	•	•	•	
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•	•		•	•		•	
	•		•				
					•		
•	•			•			
0.998	0.755	1.295	13	15%	8%		

SSI) following exploratory laparotomy surgery¹ in adults, ≥ 18years

1.132	2 1.023	1.249	106	8%	2%	0.000	0.478
					-	· ·	
						.	
			0				
						Ι	

fined inpatient exploratory laparotomy surgery procedures that occurred in 2016 with a primary or other than acility.

gery to NHSN at the beginning of 2016. M indicates midyear implementation of a mandate.

ıble.

for information about exclusion criteria. SIRs and accompanying

oratory laparotomy surgery in 2016.

t significantly greater or less than the nominal value of the 2016 national exploratory laparotomy surgery SIR

oratory laparotomy surgery SSI in 2016. If a facility's predicted number of exploratory laparotomy surgery SS

	75%	90%
•	•	
0.895	1.581	2.55
0.000		2.00
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0.898	1.581	2.820

ι primary skin closure technique,

of 1.132. This is only calculated if

I was <1.0, a facility-specific

				6o. Suro	gical site infed
				No. of Inf	
State			No. of Procedures	Observed	Predicted
Alaska	No	0			
Alabama	No	0			
Arkansas	No	0			
Arizona	No	0			
California	Yes	312	49,700	158	177.639
Colorado	No	5	676	1	2.923
Connecticut	No	0		•	
D.C.	No	0			
Delaware		0			
Florida	No	3			
Georgia	No	2			
Guam	No	0			
Hawaii	No	0			
owa	No	1			
daho	No	2			
llinois	No	5	497	3	1.605
ndiana	No	0			
Kansas	No	1			
Kentucky	No	1			
_ouisiana	No	5	338	0	0.737
Vassachusetts	No	1			
Maryland	No	1			
Vaine	No	1			
Vichigan	No	5	696	5	3.229
Vinnesota	No	1			
Vissouri		1			
Vississippi	No	0			
Vontana	No	1			
North Carolina	No	0			
North Dakota	No	0			
Nebraska	No	1			
New Hampshire	No	2			
New Jersey	No	2			
New Mexico	No	2		-	
Nevada	No	2		-	
New York		1		•	
Ohio	No	4		•	
Oklahoma	No	0			
Oregon	No	0			
Pennsylvania	Yes	33	4,833	27	25.045

All US		423	64,227	222	239.740
Wyoming	No	0			
West Virginia	No	3			
Wisconsin	No	3			
Washington	No	6	1,207	6	4.784
Vermont	No	0			
Virgin Islands		0			
Virginia	No	1			
Utah	No	0			
Texas	No	11	352	1	0.999
Tennessee	No	0			
South Dakota	No	0			
South Carolina	No	4			
Rhode Island	No	0			
Puerto Rico	No	0			

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-de detected during the same admission as the surgical procedure or upon readmission to the same fa

2. Yes indicates the presence of a state mandate to report SSIs following gallbladder surgery to NHS No indicates that a state mandate did not exist during 2016. A blank field indicates data not available

3. The number of reporting facilities included in the SIR calculation. Refer to the Technical gallbladde statistics are only calculated for states in which at least 5 facilities reported SSI data following gallt

4. Percent of facilities with at least one predicted gallbladder surgery SSI that had an SIR significantly at least 10 facilities had at least one predicted gallbladder surgery SSI in 2016.

5. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted gallb SIR was neither calculated nor included in the distribution of facility-specific SIRs.

zed infection ratios (SIRs) and facility-specific SIR summary measures, A Acute Care Hospitals reporting during 2016

	<u>95% CI f</u>	or SIR	<u>Fac</u>	2 Toyears ility-specific SIR	<u>s</u>		
SIR	Lower	Upper				10%	25%
•			•	•			•
•				•			
0.889	0.759	1.037	61	3%	0%	0.000	0.000
0.342	0.017	1.687					
	•		•			•	
	•					•	
	•				•	•	•
	•			•	•	•	•
1.869	0.475	5.087	0				
			•	•			•
•			0	•			
			0	•	•	•	•
1.548	0.567	3.432	1				
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1.078	0.725	1.547	9				
					•		

tions (SSI) following gallbladder surgery¹ in adults, ≥ 18years

0.926	0.810	1.054	84	4%	0%	0.000	0.000
	•						
							•
							•
1.254	0.508	2.609	3	•		•	•
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fined inpatient gallbladder surgery procedures that occurred in 2016 with a primary or other than primary skir acility.

SN at the beginning of 2016. M indicates midyear implementation of a mandate.

ble.

r for information about exclusion criteria. SIRs and accompanying

bladder surgery in 2016.

y greater or less than the nominal value of the 2016 national gallbladder surgery SIR of 0.926. This is only ca

pladder surgery SSI in 2016. If a facility's predicted number of gallbladder surgery SSI was <1.0, a facility-spe

	75%	90%
0.717	1.269	2.030
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0.702	1.129	1.927

n closure technique,

Iculated if

cific

				Hospital-onset	methicillin-res	istant Star	hvlococcu	s aureus l	(MRSA) bacteremi	a. facility-wide ¹						
				No. of E		iotant otap	95% CI f		Facility-speci							
									No. of hosp with at least 1 predicted HO MRSA							
State				Observed	Predicted	SIR	Lower	Upper	bacteremia			10%	25%		75%	90%
Alaska	Yes	Yes	8	12	13.104	0.916	0.496	1.557	3							
Alabama	No		86	242	196.654	1.231	1.083	1.393	33	12%	0%	0.440	0.764	0.980	1.606	2.15
Arkansas	Yes		47	99	80.878	1.224	1.000	1.484	19	5%	0%					
Arizona	No	No	66	183	182.947	1.000	0.863	1.153	36	11%	3%	0.000	0.373	0.739	1.338	2.12
California	Yes		338	750	786.189	0.954	0.888	1.024	200	6%	4%	0.173	0.477	0.817	1.352	2.1
Colorado	No	No	50	68	94.305	0.721	0.564	0.909	24	0%	0%	0.000	0.000	0.560	0.898	1.3
Connecticut	Yes		32	97	91.126	1.064	0.868	1.293	20	5%	0%	0.000	0.000	0.772	1.291	1.8
D.C.	Yes	No	8	73	56.753	1.286	1.016	1.608	8							
Delaware			8	27	32.523	0.830	0.558	1.191	6							
Florida	No	No	198	790	705.756	1.119	1.043	1.199	151	11%	3%	0.000	0.486	0.931	1.514	2.16
Georgia	Yes		104	298	278.108	1.072	0.955	1.199	54	9%	4%	0.000	0.546	1.011	1.477	2.56
Guam	No	No	0													
Hawaii	Yes	Yes	16	15	33.562	0.447	0.260	0.721	12	0%	0%					
lowa	No	Yes	37	47	79.481	0.591	0.439	0.780	16	0%	6%					
Idaho	No	No	13	4	24.239	0.165	0.052	0.398	7							
llinois	Yes	Yes	134	211	313.855	0.672	0.586	0.768	84	2%	1%	0.000	0.000	0.597	1.000	1.53
ndiana	No	No	90	144	182.339	0.790	0.668	0.927	38	8%	5%	0.000	0.068	0.561	1.146	1.78
Kansas	No	Yes	57	38	62.373	0.609	0.437	0.828	13	0%	0%					
Kentucky	Yes	Yes	70	213	174.485	1.221	1.065	1.393	32	9%	3%	0.000	0.507	1.074	1.762	2.14
Louisiana	No	103	89	226	165.989	1.362	1.193	1.548	35	17%	0%	0.117	0.694	1.338	1.964	2.27
Massachusetts	Yes	No	69	123	207.410	0.593	0.495	0.705	40	3%	10%	0.000	0.195	0.597	0.878	1.52
			48	200	173.941	1.150	0.495	1.318	36			0.000	0.195	0.904	1.652	2.07
Maryland Maine	Yes Yes	No Yes	40	18	34.998	0.514	0.333	0.797	5	14%	3%	0.232	0.007	0.304	1.032	2.07
			97	311				1.155	56			0.125	0.510	0.792	1.438	2.47
Michigan	No	Yes			300.428	1.035	0.925			13%	2%	0.125	0.510	0.792	1.430	2.47
Minnesota	Yes	Yes	53	56	107.749	0.520	0.396	0.670	19	0%	11%					1.00
Missouri			76	192	211.228	0.909	0.787	1.045	38	8%	5%	0.000	0.503	0.807	1.290	1.86
Mississippi	Yes	Yes	60	120	104.455	1.149	0.957	1.369	21	14%	0%	0.000	0.295	1.136	1.540	2.21
Montana	No		13	3	15.216	0.197	0.050	0.537	6				· ·			
North Carolina	Yes	No	96	310	330.407	0.938	0.838	1.047	49	10%	2%	0.000	0.526	0.874	1.213	1.77
North Dakota	No	Yes	7	10	23.580	0.424	0.215	0.756	6							
Nebraska	Yes		27	35	48.755	0.718	0.508	0.987	11	0%	0%					
New Hampshire	No	No	13	21	26.832	0.783	0.497	1.176	7							
New Jersey	Yes	No	71	266	264.679	1.005	0.890	1.131	62	6%	2%	0.208	0.489	0.894	1.488	1.97
New Mexico	No	Yes	32	29	37.363	0.776	0.530	1.100	8							
Nevada	Yes	No	20	65	77.499	0.839	0.653	1.062	15	7%	0%					
New York	No	Yes	180	703	723.925	0.971	0.901	1.045	122	10%	7%	0.156	0.446	0.807	1.302	1.99
Ohio	No	Yes	137	338	395.090	0.856	0.768	0.950	76	5%	4%	0.000	0.513	0.865	1.257	1.97
Oklahoma	Yes	No	81	139	122.251	1.137	0.959	1.338	18	6%	0%					
Oregon	Yes	Yes	36	56	87.573	0.639	0.488	0.824	19	0%	0%					
Pennsylvania	Yes	Yes	167	360	444.016	0.811	0.730	0.898	92	1%	3%	0.000	0.438	0.737	1.029	1.37
Puerto Rico	No		2													
Rhode Island	No	No	11	19	26.745	0.710	0.440	1.089	5	-	Ì					
South Carolina	Yes	Yes	63	167	164.697	1.014	0.869	1.177	26	12%	0%	0.000	0.456	0.796	1.132	1.56
South Dakota	No	Yes	19	16	23.443	0.683	0.404	1.085	3	12/0	0 70	0.000	0.100	0.100		1.0
Tennessee	Yes	Yes	109	346	260.646	1.327	1.193	1.473	44	16%	5%	0.263	0.765	1.071	1.693	2.7
		105	353	632	754.059	0.838	0.775	0.905	148	3%	5% 5%	0.203	0.362	0.749	1.322	1.8
Texas	No		353	34	50.108	0.679	0.775	0.905	140		5% 0%	0.000	0.302	0.749	1.322	1.00
Jtah	Yes									0%						
/irginia	Yes	Yes	80	177	208.260	0.850	0.731	0.982	44	2%	2%	0.000	0.000	0.685	1.067	1.40

Vermont	No	Yes	6	9	12.001	0.750	0.366	1.376	2							
Washington	No		57	101	146.301	0.690	0.565	0.835	33	0%	12%	0.047	0.361	0.558	0.916	1.469
Wisconsin	No	Yes	74	55	112.266	0.490	0.373	0.633	27	4%	11%	0.000	0.000	0.286	0.656	0.900
West Virginia	Yes	Yes	30	90	79.001	1.139	0.921	1.394	16	6%	0%					
Wyoming	No	No	10	4	4.412	0.907	0.288	2.187	2							
All US			3,602	8,546	9,142.247	0.935	0.915	0.955	1,859	7%	4%	0.000	0.419	0.796	1.324	1.956

1. Note that almost all acute care hospitals are 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 2016. M indicates midyear implementation of a mandate. No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2016 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2016 NHSN data prior to October 1, 2017, and state health department contacted identified facilities. Yes A indicates that the state also conducted an audit of facility medical or laboratory records prior to October 1, 2017 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 2016.

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 2016 national hospital-onset MRSA bacteremia SIR of 0.935. This is only calculated if at least 10 facilities had at least one predicted hospital-onset MRSA bacteremia in 2016.

6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted hospital-onset MRSA bacteremia in 2016. 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.

							•		luring 2016	-						
				No. of E		nset Clost			facility-wide ¹	anacific SIDo						
State				<u>No. of E</u> Observed	Predicted	SIR	<u>95% Cl f</u> Lower	Upper	No. of hosp with at least 1 predicted HO CDI	<u>-specific SIRs</u>		10%	25%		75%	90%
Alaska	Yes	Yes	8	124	134.600	0.921	0.769	1.095	7				2070			
Alabama	No		84	1,227	1,970.036	0.623	0.589	0.658	68	3%	34%	0.000	0.421	0.637	0.897	1.29
Arkansas	Yes		47	688	868.616	0.792	0.735	0.853	41	5%	17%	0.000	0.234	0.672	0.958	1.198
Arizona	No	No	67	2.068	2.300.363	0.899	0.861	0.938	57	9%	18%	0.523	0.693	0.945	1.218	1.40
California	Yes		338	10,303	9,618.137	1.071	1.051	1.092	315	23%	10%	0.489	0.786	1.090	1.395	1.75
Colorado	Yes	No	52	1,318	1,257.714	1.048	0.993	1.106	46	13%	2%	0.537	0.783	1.084	1.334	1.75
Connecticut	Yes		32	1,091	1,082.191	1.008	0.950	1.069	31	19%	10%	0.587	0.841	1.114	1.503	1.73
D.C	М	No	7	465	416.047	1.118	1.019	1.223	7							
Delaware			8	369	350.018	1.054	0.951	1.166	8							
Florida	No	No	197	6,673	8,280.104	0.806	0.787	0.825	190	6%	25%	0.449	0.625	0.848	1.081	1.31
Georgia	Yes		104	2,647	3,007.777	0.880	0.847	0.914	90	10%	18%	0.279	0.512	0.790	1.059	1.538
Guam	No	No	0													
Hawaii	Yes	Yes	16	257	356.219	0.721	0.637	0.814	15	7%	27%					
lowa	No	Yes	39	769	928.749	0.828	0.771	0.888	34	3%	21%	0.279	0.627	0.909	1.222	1.726
Idaho	No	No	13	227	311.148	0.730	0.639	0.829	11	0%	18%					
Illinois	Yes	Yes	134	4,338	4,318.693	1.004	0.975	1.035	125	19%	13%	0.483	0.730	1.069	1.351	1.668
Indiana	No	No	89	2,045	2,296.879	0.890	0.852	0.930	78	8%	13%	0.253	0.506	0.837	1.118	1.360
Kansas	No	Yes	57	700	751.142	0.932	0.865	1.003	38	11%	5%	0.000	0.505	0.884	1.191	1.615
Kentucky	Yes	Yes	70	1.562	1,823.375	0.857	0.815	0.900	63	10%	16%	0.000	0.459	0.806	1.176	1.311
Louisiana	No		91	1,239	1,371.476	0.903	0.854	0.955	66	14%	15%	0.140	0.406	0.819	1.213	1.940
Massachusetts	Yes	No	69	2,366	2,513.585	0.941	0.904	0.980	66	14%	15%	0.500	0.756	1.074	1.246	1.647
Maryland	Yes	No	48	2,084	2,077.640	1.003	0.961	1.047	47	26%	4%	0.763	0.865	1.087	1.387	1.862
Maine	Yes	Yes	17	233	342.156	0.681	0.598	0.773	17	6%	18%					
Michigan	No	Yes	96	3,060	3,490.027	0.877	0.846	0.908	85	8%	15%	0.431	0.717	0.934	1.108	1.415
Minnesota	Yes	Yes	54	1,324	1,429.316	0.926	0.877	0.977	49	10%	14%	0.191	0.732	0.964	1.257	1.592
Missouri			75	2,194	2,333.314	0.940	0.902	0.980	68	12%	22%	0.272	0.527	0.878	1.216	1.547
Mississippi	Yes	Yes	58	827	1,148.796	0.720	0.672	0.770	48	4%	23%	0.000	0.440	0.669	1.046	1.363
Montana	No		13	203	214.426	0.947	0.823	1.084	11	27%	9%					
North Carolina	Yes	No	96	3,069	3,443.817	0.891	0.860	0.923	92	10%	20%	0.000	0.436	0.827	1.153	1.463
North Dakota	No	Yes	7	246	243.626	1.010	0.889	1.142	6							
Nebraska	Yes		27	477	535.346	0.891	0.814	0.974	22	14%	18%	0.104	0.640	0.772	1.135	1.481
New Hampshire	No	No	13	376	324.563	1.158	1.046	1.280	13	23%	8%					
New Jersey	Yes	No	71	2,666	2,852.207	0.935	0.900	0.971	71	14%	16%	0.371	0.780	0.966	1.167	1.545
New Mexico	No	Yes	34	527	493.435	1.068	0.980	1.162	29	21%	7%	0.000	0.578	0.905	1.290	1.782
Nevada	No	No	21	1,143	1,056.073	1.082	1.021	1.146	21	33%	14%	0.454	1.061	1.171	1.499	1.615
New York	Yes		181	6,897	7,495.248	0.920	0.899	0.942	172	16%	19%	0.374	0.688	0.988	1.298	1.618
Ohio	No	Yes	139	4,108	4,559.424	0.901	0.874	0.929	127	9%	13%	0.279	0.629	0.880	1.152	1.427
Oklahoma	Yes	No	83	1,090	1,223.667	0.891	0.839	0.945	57	9%	9%	0.000	0.417	0.801	1.243	1.608
Oregon	Yes	Yes	36	874	928.645	0.941	0.880	1.005	34	9%	6%	0.383	0.762	0.906	1.205	1.582
Pennsylvania	Yes	Yes	166	4,647	5,003.792	0.929	0.902	0.956	147	16%	15%	0.299	0.637	0.950	1.322	1.574
Puerto Rico	No		4													
Rhode Island	No	No	11	443	366.720	1.208	1.099	1.325	11	27%	0%					
South Carolina	Yes	Yes	63	1,376	1,720.206	0.800	0.758	0.843	58	0%	19%	0.185	0.489	0.776	1.017	1.299
South Dakota	No	Yes	19	298	308.156	0.967	0.862	1.082	10	10%	0%					
Tennessee	Yes	Yes	109	2,272	2,572.503	0.883	0.847	0.920	93	13%	20%	0.000	0.406	0.782	1.218	1.583
Texas	No		346	7,343	8,327.460	0.882	0.862	0.902	262	11%	19%	0.255	0.568	0.871	1.173	1.503
Utah	Yes		36	568	526.612	1.079	0.993	1.170	29	17%	0%	0.000	0.623	1.041	1.657	1.79
Virginia	Yes	Yes	80	2,312	2,429.869	0.951	0.913	0.991	77	14%	12%	0.206	0.576	0.908	1.185	1.452
Virgin Islands			2	_,	_,						/.					
Vermont	Yes	Yes	6	116	117.532	0.987	0.819	1.179	6				•		•	

Washington	No		57	1,824	1,720.741	1.060	1.012	1.109	53	19%	8%	0.346	0.680	0.939	1.309	1.819
Wisconsin	No	Yes	74	1,552	1,561.889	0.994	0.945	1.044	69	16%	15%	0.224	0.586	0.941	1.263	1.573
West Virginia	Yes	Yes	30	790	807.795	0.978	0.912	1.048	27	22%	11%	0.454	0.609	0.853	1.362	1.820
Wyoming	No	No	11	74	65.250	1.134	0.897	1.416	8							
All US			3,605	95,530	103,780.133	0.921	0.915	0.926	3,180	10%	20%	0.262	0.568	0.851	1.144	1.466

1. Note that almost all acute care hospitals are 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 2016. M indicates midyear implementation of a mandate.

No indicates that a state mandate did not exist during 2016. A blank field indicates data not available.

3. Yes indicates that the state health department reported the completion of all of the following validation activities: state health department had access to 2016 NHSN data, state health department performed an assessment of missing or implausible values on at least six months of 2016 NHSN data prior to October 1, 2017, and state health department contacted identified facilities. YesA indicates that the state also conducted an audit of facility medical or laboratory records prior to October 1, 2017 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 2016.

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 2016 national hospital-onset CDI SIR of 0.921. This is only calculated if at least 10 facilities had at least one predicted hospital-onset CDI in 2016.

6. Facility-specific key percentiles were only calculated if at least 20 facilities had ≥1.0 predicted hospital-onset CDI in 2016. 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 Central line-associated bloodstream infections (CLABSIs), catheter-associated urinary tract infections (CAUTIs), ventilator *Clostridium difficile* infections, and surgical site infections (SSIs) following Surgical Care Im

			Percent	Direction of Change, Based on Statistical	
	2015 SIR	2016 SIR	Change	Significance	p-value
				-	-
CLABSI, all locations ¹	0.994	0.891	-10%	Decrease	0.0000
CLABSI, ICU ²	1.000	0.931	-7%	Decrease	0.0000
CLABSI, Ward ³	0.992	0.876	-12%	Decrease	0.0000
CLABSI, NICU ^₄	0.976	0.805	-18%	Decrease	0.0000
CAUTI, all locations⁵	0.993	0.930	-6%	Decrease	0.0000
CAUTI, ICU ²	1.002	0.927	-7%	Decrease	0.0000
CAUTI, Ward ³	0.984	0.933	-5%	Decrease	0.0000
	1.000	0.979	-2%	Decrease	0.0264
ICUs ⁵	0.999	0.982	2%	No change	0.0644
Wards ⁶	1.007	0.872	-13%	Decrease	0.0145
Hospital-onset MRSA bacteremia, facility-wide ⁶	0.998	0.935	-6%	Decrease	0.0000
Hospital-onset <i>C. difficile</i> infections, facility-wide ⁶	0.993	0.921	-7%	Decrease	0.0000
SSI, combined SCIP procedures ⁷	1.000	0.936	-6%	Decrease	0.0000
SSI, Hip arthroplasty	0.998	0.962	4%	No change	0.2466
SSI, Knee arthroplasty	1.000	1.050	5%	No change	0.1566
SSI, Coronary artery bypass graft ⁸	1.004	0.936		5	0.1474
SSI, Cardiac surgery	0.995	0.779		v	0.0535
SSI, Peripheral vascular bypass surgery	1.010	0.906		Ű	0.3206
SSI, Abdominal aortic aneurysm repair	0.998	0.512		•	0.2205
SSI, Colon surgery	0.999	0.933			0.0000
SSI, Rectal surgery	0.996	0.480			0.0000
SSI, Abdominal hysterectomy	1.003	0.874	-13%		0.0000
SSI, Vaginal hysterectomy	0.999	0.846	15%	No change	0.1776

*Statistically significant, p < 0.0500

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

2. Data from all ICUs in acute care hospitals; excludes wards (and other non-critical care locations), NICUs, LTAC locations (or facilities), and IRF

3. Data from all wards (for this table wards also include step-down, mixed acuity and specialty care areas [including hematology/oncology, bone rr

4. Data from all NICU locations, including Level II/III and Level III nurseries. Both umbilical line and central line-associated bloodstream infections

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

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

7. These procedures were presented in previous versions of the HAI Progress Report and follow select inpatient surgical procedures with a primal using NHSN surgical procedure categorizations. Includes SSIs that were classified as deep incisional or organ/space, and were detected upon

8. Coronary artery bypass graft includes procedures with either chest only or chest and donor site incisions.

acute care hospitals reporting during 2016 by HAI and patient population: -associated events (VAEs), methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia, provement Project (SCIP) procedures, 2015 compared to 2016 and IRF locations (or facilities). locations (or facilities). narrow transplant] in acute care hospitals. This excludes LTAC locations (or facilities) and IRF locations (or facilities). are considered CLABSIs. acilities).

ry skin closure technique approximating the procedures covered by SCIP,

admission 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 2015 and 2016 from NHSN Acute Care Hospitals 10a. Central line-associated bloodstream infections (CLABSI), all locations ¹					
100.				Reporting to NHSN	
			Percent	Direction of Change, Based on Statistical	
State ²	2015 SIR	2016 SIR	Change	Significance	p-value
Alaska	1.091	0.866	21%	No change	0.3620
Alabama	1.407	1.121	-20%	Decrease	0.0001
Arkansas	1.095	0.995	9%	No change	0.2373
Arizona	0.849	0.763	10%	No change	0.1187
California	0.971	0.944	3%	No change	0.3160
Colorado	0.901	0.719	-20%	Decrease	0.0106
Connecticut	1.156	1.025	11%	No change	0.1640
D.C.	1.162	0.950	18%	No change	0.0532
Delaware	1.048	0.965	8%	No change	0.5754
Florida	1.096	0.905	-17%	Decrease	0.0000
Georgia	1.172	1.142	3%	No change	0.5696
Guam				Ϋ.	
Hawaii	0.324	0.525	62%	Increase	0.0275
owa	0.931	0.635	-32%	Decrease	0.0006
daho	0.642	0.394	-39%	Decrease	0.0377
llinois	0.817	0.699	-14%	Decrease	0.0029
ndiana	1.117	0.986	-12%	Decrease	0.033
Kansas	0.802	0.849	6%	No change	0.600
Kentucky	1.068	0.767	-28%	Decrease	0.0000
Louisiana	1.434	1.125	-22%	Decrease	0.000
Vassachusetts	0.753	0.764	1%	No change	0.8363
Varyland	1.121	1.104	2%	No change	0.8057
Vaine	0.804	0.925	15%	No change	0.4438
Vichigan	0.942	0.323	-17%	Decrease	0.0007
Vinnesota	0.342	0.856	10%	No change	0.2403
Viissouri	1.063	0.030	-12%	Decrease	0.2400
Vississippi	1.108	0.924	-17%	Decrease	0.0390
Vississippi Vontana	0.929	0.690	26%	No change	0.2386
North Carolina	1.063	1.035	3%	No change	0.2300
North Dakota	0.791	0.844	7%	No change	0.7350
Nebraska	1.156	0.844	-32%	Decrease	0.7350
		0.781	-32 %		
New Hampshire	1.044 1.126		0% -27%	No change	0.616
New Jersey New Mexico	1.120	0.822	-27% 5%	Decrease	0.0000
New Mexico Nevada		1.053 0.935		No change	0.693
	0.950		2%	No change	0.855
New York	1.072	0.977	-9%	Decrease	0.0049
Ohio	0.882	0.836	5%	No change	0.238
Oklahoma	0.945	0.815	14%	No change	0.0512
Dregon	0.796	0.683	14%	No change	0.1556
Pennsylvania	0.943	0.945	0%	No change	0.9574
Puerto Rico	1.006	0.891	11%	No change	0.5013
Rhode Island	1.072	1.025	4%	No change	0.7812
South Carolina	1.104	0.963	-13%	Decrease	0.0443
South Dakota	0.651	0.769	18%	No change	0.4320
Tennessee	0.903	0.779	-14%	Decrease	0.009
Texas	0.970	0.868	-10%	Decrease	0.0004
Jtah	0.819	0.836	2%	No change	0.874
/irginia	0.920	0.682	-26%	Decrease	0.000
/irgin Islands	· ·				
Vermont	1.128	0.681	40%	No change	0.0848
Washington	0.865	0.708	-18%	Decrease	0.006
Wisconsin	0.770	0.799	4%	No change	0.6414
West Virginia	0.744	0.863	16%	No change	0.1896
Nyoming	0.667	0.364	45%	No change	0.2754
All US	0.994	0.891	-10%	Decrease	0.000

* Statistically significant, p < 0.0500

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

10b. Catheter-associated urinary tract infections (CAUT), all locations ¹ All Acute Care Hospitals Reporting to NHSN 2015 SIR 2016 SIR Direction of Change, Based on Statistical Significance Percent Change Based on Statistical Significance Percent Change Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Percent Change Direction of Change, Based on Statistical Significance Directical Significance Direction of Change, B	p-value 0.3562 0.8557 0.1619 0.0002 0.7874 0.2886 0.5401 0.5934 0.5031 0.0082 0.3231 0.6396 0.0077 0.3012 0.0152 0.7725 0.3934
2015 SIR 2016 SIR Percent Change Based on Statistical Significance prescription Alaska 1.506 1.822 21% No change Alabama 0.872 0.862 1% No change Arkansas 1.126 1.014 10% No change Arizona 0.891 0.689 -23% Decrease California 1.120 1.112 1% No change Colorado 0.910 0.837 8% No change Connecticut 1.002 0.951 5% No change Dc. 1.164 1.092 6% No change Florida 0.893 0.823 -8% Decrease Georgia 1.140 1.013 -11% Decrease Guam Hawaii 0.875 0.738 16% No change Iowa 1.048 1.002 4% No change Iowa 0.885 0.827 <th>0.3562 0.8557 0.1619 0.0002 0.7874 0.2886 0.5401 0.5934 0.5031 0.0108 0.0082 0.3231 0.6396 0.0077 0.3012 0.0152 0.7725</th>	0.3562 0.8557 0.1619 0.0002 0.7874 0.2886 0.5401 0.5934 0.5031 0.0108 0.0082 0.3231 0.6396 0.0077 0.3012 0.0152 0.7725
2015 SIR 2016 SIR Percent Change Based on Statistical Significance prescription Alaska 1.506 1.822 21% No change Alabama 0.872 0.862 1% No change Arkansas 1.126 1.014 10% No change Arizona 0.891 0.689 -23% Decrease California 1.120 1.112 1% No change Colorado 0.910 0.837 8% No change Connecticut 1.002 0.951 5% No change Dc. 1.164 1.092 6% No change Florida 0.893 0.823 -8% Decrease Georgia 1.140 1.013 -11% Decrease Guam Hawaii 0.875 0.738 16% No change Iowa 1.048 1.002 4% No change Iowa 0.885 0.827 <th>0.3562 0.8557 0.1619 0.0002 0.7874 0.2886 0.5401 0.5934 0.5031 0.0108 0.0082 0.3231 0.6396 0.0077 0.3012 0.0152 0.7725</th>	0.3562 0.8557 0.1619 0.0002 0.7874 0.2886 0.5401 0.5934 0.5031 0.0108 0.0082 0.3231 0.6396 0.0077 0.3012 0.0152 0.7725
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Iowa 1.048 1.002 4% No change Idaho 0.885 0.562 -36% Decrease Illinois 0.889 0.846 5% No change Indiana 0.965 0.827 -14% Decrease Kansas 0.959 0.932 3% No change Louisiana 1.004 0.864 -14% Decrease Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Minne 1.053 1.416 34% Increase Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.6396 0.0077 0.3012 0.0152 0.7725
Idaho 0.885 0.562 -36% Decrease Illinois 0.889 0.846 5% No change Indiana 0.965 0.827 -14% Decrease Kansas 0.959 0.932 3% No change Kentucky 0.885 0.834 6% No change Louisiana 1.004 0.864 -14% Decrease Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Mine 1.053 1.416 34% Increase Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.0077 0.3012 0.0152 0.7725
Illinois 0.889 0.846 5% No change Indiana 0.965 0.827 -14% Decrease Kansas 0.959 0.932 3% No change Kentucky 0.885 0.834 6% No change Louisiana 1.004 0.864 -14% Decrease Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.3012 0.0152 0.7725
Indiana 0.965 0.827 -14% Decrease Kansas 0.959 0.932 3% No change Kentucky 0.885 0.834 6% No change Louisiana 1.004 0.864 -14% Decrease Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.0152 0.7725
Kansas 0.959 0.932 3% No change Kentucky 0.885 0.834 6% No change Louisiana 1.004 0.864 -14% Decrease Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississispipi 0.895 0.747 -17% Decrease	0.7725
Kentucky 0.885 0.834 6% No change Louisiana 1.004 0.864 -14% Decrease Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississispipi 0.895 0.747 -17% Decrease	
Louisiana 1.004 0.864 -14% Decrease Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississispipi 0.895 0.747 -17% Decrease	0.3934
Massachusetts 1.079 0.945 -12% Decrease Maryland 1.004 1.055 5% No change Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississispipi 0.895 0.747 -17% Decrease	0.0400
Maryland 1.004 1.055 5% No change Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.0132
Maine 1.053 1.416 34% Increase Michigan 1.005 0.856 -15% Decrease Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississispi 0.895 0.747 -17% Decrease	0.0159
Michigan 1.005 0.856 -15% Decrease Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.4229
Minnesota 1.048 1.084 3% No change Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.0496
Missouri 0.948 0.922 3% No change Mississippi 0.895 0.747 -17% Decrease	0.0008
Mississippi 0.895 0.747 -17% Decrease	0.6516
	0.6232
Montana 1.211 0.907 25% No change	0.0344
	0.1667
North Carolina 0.967 0.908 6% No change	0.2051
North Dakota 0.916 1.077 18% No change	0.3474
Nebraska 0.961 0.866 10% No change	0.4130
New Hampshire 0.799 1.185 48% Increase	0.0074
New Jersey 1.125 0.871 -23% Decrease	0.0000
New Mexico 1.071 1.238 16% No change	0.1876
Nevada 0.754 0.882 17% No change New York 1.156 1.101 5% No change	0.0849
	0.0992
Ohio 0.826 0.772 7% No change Oklahoma 0.962 1.009 5% No change	0.1160 0.5054
Oregon 0.944 0.890 6% No change	0.5050
Pennsylvania 1.050 0.955 -9% Decrease	0.0088
Puerto Rico 0.621 0.736 19% No change	0.2940
Rhode Island 1.353 1.150 15% No change South Carolina 1.184 0.925 -22% Decrease	0.2487
	0.0002
South Dakota 1.243 1.062 15% No change Tennessee 0.922 0.894 3% No change	0.3383
	0.5535
Texas 0.907 0.824 -9% Decrease	0.0030
Utah 1.376 1.248 9% No change	0.3461
Virginia 0.964 0.993 3% No change	0.6008
Virgin Islands	0 4500
Vermont 1.028 0.730 29% No change	0.1526
Washington 0.989 1.027 4% No change	0.5601
Wisconsin 0.960 1.032 8% No change Musch (invision 0.000 0.744 0% No change	0.3266
West Virginia 0.660 0.714 8% No change	0.4657
Wyoming 0.568 0.409 28% No change All US 0.993 0.930 -6% Decrease	0.4496

*Statistically significant, p < 0.0500

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

	10c. Ventilator-associated events (VAE), all locations ¹ All Acute Care Hospitals Reporting to NHSN					
				Direction of Change,		
	2015 SIR	2016 SIR	Percent Change	Based on Statistical Significance	p-value	
Alaska	1.273	1.281	1%	No change	0.973	
Alabama	1.275	0.926	-27%	Decrease	0.000	
Arkansas	0.369	0.781	112%	Increase	0.000	
Arizona	1.412	1.371	3%	No change	0.634	
California	0.769	0.819	7%	No change	0.087	
Colorado	1.388	1.162	-16%	Decrease	0.013	
Connecticut	1.699	1.549	9%	No change	0.253	
D.C.	•		·			
Delaware					0.000	
Florida	1.001	0.821	-18%	Decrease	0.000	
Georgia	1.055	1.092	4%	No change	0.429	
Guam	. 0.021	. 0.210		Na abanga	0 5 4 0	
Hawaii	0.231	0.319	38%	No change Decrease	0.549	
owa	2.510	1.209 1.010	-52% 12%		0.000 0.493	
daho Ilinois	1.149 0.953	1.010	12% 7%	No change No change	0.493	
	1.039	1.021	6%	°		
ndiana Kansas	1.039	1.099	0% 14%	No change No change	0.260 0.116	
	1.418	1.220	5%	No change	0.110	
Kentucky ₋ouisiana	0.723	0.639	12%	No change	0.323	
Jouisiana Massachusetts	1.450	1.520	5%	No change	0.332	
Varyland	0.917	0.800	13%	No change	0.430	
Value	1.236	1.930	56%	Increase	0.003	
Vichigan	1.207	1.330	3%	No change	0.005	
Vinnesota	1.411	1.182	16%	No change	0.093	
Viissouri	1.092	0.913	-16%	Decrease	0.000	
Vississippi	0.563	0.708	26%	No change	0.153	
Vontana	1.637					
North Carolina	1.450	1.482	2%	No change	0.692	
North Dakota				υ.		
Vebraska	1.937	1.746	10%	No change	0.297	
New Hampshire	0.774	0.696	10%	No change	0.716	
Vew Jersey	0.820	0.792	3%	No change	0.550	
New Mexico	1.920	1.690	12%	No change	0.216	
Vevada	0.739	0.539	-27%	Decrease	0.000	
New York	0.679	0.682	0%	No change	0.911	
Ohio	1.275	1.225	4%	No change	0.311	
Oklahoma	0.756	0.907	20%	Increase	0.026	
Oregon	1.022	0.998	2%	No change	0.829	
Pennsylvania	0.938	0.927	1%	No change	0.708	
Puerto Rico	0.392	1.081	176%	Increase	0.000	
Rhode Island	1.212	0.802	-34%	Decrease	0.043	
South Carolina	1.225	1.260	3%	No change	0.550	
South Dakota	1.682	1.271	24%	No change	0.294	
Fennessee	1.072	1.084	1%	No change	0.840	
Texas	0.729	0.736	1%	No change	0.824	
Jtah	1.470	1.289	12%	No change	0.622	
/irginia	0.982	1.091	11%	Increase	0.033	
/irgin Islands						
/ermont						
Vashington	0.896	0.809	10%	No change	0.343	
Visconsin	1.613	1.476	8%	No change	0.173	
Vest Virginia	0.711	0.515	-28%	Decrease	0.016	
Vyoming	0.625	1.270	103%	No change	0.234	

* Statistically significant, p < 0.0500

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

Alaska Alabama Arkansas Arizona California Colorado Connecticut D.C. Delaware Florida Georgia Guam Hawaii Iowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	2015 SIR 1.215 0.860 0.998 1.336 1.067	2016 SIR 0.262 0.678	Percent Change	Reporting to NHSN Direction of Change, Based on Statistical	
AlabamaArkansasArizonaCaliforniaColoradoConnecticutD.C.DelawareFloridaGeorgiaGuamHawaiiIowaIdahoIllinoisIndianaKansasKentuckyLouisianaMassachusettsMarylandMinnesotaMinsouriMissouriMontanaNorth CarolinaNorth Dakota	1.215 0.860 0.998 1.336	0.262 0.678	Change		
AlabamaArkansasArizonaCaliforniaColoradoConnecticutD.C.DelawareFloridaGeorgiaGuamHawaiiIowaIdahoIllinoisIndianaKansasKentuckyLouisianaMassachusettsMarylandMinnesotaMinsouriMissouriMontanaNorth CarolinaNorth Dakota	0.860 0.998 1.336	0.678		Significance	p-value
Arkansas Arizona California Colorado Connecticut D.C. Delaware Florida Georgia Guam Hawaii Iowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Massachusetts Masachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.998 1.336		-78%	Decrease	0.0018
Arizona California Colorado Connecticut D.C. Delaware Florida Georgia Guam Hawaii Iowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Massachusetts Massachusetts Massachusetts Missouri Minnesota Minnesota Minnesota Minnesota Minnesota Minnesota Minnesota Minnesota Montana North Carolina North Carolina	1.336	I	21%	No change	0.0751
California Colorado Connecticut D.C. Delaware Florida Georgia Guam Hawaii lowa Idaho Illinois Ilndiana Kansas Kentucky Louisiana Massachusetts Massachusetts Massachusetts Massana Maryland Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Carolina		0.901	10%	No change	0.5605
Colorado Connecticut D.C. Delaware Florida Georgia Guam Hawaii Iowa Idaho Illinois Ilndiana Kansas Kentucky Louisiana Massachusetts Massachusetts Massachusetts Massachusetts Missouri Minnesota Minnesota Minnesota Missouri Mississippi Montana North Carolina North Carolina	1 067	1.151	14%	No change	0.1439
Connecticut D.C. Delaware Florida Georgia Guam Hawaii Iowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.001	0.958	-10%	Decrease	0.0430
D.C. Delaware Florida Georgia Guam Hawaii Iowa Idaho Idaho Illinois Ildiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Missouri Mississippi Montana North Carolina North Dakota	1.179	0.968	18%	No change	0.1272
Delaware Florida Georgia Guam Hawaii Iowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.041	1.124	8%	No change	0.5923
Florida Georgia Guam Hawaii Iowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.570	0.955	68%	No change	0.0638
Georgia Guam Hawaii Iowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.423	1.024	28%	No change	0.1575
Guam Hawaii Iowa Idaho Idaho Idinois Indiana Kansas Kantucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.996	0.810	-19%	Decrease	0.0011
Hawaii lowa Idaho Idaho Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.252	0.992	-21%	Decrease	0.0056
lowa Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota					
Idaho Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.739	0.810	10%	No change	0.7786
Illinois Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.181	0.944	20%	No change	0.1693
Indiana Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.153	0.974	16%	No change	0.5069
Kansas Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.896	0.871	3%	No change	0.7435
Kentucky Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.990	0.927	6%	No change	0.5593
Louisiana Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.229	1.231	0%	No change	0.9933
Massachusetts Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.956	0.985	3%	No change	0.8136
Maryland Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.994	0.849	15%	No change	0.2347
Maine Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.929	0.843	9%	No change	0.4017
Michigan Minnesota Missouri Mississippi Montana North Carolina North Dakota	0.984	0.987	0%	No change	0.9775
Minnesota Missouri Mississippi Montana North Carolina North Dakota	1.332	1.266	5%	No change	0.8124
Missouri Mississippi Montana North Carolina North Dakota	0.989	0.913	8%	No change	0.3590
Mississippi Montana North Carolina North Dakota	1.012	1.043	3%	No change	0.7978
Montana North Carolina North Dakota	0.922	0.826	10%	No change	0.3316
North Carolina North Dakota	1.021	0.856	16%	No change	0.3178
North Dakota	0.564	0.932	65%	No change	0.1978
	0.823	0.802	3%	No change	0.7971
	1.159	1.726	49%	No change	0.1434
Nebraska	0.956	1.392	46%	No change	0.0515
New Hampshire	0.666	0.973	46%	No change	0.1780
New Jersey	0.754	0.739	2%	No change	0.8597
New Mexico	1.321	1.197	9%	No change	0.6754
Nevada	1.401	1.270	9%	No change	0.5615
New York	1.223	1.088	-11%	Decrease	0.0475
Ohio	0.894	0.807	10%	No change	0.1951
Oklahoma	0.902	1.076	19%	No change	0.2159
Oregon	0.586	0.698	19%	No change	0.3384
Pennsylvania	0.908	0.822	9%	No change	0.1850
Puerto Rico					
Rhode Island	1.152	1.166	1%	No change	0.9644
South Carolina	0.993	1.030	4%	No change	0.7781
South Dakota	1.633	1.165	29%	No change	0.2032
Tennessee	0.839	0.920	10%	No change	0.3839
Texas	0.962	0.892	7%	No change	0.2178
Utah	1.030	1.193	16%	No change	0.4440
Virginia	1.108	1.136	3%	No change	0.7962
Virgin Islands					
Vermont	2.024	1.903	6%	No change	0.8426
Washington	0.812	0.879	8%	No change	0.5433
Wisconsin	0.832	0.990	19%	No change	0.1747
West Virginia	1.324	1.188	10%	No change	0.5351
Wyoming All US	0.692	0.978 0.933	41% - 7%	No change Decrease	0.6118 0.0000

* Statistically significant, p < 0.0500

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-defined inpatient colon procedures with both primary ar detected during the same admission as the surgical procedure or upon readmission to the same facility.

nd other than primary skin closure technique,

_	-	NHSN Acute	e Care Hospital	s (SIRs) between 2015 an s nal hysterectomy surgery	
100.0				Reporting to NHSN	
	0045 DID	2016 SIR	Percent	Direction of Change, Based on Statistical Significance	
Alaska	2015 SIR 0.000	2010 SIK 0.000	Change ²	Significance	p-value
Alabama	1.054	0.000	31%	No change	0.1070
Arkansas	0.705	0.724	25%	No change	0.4791
Arizona	1.015	1.119	10%	No change	0.6569
California	1.055	0.854	19%	No change	0.0574
Colorado	0.999	0.995	0%	No change	0.9843
Connecticut	1.145	0.945	17%	No change	0.4842
D.C.	1.059	0.000	-100%	Decrease	0.0066
Delaware	1.949	1.804	7%	No change	0.8775
Florida	0.937	0.913	3%	No change	0.8437
Georgia	1.103	0.930	16%	No change	0.2813
Guam	1.105	0.550	1070	No change	0.2013
Hawaii	0.821	0.948	15%	No change	0.8439
lowa	0.821	0.948	15%	No change	0.6666
Idaho	0.821	0.679	210%	No change	0.0000
Illinois	0.219	0.079	13%	No change	0.3343
Indiana	1.014	0.726	13%	No change	0.4387
Kansas	0.972	0.838	-54%	Decrease	0.4233
Kentucky	0.972	1.147	-54 %	No change	0.0493
Louisiana	1.078	0.906	16%	No change	0.0840
Massachusetts	0.991	1.181	19%	No change	0.4678
Maryland	0.989	0.778	21%	No change	0.4078
Maine	1.551	0.434	72%	No change	0.0624
Michigan	1.020	0.434	13%	No change	0.0024
Minnesota	1.053	1.075	2%	°	
Minnesola Missouri	0.572	0.891	56%	No change	0.9385 0.0763
Mississippi	1.625	1.501	8%	No change No change	0.0763
Montana	1.749	0.236	-87%	Decrease	0.7402
North Carolina	0.958	0.230	-87%	No change	0.0282
North Dakota	0.995	0.790	24 %	No change	0.7811
Nebraska	2.030	1.176	42%	No change	0.7811
New Hampshire	0.501	0.143	42% 71%	°	0.0909
New Jersey	1.006	0.143	-49%	No change Decrease	0.3020
New Mexico	1.000	0.813	-49%		0.0047
Nevada	1.141	1.354	8%	No change No change	0.8402
New York		0.997	12%	°	
	1.136			No change	0.2804
Ohio Oklahoma	1.079	0.885 0.442	18% 21%	No change	0.1903
-	0.560	-		No change	0.5496
Oregon Poppsylvania	0.649	0.559 1.072	14% 20%	No change	0.7201
Pennsylvania	0.895	1.072	20%	No change	0.2234
Puerto Rico				Na shanna	
Rhode Island	0.914	1.607	76%	No change	0.2330
South Carolina	0.741	0.950	28%	No change	0.3386
South Dakota	1.292	1.734	34%	No change	0.5302
Tennessee -	1.159	1.066	8%	No change	0.6402
Texas	0.859	0.600	-30%	Decrease	0.0035
Utah	1.169	1.419	21%	No change	0.5234
Virginia	1.611	1.041	-35%	Decrease	0.0111
Virgin Islands	· ·		• • • • •		.
Vermont	0.890	2.274	156%	No change	0.2599
Washington	0.772	0.630	18%	No change	0.4984
Wisconsin	1.071	0.868	19%	No change	0.4138
West Virginia	1.236	1.647	33%	No change	0.3746
Wyoming	0.000	0.550		No change	0.6422
All US	1.003	0.874	-13%	Decrease	0.0000

* Statistically significant, p < 0.0500

1. SSIs included are those classified as deep incisional or organ/space infections following NHSN-defined inpatient abdominal hysterectomy procedures wi detected during the same admission as the surgical procedure or upon readmission to the same facility.

2. States without SIR either in 2015 and/or 2016 and therefore subsequent data not calculated. For any state with a referent SIR of 0.000, the percent chan

th a primary or other than primary skin closure technique,

ge was reflected as greater than 100 percent.

Table 10. Changes in state-specific standardized infection ratios (SIRs) between 2015 and 2016 from NHSN
Acute Care Hospitals

	set methicillin-resistant Staphylococcus aureus (MRSA) bacteremia, facility-wide ¹ All Acute Care Hospitals Reporting to NHSN						
	2015 SIR	2016 SIR	Percent Change	Direction of Change, Based on Statistical Significance	p-value		
Alaska	0.874	0.916	5%	No change	0.9188		
Alabama	1.238	1.231	-1%	No change	0.9486		
Arkansas	1.124	1.224	9%	No change	0.5548		
Arizona	1.031	1.000	-3%	No change	0.7737		
California	0.980	0.954	-3%	No change	0.5983		
Colorado	0.590	0.721	22%	No change	0.2708		
Connecticut	1.002	1.064	6%	No change	0.6773		
D.C.	0.934	1.286	38%	No change	0.0786		
Delaware	1.269	0.830	-35%	No change	0.0960		
Florida	1.247	1.119	-10%	Decrease	0.0296		
Georgia	1.266	1.072	-15%	Decrease	0.0365		
Guam							
Hawaii	0.583	0.447	-23%	No change	0.4415		
lowa	0.563	0.591	5%	No change	0.8145		
Idaho	0.476	0.165	-65%	No change	0.0683		
Illinois	0.815	0.672	-18%	Decrease	0.0370		
Indiana	0.907	0.790	-13%	No change	0.2321		
Kansas	0.941	0.609	-35%	Decrease	0.0333		
Kentucky	1.354	1.221	-10%	No change	0.2862		
Louisiana	1.366	1.362	0%	No change	0.9752		
Massachusetts	0.813	0.593	-27%	Decrease	0.0076		
Maryland	1.234	1.150	-7%	No change	0.4709		
Maine	0.447	0.514	15%	No change	0.7019		
Michigan	1.074	1.035	-4%	No change	0.6432		
Minnesota	0.486	0.520	7%	No change	0.7223		
Missouri	0.893	0.909	2%	No change	0.8667		
Mississippi	1.086	1.149	6%	No change	0.6736		
Montana	0.616	0.197	-68%	No change	0.0737		
North Carolina	0.982	0.938	-4%	No change	0.5663		
North Dakota	0.584	0.424	-27%	No change	0.4542		
Nebraska	0.963	0.718	-25%	No change	0.1964		
New Hampshire	0.780	0.783	0%	No change	0.9934		
New Jersey	1.120	1.005	-10%	No change	0.1982		
New Mexico	0.570	0.776	36%	No change	0.2900		
Nevada	0.853	0.839	-2%	No change	0.9243		
New York	1.060	0.971	-8%	No change	0.0913		
Ohio	0.972	0.856	-12%	No change	0.0904		
Oklahoma	1.285	1.137	-12%	No change	0.3027		
Oregon	0.592	0.639	8%	No change	0.6987		
Pennsylvania	0.904	0.811	-10%	No change	0.1372		
Puerto Rico							
Rhode Island	0.584	0.710	22%	No change	0.5566		
South Carolina	1.217	1.014	-17%	No change	0.0878		
South Dakota	0.368	0.683	86%	No change	0.1393		
Tennessee -	1.240	1.327	7%	No change	0.3783		
Texas	0.911	0.838	-8%	No change	0.1391		
Utah	0.675	0.679	1%	No change	0.9843		
Virginia Virginia Islanda	0.837	0.850	2%	No change	0.9518		
Virgin Islands							
Vermont	1.122	0.750	-33%	No change	0.3608		
Washington	0.647	0.690	7%	No change	0.6588		
Wisconsin	0.510	0.490	-4%	No change	0.8338		
West Virginia	1.139	1.139	0%	No change	0.9981		
Wyoming All US	0.249	0.907 0.935	264% 6%	No change Decrease	0.2576 0.0000		

* Statistically significant, p < 0.0500

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

NHSN Acute Care Hospitals 10g. Hospital-onset <i>Clostridium difficile</i> infection (CDI), facility-wide ¹ All Acute Care Hospitals Reporting to NHSN					
		All Acute	Care Hospitals	Reporting to NHSN	
	2015 SIR	2016 SIR	Percent Change	Direction of Change, Based on Statistical Significance	p-value
Alaska	0.881	0.921	5%	No Change	0.7430
Alabama	0.666	0.623	7%	No Change	0.0910
Arkansas	0.713	0.792	11%	No Change	0.0560
Arizona	0.984	0.899	-9%	Decrease	0.0030
California	1.161	1.071	-8%	Decrease	0.0000
Colorado	1.099	1.048	5%	No Change	0.2220
Connecticut	1.186	1.008	-15%	Decrease	0.0000
D.C.	1.055	1.118	6%	No Change	0.3930
Delaware	1.132	1.054	7%	No Change	0.3250
Florida	0.940	0.806	-14%	Decrease	0.0000
Georgia	0.968	0.880	-9%	Decrease	0.0000
Guam					
Hawaii	0.753	0.721	4%	No Change	0.6220
Iowa	0.859	0.828	4%	No Change	0.4710
Idaho	0.852	0.730	14%	No Change	0.0940
Illinois	1.006	1.004	0%	No Change	0.9620
Indiana	1.009	0.890	-12%	Decrease	0.0000
Kansas	0.901	0.932	3%	No Change	0.5280
Kentucky	1.054	0.857	-19%	Decrease	0.0000
Louisiana	0.893	0.903	1%	No Change	0.7650
Massachusetts	1.064	0.941	-12%	Decrease	0.0000
Maryland	1.125	1.003	-11%	Decrease	0.0000
Maine	0.691	0.681	1%	No Change	0.8750
Michigan	0.915	0.877	4%	No Change	0.0860
Minnesota	0.940	0.926	2%	No Change	0.7020
Missouri	0.977	0.940	4%	No Change	0.2080
Mississippi	0.689	0.720	5%	No Change	0.3840
Montana	0.912	0.947	4%	No Change	0.7070
North Carolina	0.918	0.891	3%	No Change	0.2520
North Dakota	1.071	1.010	6%	No Change	0.5120
Nebraska	0.837	0.891	7%	No Change	0.3590
New Hampshire	1.070	1.158	8%	No Change	0.2980
New Jersey	1.055	0.935	-11%	Decrease	0.0000
New Mexico	1.329	1.068	-20%	Decrease	0.0000
Nevada	1.120	1.082	3%	No Change	0.4200
New York	1.000	0.920	-8%	Decrease	0.0000
Ohio	0.941	0.901	-4%	Decrease	0.0490
Oklahoma	1.007	0.891	-12%	Decrease	0.0030
Oregon	1.006	0.941	7%	No Change	0.1640
Pennsylvania	1.031	0.929	-10%	Decrease	0.0000
Puerto Rico					
Rhode Island	1.185	1.208	2%	No Change	0.7710
South Carolina	0.949	0.800	-16%	Decrease	0.0000
South Dakota	0.932	0.967	4%	No Change	0.6570
Tennessee	0.964	0.883	-8%	Decrease	0.0030
Texas	0.927	0.882	-5%	Decrease	0.0020
Utah	1.054	1.079	2%	No Change	0.7080
Virginia	1.055	0.951	-10%	Decrease	0.0000
Virgin Islands		5.001		200.0000	2.0000
Vermont	1.131	0.987	13%	No Change	0.2850
Washington	1.121	1.060	5%	No Change	0.0860
Wisconsin	1.031	0.994	4%	No Change	0.3030
West Virginia	1.080	0.978	-9%	Decrease	0.0480
Wyoming	1.134	1.134	-9%	No Change	1.0000
All US	0.993	0.921	- 7%	Decrease	0.0000

* Statistically significant, p < 0.0500

Hospital-onset is defined as event detected on the 4th day (or later) after admission to an inpatient location within the facility.
 States without SIR either in 2015 and/or 2016 and therefore subsequent data not calculated

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

HAI Type	Validated Parameters for Risk Model
MRSA bacteremia	Intercept Inpatient CO admission prevalence rate* Average length of stay** Medical school affiliation [‡] Facility type Number of ICU beds [‡] Outpatient CO prevalence rate
C. difficile	Intercept Inpatient CO admission prevalence rate* CDI test type ⁺ Medical school affiliation [‡] Number of ICU beds [‡] Facility type Bed size [‡] Bed 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 (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.

n/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf
events, divided by total

tient days / total # of annual admissions. Survey. Appendix C. List of NHSN procedures included in this report Admission/Re-admission SSI Logistic Regression Model¹, *I*

NHSN Procedure Code	NHSN Procedure	
ААА	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	
LAM	Laminectomy	
КТР	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 \geq 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		
diabetes, ASA, hospital bed size*, BMI		
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 <u>></u> 2	Craniotomy	
CRAN, age <2‡		
CSEC	Cesarean delivery	
FUSN, age <u>></u> 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 ϵ

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

port with predictive risk factors from the NHSN ion Model¹, 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
Trauma
Trauma

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

Iculation (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 Model¹ for adults, ≥ 18 years of age

SCIP Procedure	NHSN Procedure	Validated Parameters for Risk Model	
	Abdominal aortic aneurysm repair		
Vascular	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	and emergency, medical school affiliation*, age, procedure duration,	
	Coronary artery bypass graft with chest incision only	ВМІ	
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 (2015 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.