STATE OF NEW HAMPSHIRE
DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH SERVICES

Jeffrey A. Meyers
Commissioner

Lisa M. Morris
Director

29 HAZEN DRIVE, CONCORD, NH 03301
603-271-4501 1-800-852-3345 Ext. 4501
Fax: 603-271-4827 TDD Access: 1-800-735-2964
www.dhhs.nh.gov

September 27, 2019

The Honorable Lucy Weber, Chairperson
Health and Human Services Oversight Committee
Legislative Office Building, Room 205
107 North Main Street
Concord, NH 03301

Dear Representative Weber:

This letter is to inform you that the New Hampshire Division of Public Health Services has released healthcare-associated infections (HAI) reports for hospitals and Ambulatory Surgery Centers (ASC) in accordance with RSA 151:34. These reports are available to the public on our website (http://www.dhhs.nh.gov/dphs/cdcs/hai/publications.htm) and the Division issued a press release highlighting key findings, September 30, 2019.

The hospital 2018 report shows that overall, New Hampshire had more HAIs than are predicted based on national data, however these data were not statistically significant. A total of 196 HAI were reported by hospitals in 2018, compared to 183 in 2017. The overall observed number of HAIs in New Hampshire hospitals was 4% higher than predicted based on national data; there were 27% fewer central line-associated bloodstream infections, 16% higher catheter-associated urinary tract infections, and 7% more surgical site infections. Statewide adherence to four infection prevention practices during central line insertions was 98.3% (a slight decrease from 2017) and the overall healthcare personnel influenza vaccination rate was 94%, which exceeds the Healthy People 2020 goal of 90%.

The ambulatory surgery center 2018 report shows that New Hampshire ASCs have a lower number of HAIs to what was predicted based on national data. Only one surgical site infections was reported by ASCs for 2018, compared to three for 2017. The overall observed number of surgical site infections in New Hampshire ASCs was 84% fewer than predicted based on national data; this difference is significant and is considered lower compared to national data. Statewide ASC adherence to intravenous antibiotic prophylaxis timing guidelines to prevent surgical site infection was 98.5% (higher than the adherence rate seen in 2017) and the overall healthcare personnel influenza vaccination rate was 83.6% (compared with 81.5% during the 2017-18 influenza season).

Per RSA 151:34, IV, the Department is also required to report on HAI program costs to the Health and Human Services Committee and the House and Senate Ways and Means Committee, regarding the amount of federal funding received for the program, and the amount of fees paid by hospitals and ambulatory surgical centers to support the program. The approved HAI Program operating budget for SFY 2019 was $248,486. No fees for State Fiscal Year 2019 were assessed due to receipt of federal funding that fully covered program operating costs. In addition, the HAI Program received additional federal funds to support non-HAI reporting activities such as high threat infectious disease preparedness and antimicrobial resistance initiatives.

The Department continues to work with hospitals and ASCs to collect and report these important data on HAIs and respond timely and effectively to infectious disease threats to assure the health of the citizens of New Hampshire. Thank you for your commitment to this issue. If you have any questions or concerns, please contact me at (603) 271-0895.

Sincerely,

Lisa Morris, MSSW
Director, Division of Public Health Services
NH Department of Health and Human Services

EXECUTIVE SUMMARY

A healthcare-associated infection (HAI) is an infection that a patient acquires during the course of receiving treatment for another condition within a healthcare setting. An estimated 722,000 HAI and 75,000 associated deaths occurred in United States (U.S.) acute care hospitals in 2011.[i] During the 2006 legislative season, the New Hampshire (NH) Legislature passed a bill creating NH Revised Statutes Annotated (RSA) 151:32-35, which requires hospitals to identify, track, and report selected HAI to the NH Department of Health and Human Services (DHHS). All 26 of NH's acute care hospitals began reporting data to DHHS on two infections and three process measures in January 2009, and eight specialty hospitals reported influenza vaccination coverage. This report represents the tenth summary of HAI-related data reported by hospitals in NH.

Healthcare-Associated Infections in New Hampshire Hospitals

There were more infections than predicted in NH based on national data, however these data were not statistically significant. A total of 196 HAI were reported, representing 133 surgical site infections (SSI), 20 central line-associated bloodstream infections (CLABSI), and 43 catheter-associated urinary tract infections (CAUTI). The observed number of HAI in NH hospitals was 4% higher than predicted based on national data. There were 27% fewer CLABSI, 16% more CAUTI, and 7% more SSI than predicted. Seventeen hospitals had sufficiently robust data[1] to present hospital-specific data for overall HAI. Two hospitals observed a lower number of infections as predicted, one hospital observed a higher number of infections, and fourteen hospitals observed similar infections based on national data. The total number of infections increased in 2018 when compared to 2017; however, this difference was not statistically significant.

Central Line-Associated Bloodstream Infections

Nineteen hospitals[2] with intensive care units (ICU) reported CLABSI data from their ICU. Data were robust enough for 16 hospitals to present data for 20 individual ICU in this report. All 20 ICU experienced similar rates of CLABSI when compared with national data. The total number of CLABSI reported decreased in 2018 compared to 2017; however, this difference was not statistically significant.

Central Line Insertion Practices

The hospitals[2] with ICU reported information on central line insertion practices (CLIP) for central lines inserted in their ICU. Statewide adherence to the four infection prevention practices during central line insertions was 98.3%. Compared with attending physicians, intern/residents less frequently adhered to the four infection prevention practices during central line insertions (98.2% versus 95.6%). Data were sufficiently robust for 11 hospitals to present hospital-specific data in this report. All eleven hospitals reported CLIP adherence percentages that were similar to the State percentage. In 2018, the statewide adherence percentage for CLIP decreased from 2017; however, this decrease was not statistically significant. Of the 11 hospitals for which

[1] Data are not shown for facilities with less than one predicted infection, fewer than 50 central lines or catheter days, and fewer than 20 central line insertions performed.

[2] Of the 34 hospitals licensed in 2018, only 21 hospitals had ICU in which to monitor CAUTI, CLABSI, and CLIP.

availability of data allowed a comparison between the two years, 10 hospitals' CLIP adherence was similar and one hospital was lower in 2018 compared to 2017.

Catheter-Associated Urinary Tract Infections

Data were sufficiently robust enough for 19 hospitals to present CAUTI data for 23 individual ICU in this report. All twenty-two ICU experienced similar rates of CAUTI and one medical ICU was lower in comparison with national rates. The total number of CAUTI reported in 2018 was lower when compared to 2017; however, this decrease was not statistically significant.

Surgical Site Infections

Twenty-four[3] acute care hospitals reported SSI data for four surgical procedures.

- Coronary Artery Bypass Graft (CABG) procedures: Four acute care hospitals performed CABG, and data were sufficiently robust for three hospitals to present hospital-specific data in this report. All three hospitals reported a similar number of CABG procedure-associated SSI compared with national data. Overall, there were lower number of CABG SSI than predicted based on national data.
- Colon (COLO) procedures: Twenty-two acute care hospitals performed the procedure, and data were sufficiently robust for 13 hospitals to present hospital-specific data in this report. Twelve hospitals reported a similar number of colon procedure-associated SSI, and one hospital reported a lower number of colon procedures when compared to national data. Overall, there were a similar number of colon procedure-associated SSI as predicted based on national data.
- Abdominal Hysterectomy (HYST) procedures: Twenty-two acute care hospitals performed the procedure, and data were sufficiently robust for four hospitals to present hospital-specific data in this report. All four hospitals reported a similar number of abdominal hysterectomy procedure-associated SSI compared with national data. Overall, there were a similar number of abdominal hysterectomy procedure-associated SSI as predicted based on national data.
- Knee Arthroplasty (KPRO) procedures: Twenty-four acute care hospitals performed the procedure, and data were sufficiently robust for 9 hospitals to present hospital-specific data in this report. Eight hospitals reported a similar number of knee arthroplasty procedure-associated SSI, and one hospital had a higher number when compared with national data. Overall, there were similar knee arthroplasty-related SSI than predicted based on national data.

Surgical Antimicrobial Prophylaxis Administration

Surgical antimicrobial prophylaxis data is reported to the Centers for Medicare and Medicaid Services (CMS) through the Surgical Care Improvement Project (SCIP). In previous years, DHHS accessed these data and presented it in this report. At the time of this report's publication, 2014-2018 data was unavailable and consequently is not included in this report.

[3] Of the 33 hospitals licensed in 2018, only 26 hospitals performed procedures in which to monitor SSI.

Influenza Vaccination Coverage in Hospital Healthcare Personnel

All 33 acute care, psychiatric, and rehabilitation hospitals reported healthcare personnel (HCP) influenza vaccination percentages. Vaccination coverage by hospital ranged from 65.9% to 99.6%, and the hospital State percentage was 94.0%. Ten hospitals had vaccination percentages similar to the overall State vaccination percentage, thirteen hospitals reported vaccination percentages that were significantly higher than the overall State vaccination percentage, and ten hospitals reported vaccination percentages that were significantly lower than the overall State vaccination percentage. The statewide hospital HCP vaccination percentage increased from the 2017-18 influenza season (93.3%) to the 2018-19 influenza season (94.0%); this was statistically significant. Specifically, five hospitals increased HCP influenza vaccination coverage in 2018-19 compared to the 2017-18 influenza season, 24 hospitals had similar vaccination coverage, and four hospitals decreased vaccination coverage.

Conclusion

This tenth report of hospital HAI data displays continuous progress toward the goal of eliminating HAI in NH. This report provides a picture of selected HAI data, which can be used by healthcare facilities in the state to identify areas for improvement and prevention as well as healthcare consumers to make informed healthcare decisions.

Table 1. Statewide standardized infection ratios, Jan 1–Dec 31, 2018

	Observed Infections	Predicted Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Predicted Number of Infections
Overall HAI SIR	196	188.89	1.04	0.90 , 1.19	Similar
	The overall observed number of HAI in New Hampshire hospitals was 4% more than predicted based on national data. This difference is not statistically significant, which means the overall number of HAI in the state is SIMILAR than the number seen nationally.				
CLABSI SIR	20	27.38	0.73	0.46 , 1.11	Similar
	The overall observed number of CLABSI in New Hampshire hospitals was 27% fewer than predicted based on national data. This difference is not statistically significant, which means the overall number of CLABSI in the state is SIMILAR than the number seen nationally.				
CAUTI SIR	43	36.98	1.16	0.85 , 1.55	Similar
	The overall observed number of CAUTI in New Hampshire hospitals was 16% higher than predicted based on national data. This difference is not statistically significant, which means the overall number of CAUTI in the state is SIMILAR to the number seen nationally.				
Overall SSI SIR	133	124.53	1.07	0.90 , 1.26	Similar
	The overall observed number of SSI in New Hampshire hospitals was 7% more than predicted based on national data. This difference is not statistically significant, which means the overall number of SSI in the state is SIMILAR than the number seen nationally.				
CABG SIR	11	12.12	0.91	0.48 , 1.58	Similar
	The overall observed number of CABG infections in New Hampshire hospitals was 9% fewer than predicted based on national data. This difference is not statistically significant, which means the overall number of CABG infections in the state is SIMAR than the number seen nationally.				
COLO SIR	74	73.01	1.01	0.80 , 1.27	Similar
	The overall observed number of COLO infections in New Hampshire hospitals was 1% higher than predicted based on national data. This difference is not statistically significant, which means the overall number of COLO infections in the state is SIMILAR to the number seen nationally.				
HYST SIR	15	14.17	1.06	0.62 , 1.71	Similar
	The overall observed number of HYST infections in New Hampshire hospitals was 6% more than predicted based on national data. This difference is not statistically significant, which means the overall number of HYST infections in the state is SIMILAR to the number seen nationally.				
KPRO SIR	33	24.32	1.36	0.95 , 1.88	Similar
	The overall observed number of KPRO infections in New Hampshire hospitals was 36% more than predicted based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in the state is SIMILAR to the number seen nationally.				

HAI: Healthcare-associated infection, CLABSI: Central line-associated blood stream infections, CAUTI: Catheter-associated urinary tract infections, SSI: Surgical site infections, CABG: Surgical site infections associated with coronary artery bypass graft procedures, COLO: Surgical site infections associated with colon procedures, HYST: Surgical site infections associated with abdominal hysterectomy procedures, KPRO: Surgical site infections associated with knee arthroplasty procedures

EXECUTIVE SUMMARY

A healthcare-associated infection (HAI) is an infection that a patient acquires during the course of receiving treatment for another condition within a healthcare setting. An estimated 722,000 HAI and 75,000 associated deaths occurred in United States (U.S.) acute care hospitals in 2011.[1] During the 2011 legislative season, the New Hampshire (NH) Legislature passed a bill amending NH Revised Statutes Annotated (RSA) 151:32-35, requiring ambulatory surgery centers (ASC) to identify, track, and report selected HAI to the NH Department of Health and Human Services (DHHS). All licensed ASC began reporting data to DHHS on one infection and two process measures in July 2011. All facilities reported in accordance to (RSA) 151:32-35. This report represents the seventh summary of HAI-related data reported by ASC in NH.

Healthcare-Associated Infections in New Hampshire Ambulatory Surgery Centers

All ambulatory surgical centers reported accordance to RSA 151:32-35. There was a similar number of infections in NH as predicted based on national data. The 14 ASC that were licensed for the full 2018 calendar year reported one surgical site infection (SSI), which was 84% fewer than predicted based on national data. One ASC, which had sufficiently robust data to present ASC-specific standardized infection ratios (SIR) for SSI, reported SIR similar to predicted based on national data. Thirteen ASC with sufficiently robust data to present procedure-specific rate data had a similar rate as predicted based on national data.

Surgical Site Infections

Thirteen ASC reported SSI data for three surgical procedures.

- Breast Procedures (BRST): Eight ASC performed breast procedures; none had sufficiently robust data[1] to present a facility-specific SIR for SSI following breast procedures. Overall, one SSI following breast procedures was reported, a number considered similar to the predicted number of infections based on national data.
- Hernia Procedures (HER): Seven ASC performed hernia procedures; none had sufficiently robust data to present a SIR. No SSI following hernia procedures were reported. Overall, SSI rates were similar to national data.
- Open Reduction of Fracture Procedures (FX): Ten ASC performed open reduction of fracture procedures; none had sufficiently robust data to present a SIR. No SSI following open reduction of fracture procedures were reported. Overall, SSI rates were similar to national data.

Surgical Intravenous Antimicrobial Prophylaxis Administration

Eighteen ASC that administer intravenous (IV) surgical antimicrobial prophylaxis were licensed for the entire 2018 calendar year and therefore required to report IV surgical antimicrobial prophylaxis timing administration data. This prophylaxis was provided within the appropriate

[1] Data are not shown for facilities with less than one predicted infection or fewer than 20 procedures performed.

timeframe for 98.5% of reported orders. Four ASC observed lower adherence, four ASC observed higher adherence, and seven observed similar adherence compared to the State adherence percentage.

Influenza Vaccination Coverage in Ambulatory Surgery Center Healthcare Personnel

Twenty-nine ASC licensed at any point during the 2018-19 influenza season were required to report healthcare personnel (HCP) influenza vaccination percentages. Vaccination coverage by ASC ranged from 20.3% to 100%, and the overall State percentage among ASC was 83.8%. Five ASC reported vaccination percentages that were significantly lower than the overall State ASC vaccination percentage, ten ASC reported vaccination percentages that were significantly higher than the overall State ASC vaccination percentage, fourteen ASC reported vaccination percentages similar to the overall State ASC vaccination percentage.

Conclusion

This seventh report of NH ASC HAI data is an important part of continuing progress toward the goal of eliminating HAI in NH. This report provides selected HAI data that can be used by healthcare facilities in the state to identify areas for improvement as well as by healthcare consumers to make informed healthcare decisions.

based on national data. Looking individually at the specific procedures, there were 73% fewer breast infections, 100% fewer hernia infections, and 100% fewer than predicted open reduction of fracture infections; however, the differences for all of these were not statistically significant and the number of infections observed is considered similar to national data.

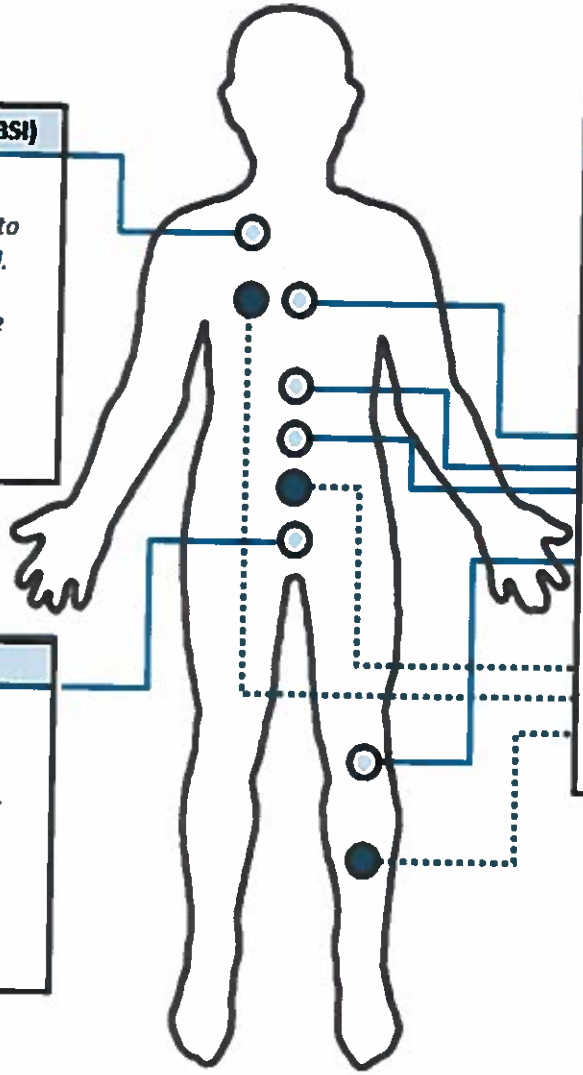
The analysis presented in Table 2 shows that the one ASC with sufficiently robust data observed a similar number of infections as predicted. For breast, hernia and open reduction of fracture procedures (Tables 3, 4 and 5), none of the ASC had sufficiently robust data to display the SIR.

Table 1. Statewide ambulatory surgery center standardized infection ratios, Jan 1–Dec 31, 2018

	Observed Infections	Predicted Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Predicted Number of Infections
Overall SSI SIR	1	6.10	0.16	0.01 , 0.81	Lower
	The overall observed number of SSI in New Hampshire ASC was 84% fewer than predicted based on national data. This difference is not statistically significant, which means the overall number of SSI in the state is LOWER to the number seen nationally.				
BRST SIR	1	3.76	0.27	- , 1.48	Similar
	The overall observed number of BRST infections in New Hampshire ASC was 73% fewer than predicted based on national data. This difference is not statistically significant, which means the overall number of BRST infections in the state is SIMILAR to the number seen nationally.				
HER SIR	0	1.18	0.00	- , 3.10	Similar
	The overall observed number of HER infections in New Hampshire ASC was 100% fewer than predicted based on national data. This difference is not statistically significant, which means the overall number of HER infections in the state is SIMILAR to the number seen nationally.				
FX SIR	0	1.16	0.00	- , 3.17	Similar
	The overall observed number of FX infections in New Hampshire ASC was 100% fewer than predicated based on national data. This difference is not statistically significant, which means the overall number of FX infections in the state is SIMILAR to the number seen nationally.				

HAI: Healthcare-associated infection
SSI: Surgical site infections
BRST: Surgical site infections associated with breast procedures
HER: Surgical site infections associated with hernia procedures
FX: Surgical site infections associated with open reduction of fracture procedures

Figure 1. Types of healthcare-associated infections reported to NH Department of Health and Human Services



Central Line-Associated Bloodstream Infections (CLABSI)

When a tube is placed in a large vein and not put in correctly or kept clean, it can become a way for germs to enter the body and cause deadly infections in the blood.

New Hampshire tracks CLABSI in hospital intensive care units (ICU), specifically:

- *Neonatal ICU*
- *Pediatric ICU*
- *Adult ICU*

Catheter-Associated Urinary Tract Infections (CAUTI)

When a urinary catheter is not put in correctly, not kept clean, or left in a patient for too long, germs can travel through the catheter and infect the bladder and kidneys.

New Hampshire tracks CAUTI in hospital intensive care units (ICU), specifically:

- *Pediatric ICU*
- *Adult ICU*

Surgical Site Infections (SSI)

When germs get into an area where surgery is or was performed, patients can get a surgical site infection. Sometimes these infections involve only the skin. Other SSIs can involve tissues under the skin, organs, or implanted material.

New Hampshire tracks SSI in hospitals following:

- *Coronary artery bypass procedures*
- *Colon procedures*
- *Abdominal hysterectomy procedures*
- *Knee replacement procedures*

New Hampshire tracks SSI in ambulatory surgery centers (ASC) following:

- *Hernia procedures*
- *Breast procedures*
- *Open reduction of fracture procedures*