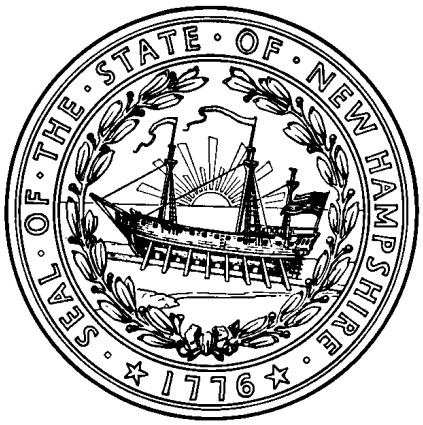


State of New Hampshire
HEALTHCARE-ASSOCIATED INFECTIONS
2010 REPORT

Prepared by

New Hampshire Department of Health and Human Services
Division of Public Health Services
Infectious Disease Surveillance Section

August 1st, 2011

TABLE OF CONTENTS

LIST OF DATA TABLES

LIST OF FIGURES

INDIVIDUAL HOSPITAL REPORTS

ABBREVIATIONS USED IN THIS DOCUMENT

ASA Score	American Society of Anesthesiologists (ASA) Classification of Physical Status, a scale used by an anesthesiologist to classify the patient's physical condition prior to surgery
ASC	Ambulatory surgical center
CABG	Coronary Artery Bypass Graft procedure
CAUTI	Catheter-associated urinary tract infection
CBGB	NHSN operative code for coronary artery bypass graft procedures with both a chest and donor site incision
CBGC	NHSN operative code for coronary artery bypass graft procedures with chest incision site only
CDC	U.S. Centers for Disease Control and Prevention
CLABSI	Central line–associated bloodstream infection
CLIP	Central line insertion practices
CMS	Centers for Medicare and Medicaid Services
COLO	NHSN operative code for colon procedures
CSTE	Council of State and Territorial Epidemiologists
DHHS	New Hampshire Department of Health and Human Services
DHMC	Dartmouth Hitchcock Medical Center (Mary Hitchcock Memorial Hospital)
HAI	Healthcare-associated infection
HICPAC	Healthcare Infection Control Practices Advisory Committee
HHS	U.S. Department of Health and Human Services
ICU	Intensive care unit
IV	Intravenous
KPRO	NHSN operative code for knee arthroplasty procedures
NH	New Hampshire
NHSN	National Healthcare Safety Network
SAP	Surgical antimicrobial prophylaxis
SCIP	Surgical Care Improvement Project
SIR	Standardized infection ratio
SSI	Surgical site infection
TAW	Healthcare-Associated Infections Technical Advisory Workgroup
VAP	Ventilator-associated pneumonia

A note about hospital names used in tables and figures in this report:

In order to increase readability of tables and figures, hospital names have been provided in an abbreviated format. In all tables and figures, DHMC refers to Dartmouth-Hitchcock Medical Center (Mary Hitchcock Memorial Hospital).

CONTRIBUTORS AND ACKNOWLEDGEMENTS

The following individuals contributed to analysis of data and other content provided in this report:

Christine Adamski, MS, Chief, Bureau of Infectious Disease Control

Sharon Alroy-Preis, MD, MPH, State Epidemiologist

Steffany J. Cavallo, MPH, CPH, CDC/CSTE Applied Epidemiology Fellow

Elizabeth R. Daly, MPH, Chief, Infectious Disease Surveillance Section

Jodie Dionne-Odom, MD, Deputy State Epidemiologist

Katrina E. Hansen, MPH, HAI Program Coordinator

Tylor Young, GIS Analyst, Infectious Disease Surveillance Section

The HAI Program would also like to thank the Infection Prevention, Quality, and Information Technology staff at New Hampshire hospitals for collaborating to provide the data presented in this report. Finally, the HAI Program acknowledges the review, comments, input, and other program contributions provided by the members of the HAI Technical Advisory Workgroup as listed on page 12.

For questions about this report, please contact:

NH Healthcare-Associated Infections Program

Infectious Disease Surveillance Section

Division of Public Health Services

NH Department of Health and Human Services

29 Hazen Drive, Concord, NH 03301-6504

Phone: (603) 271-4496

Email: haiprogram@dhhs.state.nh.us

Website: http://www.dhhs.nh.gov/dphs/cdcs/hai/index.htm

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. HAIs cause an estimated 1.7 million infections and 99,000 deaths each year in the United States, resulting in over $30 billion in excess healthcare costs. During the 2006 legislative season, the New Hampshire Legislature passed a bill creating NH RSA 151:32-35, which requires hospitals to identify, track, and report selected HAIs to the New Hampshire Department of Health and Human Services (DHHS). All 26 acute care hospitals began reporting data to DHHS on two infections and three process measures in January 2009, and five specialty hospitals reported influenza vaccination rates. This report represents the second summary of HAI-related data reported by hospitals in New Hampshire.

Healthcare-Associated Infections

Overall, statewide infection rates were lower than expected based on national data (2006–2008 National Healthcare Safety Network data). A total of 114 HAIs were reported, representing 94 surgical site infections and 20 central line–associated bloodstream infections. The overall observed number of HAIs in New Hampshire hospitals was 39% fewer than expected based on national data. There were 55% fewer central line–associated bloodstream infections and 35% fewer surgical site infections. Twenty-one hospitals had robust enough data to present hospital-specific data in this report. Of these 21, five hospitals had an overall number of infections that was lower than expected based on national data. The remaining 15 all observed a similar number of infections as were expected based on national data, and one hospital observed more infections than was expected. While the total number of infections reported decreased in 2010 compared to 2009, this difference was not statistically significant.

Central Line–Associated Bloodstream Infections

Twenty-five hospitals reported central line–associated bloodstream infections data from intensive care units (ICUs) (one hospital did not have an intensive care unit). Data were robust enough for 19 hospitals to present hospital-specific data in this report. Eighteen hospitals experienced rates of central line–associated bloodstream infections that were similar to national rates and one experienced rates that were less than the national rate. While the total number of infections reported decreased in 2010 compared to 2009, this difference was not statistically significant.

Central Line Insertion Practices

Twenty-three hospitals reported information on central line insertion practices for central lines inserted in ICUs (one hospital did not have an intensive care unit and two hospitals did not place any central lines in the intensive care unit). Overall, statewide adherence to all four infection-prevention practices during central line insertions was 96.8%. Intravenous (IV) Teams more frequently adhered to all four infection-prevention practices during central line insertions (99.8%). Data were robust enough for 12 hospitals to present hospital-specific data in this report. Ten hospitals reported central line insertion practices adherence rates that were similar to the State average, none of the hospitals reported an adherence rate that was lower than the State average, and two hospitals reported adherence rates that were higher than the State average. In 2010, the statewide adherence percentage for CLIP increased significantly from 2009. Specifically, CLIP adherence increased for insertions performed by physicians (96.1%) and fellows (93.8%). Physician and fellow CLIP adherence in 2009 was 92.8 and 83.6, respectively. Furthermore, two hospitals increased CLIP adherence in 2010 compared to 2009 and none of the hospitals decreased CLIP adherence.

Surgical Site Infections

Twenty-six hospitals reported surgical site infections data for three surgical procedures.

- Coronary Artery Bypass Surgery (CABG): Four hospitals performed CABG. Two hospitals reported CABG surgical site infection rates that were similar to national data and two hospitals reported rates that were lower than expected based on national data.
- Colon Procedures: 26 hospitals performed the procedure, and data were robust enough for 16 hospitals to present hospital-specific data in this report. Twelve hospitals reported colon procedure-associated surgical site infection rates that were similar to national data and five hospitals reported rates that were lower than expected based on national data.
- Knee Arthroplasty: 26 hospitals performed the procedure and data were robust enough for 11 hospitals to present hospital-specific data in this report. Eleven hospitals reported knee arthroplasty–associated surgical site infection rates that were similar to national data and one hospital reported rates that were lower than expected based on national data. While the total number of infections reported decreased in 2010 compared to 2009, this difference was not statistically significant.

Surgical Antimicrobial Prophylaxis Administration

All 26 acute care hospitals reported surgical antimicrobial prophylaxis data and other measures to the Centers for Medicare and Medicaid Services (CMS) through the Surgical Care Improvement Project (SCIP). Overall, New Hampshire hospitals performed surgical antimicrobial prophylaxis appropriately more often than the national average. For SCIP measure 1, 97.6% of patients in New Hampshire received prophylactic antibiotic within one hour prior to surgery compared with 97.3% nationally. For SCIP measure 2, 98.3% of patients in New Hampshire received the appropriate prophylactic antibiotic compared with 97.8% nationally. For SCIP measure 3, 97.2% of patients in New Hampshire had his or her prophylactic antibiotic discontinued within 24 hours after surgery compared with 95.7% nationally. In 2010 the statewide adherences to SCIP-1 and SCIP-2 were similar to 2009 and adherence to SCIP-3 was higher than in 2009.

Influenza Vaccination Rates in Hospital Staff

All 31 acute care, psychiatric, and rehabilitation hospitals reported staff influenza vaccination rates. Vaccination rates by hospital ranged from 50.2% to 95.1%, and the overall State rate was 77.4%. Five hospitals had vaccination rates similar to the overall State vaccination rate, 13 hospitals reported vaccination rates that were significantly higher than the overall State vaccination rate, and 13 hospitals reported vaccination rates that were significantly lower than the overall State vaccination rate. The overall statewide hospital staff vaccination rate increased significantly from 2008–2009 (59.9%) and 2009-2010 (70.6%). Specifically, 11 hospitals increased staff influenza vaccination rates in 2010-2011 compared to 2009-2010, 19 hospitals had similar vaccination rates, and one hospital reported a decrease in staff influenza vaccination.

This second report of the HAI Program displays progress moving toward the goal of eliminating HAIs in New Hampshire. Keeping in mind these data are not validated, 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.

INTRODUCTION

Background on Healthcare-Associated Infections

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. HAIs cause an estimated 1.7 million infections and 99,000 deaths each year in the United States[1]. By these estimates, HAIs are among the top 10 leading causes of death in the United States, and 5–10% of all hospital admissions are complicated by HAI.[2] The economic burden of HAIs is substantial and increasing. The total cost of HAIs has been estimated at $33 billion per year in US hospitals. The most common HAIs are catheter-associated urinary tract infections, surgical site infections, central line–associated bloodstream infections, and ventilator-associated pneumonia.[3]

New Hampshire Healthcare-Associated Infections Program

The New Hampshire Department of Health and Human Services (DHHS) has been actively engaged in developing an HAI surveillance program since 2007. During the 2006 legislative season, the New Hampshire Legislature passed a bill creating NH RSA 151:32-35, which requires hospitals to identify, track, and report HAIs to DHHS. RSA 151:33 specifically requires reporting of central line–associated bloodstream infections (CLABSI), surgical site infections (SSIs), ventilator-associated pneumonia, central line insertion practices (CLIP), surgical antimicrobial prophylaxis (SAP), and influenza vaccination rates. The intent of the law is to provide HAI data by hospital in a publicly accessible forum for hospital comparison. The passage of the 2006 bill did not include funding to carry out these activities, and therefore, mandatory reporting was not fully implemented until January 2009.

In September 2008, DHHS notified the 26 acute care hospitals in New Hampshire that they would be required to enroll in NHSN and report the mandated HAI data beginning January 1, 2009. DHHS, with consideration of the law, required that hospitals initially report the following measures:

- Central line–associated bloodstream infections in adult intensive care units (via NHSN)
- Central line insertion practices in all adult intensive care units (via NHSN)
- Surgical site infections following coronary artery bypass graft, colon, and knee arthroplasty procedures (via NHSN)
- Surgical antimicrobial prophylaxis (via Centers for Medicare and Medicaid Services)
- Influenza vaccination in patients and staff (via DHHS web survey)

All 26 acute care hospitals successfully enrolled in NHSN and began reporting the required data in January 2009. Specialty hospitals (rehabilitation and psychiatric) did not enroll in NHSN because they were required to report only influenza vaccination rates.

---

[1] Klevens, RM, Edwards RJ, Richards CL, Jr, et al. Estimating health care-associated infections and deaths in U.S. Hospitals, 2002. Public Health Rep 2007:122(2):160-166. http://www.cdc.gov/ncidod/dhqp/pdf/hicpac/infections_deaths.pdf

[2] Humphreys, H, Newcombe RG, Enstone J et al. Four country healthcare associated infection prevalence survey 2006: risk factor analysis. J Hosp Infect 2008; 69(3) 249-257.

[3] Scott R, Douglas. The direct medical costs of healthcare-associated infections in US hospitals and the benefits of prevention. March 2009. http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf

In August 2009, DHHS received $737,551 in federal funding from CDC to further develop and support New Hampshire's HAI Program. Many of the surveillance and prevention activities described in this report are only made possible by the availability of this funding, which expires in December 2011. Any changes in funding or personnel affect the State's ability to conduct HAI surveillance and prevention activities.

During the 2010 legislative season, the New Hampshire Legislature passed HB 1548 (2010) amending RSA 151:32-35 to require all licensed ambulatory surgical centers (ASCs) to report healthcare-associated infections to DHHS. HAI data reported by ASCs will not be publicly released until 2012 or later depending on validity of data.

State of New Hampshire Healthcare-Associated Infections Plan

In response to increasing concerns about the public health impact of HAIs, the US Department of Health and Human Services (HHS) developed an Action Plan to Prevent Healthcare-Associated Infections (HHS Action Plan) in 2009. The HHS Action Plan includes recommendations for surveillance, research, communication, and metrics for measuring progress toward national goals.
In a concurrent development, the 2009 Omnibus bill required states receiving Preventive Health and Health Services Block Grant funds to certify that they would submit a plan to reduce HAIs to the Secretary of Health and Human Services not later than January 1, 2010. In order to assist states in responding within the short timeline required by that language and to facilitate coordination with national HAI prevention efforts, the CDC provided a template to assist state planning efforts in the prevention of HAI. The template targeted four areas: 1) Development or Enhancement of HAI Program Infrastructure, 2) Surveillance, Detection, Reporting, and Response, 3) Prevention, and 4) Evaluation, Oversight, and Communication. In 2009, DHHS drafted a State HAI plan and submitted it to HHS. New Hampshire's State HAI Plan is available on the DHHS HAI website at: http://www.dhhs.nh.gov/dphs/cdcs/hai/index.htm.

Overview of Healthcare-Associated Infections Prevention Efforts

DHHS participates in statewide prevention activities through the New Hampshire Healthcare Quality Assurance Commission, on which the DHHS State Epidemiologist serves. Currently there are no specific prevention activities being coordinated directly by DHHS. Major statewide initiatives currently in place through the New Hampshire Healthcare Quality Assurance Commission include the following:

1. High Five for a Healthy New Hampshire: Every New Hampshire hospital has committed to achieving 100% compliance with appropriate hand hygiene practices in order to reduce the chance that patients and staff acquire an HAI while receiving care. The 'High Five' campaign commits the hospital to investing in the five-component statewide initiative to monitor and improve hand hygiene rates among all levels of healthcare workers and includes 1) leadership commitment, 2) availability of products, 3) hand hygiene training and competency verification, 4) measurement, and 5) feedback and accountability. In 2010 and 2011, DHHS provided funding to enhance this campaign. Funding is being used to conduct hand hygiene site visits at all hospitals to better understand how culture and practice may contribute to the variation in rates among hospitals and between provider groups

2. Patient Safety Checklist: Recognizing that surgical safety is a major priority for healthcare safety and quality improvement, every hospital and ambulatory surgical center in New Hampshire has adopted and posted a safety checklist in all procedure areas where an incision is made or anesthesia is administered. This Safety Checklist is designed to be simple, widely applicable, and address common and potentially disastrous lapses. It differs from the commonly used 'time-out' process, which confirms site, patient, and procedure, in that it is designed to improve communication among team members and promote consistency of care delivered. The Safety Checklist involves oral communication by teams as to the completion of essential steps for ensuring safe care at three critical junctures: prior to anesthesia, prior to incision or procedure, and before leaving the operating room or procedure area. New Hampshire hospitals have agreed to adopt this checklist in all procedural areas using a framework developed by the World Health Organization.

3. STOP BSI: Ten New Hampshire hospitals have agreed to work with Dr. Peter Pronovost and his colleagues from Johns Hopkins University Quality and Safety Research Group, in partnership with the Michigan Health & Hospital Association Keystone Center, on a two-year initiative to decrease CLABSI in ICUs. The project, which started in 2009, involves a technical component providing concise evidence-based recommendations on how to prevent these infections as well as an adaptive component that provides a framework for patient safety improvement at the local level. The improvement model includes a checklist, staff training, leadership involvement, collection of surveillance data, and analysis and discussion of defects.

Healthcare-Associated Infections Technical Advisory Workgroup

In the spring of 2009, DHHS formed an HAI Technical Advisory Workgroup. The purpose of the Technical Advisory Workgroup (TAW) is to provide scientific and infection prevention expertise to the DHHS HAI Program. The TAW is not intended to be an oversight group, but instead a forum for stakeholder participation in decision making around the New Hampshire HAI Program. The TAW is an 18-member group that includes representation from stakeholders across New Hampshire and includes representatives from various sizes and types of hospitals and ASCs, infection control associations, the consumer organization 'New Hampshire Patient Voices', the New Hampshire Hospital Association, the New Hampshire Healthcare Quality Assurance Commission, and the Northeast Healthcare Quality Foundation (see page 13 for a list of TAW members during the 2010 reporting year). The TAW currently meets quarterly.

New Hampshire Healthcare-Associated Infections Technical Advisory Workgroup, 2010

Members	Organization Representation
Beth Daly, MPH	DHHS, Infectious Disease Surveillance Section Chief
Sharon Alroy-Preis, MD, MPH	DHHS, State Epidemiologist
Katrina Hansen, MPH	DHHS, HAI Program Coordinator
Judith Small, RN	DHHS, Health Facilities Administration
Joe Conley, COO	Concord Hospital (New Hampshire Hospital Association)
Rachel Rowe, RN, MS	New Hampshire Healthcare Quality Assurance Commission
Lynda Caine, RN, MPH, CIC	Elliot Hospital (New Hampshire Infection Control and Epidemiology Professionals)
Kathy Kirkland, MD	Dartmouth-Hitchcock Medical Center (Society for Healthcare Epidemiology of America)
Jan Larmouth, MS, CIC	Southern New Hampshire Medical Center (Acute Care)
Polly Campion, MS, RN	Dartmouth-Hitchcock Medical Center (Acute Care)
Darlene Burrows, RN, BSN, CIC	Franklin Regional Hospital (Critical Access)
Charlie White, COO	Upper Connecticut Valley Hospital (Critical Access)
Lisa Hanamoto, RN	Crotched Mountain Rehabilitation (Rehabilitation)
Terri Kangas-Feller, BS, RN, CIC	New Hampshire Hospital (Psychiatric)
Lori Nerbonne, RN, BSN	New Hampshire Patient Voices (Consumer)

SURVEILLANCE METHODS

2010 Healthcare-Associated Infections Reporting Requirements

Reporting requirements are governed by RSA 151:33 with authority given to DHHS to develop administrative rules to provide specific reporting instructions and methodology. Administrative rules, He-P 309 Healthcare Associated Infections, were drafted in 2010 with stakeholder input and approved January 14, 2011 by the Joint Legislative Committee on Administrative Rules Committee. Currently since January 1, 2009, reporting of the following measures is required for hospitals:

- Central line–associated bloodstream infections in adult intensive care units
- Central line insertion practices in adult intensive care units
- Surgical site infections following coronary artery bypass graft, colon, and knee arthroplasty procedures
- Surgical antimicrobial prophylaxis
- Influenza vaccination in patients and staff

While all licensed hospitals including acute care and specialty hospitals are required to report the selected measures under RSA 151:33, specialty hospitals (rehabilitation and psychiatric hospitals) are not required to report CLABSI and CLIP, because they do not have ICUs, nor SSI and surgical antimicrobial prophylaxis administration data, because they do not perform surgeries. The three rehabilitation and two psychiatric hospitals are only required to report influenza vaccination rates for patients and staff.

Selection of Reporting Requirements

RSA 151:33 broadly requires reporting of all SSI and CLABSI; however, it is not feasible to do surveillance for all of these infections using NHSN. In order to generate infection rates for hospitals and compare them with national data, infection reporting needed to be limited to the capabilities of NHSN and were selected in accordance with national recommendations for HAI surveillance in the context of public reporting.

In 2005, the CDC released a report titled "Guidance on Public Reporting of Healthcare-Associated Infections: Recommendations of the Healthcare Infection Control Practices Advisory Committee" (HICPAC).[4] The group recommended selecting outcome measures for reporting based on the frequency, severity, and preventability of the outcomes and the likelihood that they can be detected and reported accurately. Specifically, the group recommended monitoring the following outcome measures:

- Central line–associated bloodstream infections in intensive care units
- Surgical site infections following selected operations
- Catheter-associated urinary tract infections (CAUTI) and ventilator-associated pneumonia (VAP) were not recommended because of lower morbidity and mortality resulting in less

[4] Linda McKibben, MD,[a] Teresa Horan, MPH,[b] Jerome I. Tokars. Guidance on Public Reporting of Healthcare-Associated Infections: Recommendations of the Healthcare Infection Control Practices Advisory Committee (Am J Infect Control 2005;33:217-26.) http://www.cdc.gov/ncidod/dhqp/pdf/hicpac/PublicReportingGuide.pdf

prevention effectiveness relative to the burden of data collection and reporting (in the case of CAUTI), and difficulty in detecting infections accurately resulting in invalid and misleading comparisons of infection rates for consumers (in the case of VAP).

Additionally, the group recommended monitoring the following process measures:

- Central line insertion practices
- Surgical antimicrobial prophylaxis
- Influenza vaccination of patients and healthcare personnel

In 2008, the Healthcare-Associated Infection Working Group of the Joint Public Policy Committee released "Essentials of Public Reporting of Healthcare-Associated Infections: A Tool Kit."[5] The Healthcare-Associated Infection Working Group of the Joint Public Policy Committee is a multi-organizational group represented by the Association for Professionals in Infection Control and Epidemiology, CDC, Council of State and Territorial Epidemiologists, and Society for Healthcare Epidemiology of America. The toolkit recommends monitoring the following outcome measures:

- Central line-associated bloodstream infection in intensive care units
- Surgical site infections that are performed with adequate frequency to permit meaningful comparisons among institutions. Specific reasonable options listed were: 1) coronary artery bypass surgery, 2) colon resection, 3) total hip arthroplasty, 4) total knee arthroplasty, 5) laminectomy, and 6) total abdominal hysterectomy
- The working group agreed with the CDC/HICPAC document, "Guidance on Public Reporting of Healthcare-Associated Infections" (referenced above) and recommended exclusion of outcome measures related to VAP and CAUTI because the existing surveillance criteria are difficult to apply consistently, making case counts unreliable.

The only process measure the group recommended monitoring was healthcare worker influenza vaccination rates.

Within the context of RSA 151:33, DHHS reviewed the national guidelines and capabilities of NHSN in selecting infection and process measures. It is expected that these reporting requirements may change in the future as we learn from public reporting, as HAI epidemiology changes, and as new surveillance methods and reporting technologies become available.

Accuracy of Reported Healthcare-Associated Infections Surveillance Data

The data presented in this report have not been validated by DHHS. Despite this fact, there are several processes that are implemented to ensure that the data are as accurate as possible within the current resources and reporting processes available. First, DHHS selected NHSN for mandatory reporting, which requires the use of standardized infection definitions and reporting methodologies. Second, DHHS analyzed and reviewed all data reported for 2010 from each hospital. This review identified any obvious reporting errors or internal inconsistencies that suggested errors. Finally, DHHS provided data reports to each hospital asking hospitals to confirm that the data reported to

[5] Essentials of Public Reporting of Healthcare-Associated Infections: A Tool Kit. Prepared by the Healthcare-Associated Infection Working Group of the Joint Public Policy Committee http://www.cdc.gov/ncidod/dhqp/pdf/ar/06_107498_Essentials_Tool_Kit.pdf

DHHS was accurate. This reconciliation process was iterative until all hospitals made corrections and agreed to the reported data. Despite these measures, there are several limitations to the reporting methods that then limit comparison of data across hospitals.

While definitions for classifying an infection as healthcare-associated are standardized through the use of NHSN, methods to identify the infection in each hospital are not. For example, hospitals may use different methods to identify CLABSI (reviewing laboratory records, reviewing intensive care unit records, etc.) or may have different approaches to diagnosing and managing suspect CLABSI in the ICU. For SSI, identifying patients who develop infections after discharge from the hospital can be difficult, and each hospital may use a different method of post-discharge surveillance (e.g., letters to surgeons, conducting chart reviews for surgical patients, calling surgeon offices, etc.). These different approaches may result in more comprehensive detection of SSI. Therefore, a higher SSI rate at a hospital may not be a reflection of poorer infection prevention activities, but rather a more comprehensive system of identifying such infections after the patient is discharged.

Currently, DHHS is conducting a validation study to assess the degree of under and over reporting and to provide additional training to address any common or systematic errors in reporting processes. DHHS has contracted with an independent external agency to perform the validation study and HAI program staff will participate in planned activities. Validation activities will include NHSN data reviews, medical record reviews during hospital visits, data analysis, corrections, and follow up for deficiencies. Results of the validation study will be shared in a later report.

National Healthcare Safety Network

NHSN is a voluntary, secure, internet-based surveillance system for healthcare facilities to monitor patient safety and infection prevention measures. Enrollment is open to all types of healthcare facilities in the United States. DHHS has selected the use of NHSN as the method for New Hampshire hospitals and ASCs to report healthcare-associated infections surveillance data. NHSN was selected because it is widely used across the entire United States, it offers already developed and accepted surveillance definitions and methods, it provides national comparison data, and there is no cost to use or join the system.

More information about NHSN is available at:

http://www.cdc.gov/nhsn/index.html

Comparisons with National Data

All comparisons with national data use 2006–2008 NHSN data published in the "National Healthcare Safety Network (NHSN) report: Data summary for 2006 through 2008, issued December 2009."[6] This report is available at:

http://www.cdc.gov/nhsn/PDFs/dataStat/2009NHSNReport.PDF

[6] Edwards JR, Peterson KD, Mu Y, et al. National Healthcare Safety Network (NHSN) report: Data summary for 2006 through 2008, issued December 2009. Am J Infect Control 2009; 37:783-805. http://www.cdc.gov/nhsn/PDFs/dataStat/2009NHSNReport.pdf

Central Line–Associated Bloodstream Infections Surveillance

In general terms, a CLABSI is a laboratory-confirmed bloodstream infection that develops after insertion of a central line and is not secondary to an infection at another body site. Hospitals are required to monitor and report CLABSI in adult ICUs. This monitoring includes reporting the number of infections identified as well as the total number of central line days in the unit. These metrics are monitored following NHSN protocols and definitions and reported in NHSN.

A central line is an intravascular catheter that terminates at or close to the heart or in one of the great vessels and is used for infusion, withdrawal of blood, or hemodynamic monitoring.

Central line days are the number of patients with one or more central lines of any type, which is counted at the same time each day and aggregated over the reporting period. For example, a patient with a central line in place for five days would be counted as five central line days.

Detailed descriptions of the NHSN CLABSI surveillance protocols are available at:

http://www.cdc.gov/nhsn/PDFs/pscManual/4PSC_CLABScurrent.pdf

Limitations for CLABSI surveillance:

- NHSN only allows for monitoring CLABSI in inpatient units. In New Hampshire, CLABSI data are monitored in adult intensive care units (which excludes pediatric, neonatal, and step down units) and not in other inpatient locations.

Central Line Insertion Practices Monitoring

CLIP monitoring assesses key infection prevention practices that occur during the insertion of a central line. A central line is any intravascular catheter used for infusion, blood withdrawal, or hemodynamic monitoring that terminates at or close to the heart or in one of the great vessels. In order to comply with all infection prevention practices during the insertion, the inserter must 1) perform hand hygiene prior to insertion, 2) use all five barriers (gloves, gown, cap, mask, and drape), 3) use an appropriate skin preparation agent, and 4) ensure skin is dry prior to insertion.

Hospitals monitor and report CLIP data through NHSN using all NHSN protocols and definitions. In 2010, hospitals were required to monitor all central line insertions that were placed in adult intensive care units (which excludes pediatric, neonatal, and step down units). The NHSN CLIP protocols are available at:
http://www.cdc.gov/nhsn/PDFs/pscManual/5psc_CLIPcurrent.pdf.

Limitations for central line insertion practices monitoring:

- In New Hampshire, CLIPs were monitored only in adult ICUs (which excludes pediatric, neonatal, and step down units) and not in other settings where central lines may be inserted (operating room, procedure rooms, emergency room, dialysis centers, etc).
- The person recording the insertion practices may differ in each hospital. In some cases it may be an observer or the person doing the insertion, which may impact adherence.

Surgical Site Infections Surveillance

In general terms, a SSI is an infection that develops at the site of a surgical procedure. There are different ways to classify an SSI, such as whether they develop superficially, in deep tissue, or in the organ/space. The infection must develop within 30 days of the procedure; however, if the procedure involved an implant or transplant, monitoring for an SSI must occur for a year following the procedure (e.g., knee arthroplasty, CABG). Hospitals are required to monitor and report SSI for three procedures:

- Coronary Artery Bypass Graft (chest incision and donor site)
  - NHSN Operative Procedure CBGC and CBGB (ICD-9: 36.10-36.19, 36.2)
- Colon Surgery (incision, resection, or anastomosis of the large intestine)
  - NHSN Operative Procedure COLO (ICD-9: 17.31-17.36, 17.39, 45.03, 45.26, 45.41, 45.49, 45.52, 45.71-45.76, 45.79-45.8, 45.81-45.83, 45.92-45.95, 46.03, 46.04, 46.10, 46.11, 46.13, 46.14, 46.43, 46.52, 46.75, 46.76, 46.94
- Knee Arthroplasty
  - NHSN Operative Procedure KPRO (ICD-9: 00.80-00.84, 81.54-81.55)

SSI monitoring includes reporting information on each infection identified as well as patient-level information for all patients undergoing the same procedure. This allows for appropriate risk adjustment, because risk for development of an SSI can be influenced by patient- and procedure-specific factors. Patient and procedure risk factors that are considered when assessing SSI standardized infection ratios by hospital vary by type of procedure but include factors such as:

a. Operation lasting more than the duration of cut point hours
b. Contaminated or dirty/infected wound class
c. ASA classification of 3, 4, or 5 (see below)
d. Age of the patient
e. Gender of the patient
f. Hospital bed size
g. Hospital's medical school affiliation
h. Whether the surgery was the result of trauma

The wound class is a way of determining how clean or dirty the operation body site was at the time of the operation. Operation body sites are divided into four classes:

Clean: An uninfected operation body site is encountered and the respiratory, digestive, genital, or uninfected urinary tracts are not entered.

Clean-Contaminated: Operation body sites in which the respiratory, digestive, genital, or urinary tracts are entered under controlled conditions and without unusual contamination.

Contaminated: Operation body sites that have recently undergone trauma, operations with major breaks in sterile technique (e.g., open cardiac massage), or gross spillage from the gastrointestinal tract.

Dirty or Infected: Includes old traumatic wounds with retained dead tissue and those that involve existing infection or perforated intestines.

The ASA classification is the American Society of Anesthesiologists (ASA) Classification of Physical Status, a scale used by the anesthesiologist to classify the patient's physical condition prior to surgery. It is one of the factors that help determine a patient's risk of possibly developing an SSI.

The ASA scale is:

1. Normally healthy patient
2. Patient with mild systemic disease
3. Patient with severe systemic disease
4. Patient with an incapacitating systemic disease that is a constant threat to life
5. A patient who is not expected to survive with or without the operation

All SSI metrics are monitored following NHSN protocols and definitions and reported in NHSN. The NHSN SSI protocols are available at:

http://www.cdc.gov/nhsn/PDFs/pscManual/9pscSSIcurrent.pdf

Limitations for SSI surveillance:

- Hospitals do not use a standard method of post-discharge surveillance to identify infections once a patient has been discharged. This may make data interpretation difficult because a higher SSI rate at a hospital could be a reflection of poor infection prevention practices or perhaps a more comprehensive system for identifying infections.
- SSI reporting in NHSN requires not only reporting of infections but also detailed information on every patient who underwent the procedure being monitored. This allows for risk adjustment. As such, DHHS has elected to monitor a subset of procedures based on national recommendations since it would not be feasible for hospitals to report information on every patient receiving a surgical procedure due to the burden of reporting.
- Some procedures require monitoring for SSI for one year after the procedure (in New Hampshire, this includes CABG and knee arthroplasty). Due to the timeline required by law for producing a data report, a full year has not elapsed for surgeries performed at the end of 2010. As such, this report may not account for all SSI that developed as a result of procedures performed in 2010. Most infections, however, occur within 30 days of the procedure.
- The SSI data presented in this report include all types of infections, including superficial surgical site infections, which can occur as a result of care in the hospital but also as a result of the patient's care of the wound site once discharged.

Surgical Antimicrobial Prophylaxis Administration Monitoring

All New Hampshire hospitals report surgical antimicrobial prophylaxis data and other measures to the Centers for Medicare and Medicaid Services (CMS) through the Surgical Care Improvement Project (SCIP). For this reason, DHHS does not collect surgical antimicrobial prophylaxis data directly from hospitals. In addition to other measures required by CMS, measures relative to NH RSA 151:33 include the following:

- SCIP 1: Number and percentage of patients who received prophylactic antibiotic within one hour prior to surgery

- SCIP 2: Number and percentage of patients who received the appropriate prophylactic antibiotic
- SCIP 3: Number and percentage of patients whose prophylactic antibiotic was discontinued within 24 hours after surgery

These process measures show a hospital's adherence rate to best practices designed to reduce surgical complications. Hospitals follow the CMS specification manual appropriate to the date of discharge found at:

http://qualitynet.org/dcs/ContentServer?cid=1141662756099&pagename=QnetPublic%2FPage%2FQnetTier2&c=Page

DHHS accesses hospital data on surgical antimicrobial prophylaxis administration from the New Hampshire Quality Care website at: http://www.nhqualitycare.org/list.php?id=sip#.

Influenza Vaccination Rate Monitoring

All hospitals are required to report staff and resident/patient vaccination rates directly to DHHS via online survey. Data for the 2010–2011 influenza season were reported by hospitals on or before April 30, 2011. Submission of these data meets the requirements of both the HAI law (RSA 151:32-35) and the healthcare immunization law (RSA 151:9-b). The 2010–2011 survey asked the following 11 questions regarding influenza vaccination:

1. Hospital demographics
2. How many patients were admitted to your hospital between 10/01/2010 and 03/31/ 2011?
3. To whom does your facility offer seasonal influenza vaccine?
4. How many of the patients admitted between 10/01/2010 and 03/31/2011 were immunized against seasonal influenza?
5. How many patients admitted during this time period did not receive the seasonal influenza vaccine for the following reasons (received the vaccine elsewhere, medical contraindications/exemptions, refused for other reasons)?
6. If you were unable to answer question 5 above, would your hospital be able to implement a system to track patient exemptions and refusals?
7. How many of the patients admitted between 10/01/2010 and 03/31/2011 were immunized against pneumococcal disease?
8. How many staff, including volunteers, part-time, and non-health care workers work in your hospital?
9. How many staff did you immunize against seasonal influenza between 10/01/2010 and 03/31/2011?
10. How many staff did not receive the seasonal influenza vaccine for the following reasons (received the vaccine elsewhere, medical contraindications/exemptions, refused for other reasons)?
11. Please enter any comments or questions.

Staff influenza vaccination rates were then calculated by adding the number of staff vaccinated at the facility and the number of staff vaccinated elsewhere and dividing by the total number of staff.

Limitations for influenza vaccination monitoring:

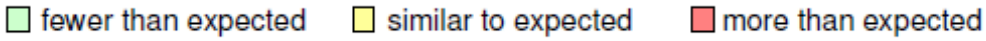
- The survey asks for the total number of staff vaccinated. This may not reflect the number of staff to whom the vaccine was offered. Hospitals may vary in the refusal rate for vaccination among staff and the reasons for such refusal. Additionally, some staff may not be eligible to receive the vaccine. The survey attempted to assess why unvaccinated staff did not receive the vaccine. However, not all hospitals can report this information.
- Reporting of patient vaccination rates is limited by availability of vaccine and by the hospital's ability to track why patients did not receive the vaccine. For example, some patients may be offered vaccine but may have already received it in another setting. Additionally, the survey asks for the total number of admissions, but some of these may be readmissions, in which case the patient would not again receive vaccine. Finally, the survey asks for admissions through March 31, 2011, by which time many hospitals have used their vaccine supply and are unable to order more. This would result in a lower vaccination rate because the survey counts all patients through March, even though there was no opportunity to vaccinate these patients due to supply. DHHS has elected not to report patient vaccination rates until a better way to collect the information is identified so that results are reliable, accurate, and informative.
- Data collection techniques at hospitals may vary from year to year which may affect comparison of data from year to year. DHHS continues to work each year on improving the validity and utility of this measure.

STATEWIDE DATA

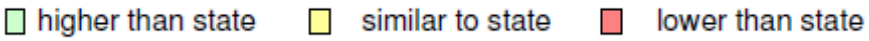
HAI data are presented throughout this report as both standardized infection ratios and rates as appropriate. Presenting data as a standardized infection ratio (SIR) allows for aggregating data across risk group, procedures, and hospitals to gain a better understanding of the incidence of HAI while still adjusting for underlying patient or hospital factors that may affect the occurrence of infections. The SIR does not give the infection rate, but rather a comparison between how many infections actually occurred and how many were expected to occur based on national data. Specific rate information is also provided where possible, which represents the number of infections that occurred taking into account the number of procedures that were performed. Rate data are limited by the requirement to only calculate rates that are broken down by certain factors, such as location in the hospital. See technical notes for additional information on rates and the SIR.

Because an SIR is a comparison of the number of actual observed infections to the number expected based on national data, an SIR of 1.0 means that exactly the same number of infections were observed as were expected. An SIR of less than one means that fewer infections were observed than were expected (for example, SIR = 0.70 would be interpreted as 30% fewer infections observed than expected). An SIR of more than one means that more infections were observed than were expected (for example, SIR = 1.30 would be interpreted as 30% more infections observed than expected). A confidence interval is calculated to determine whether the difference between observed and expected infections is statistically significant. If the difference is not statistically significant, the observed and expected numbers of infections are considered similar. See technical notes for additional information on confidence intervals.

This report provides comparisons with national and state data where appropriate. Comparisons are color coded consistently throughout. For infections, yellow represents infection rates that are similar to national data, red represents infection rates that are significantly higher than national rates, and green represents infection rates that are significantly lower than national rates.



For process measures, yellow represents rates that are similar to the state average, red represents rates that are significantly lower than the state average, and green represents rates that are significantly higher than the state average.



Statistical significance is affected by sample size. If a value is almost or just barely significant, just a few additional observations can push significance one way or the other (i.e., not significant or significant).

Statewide Standardized Infection Ratios

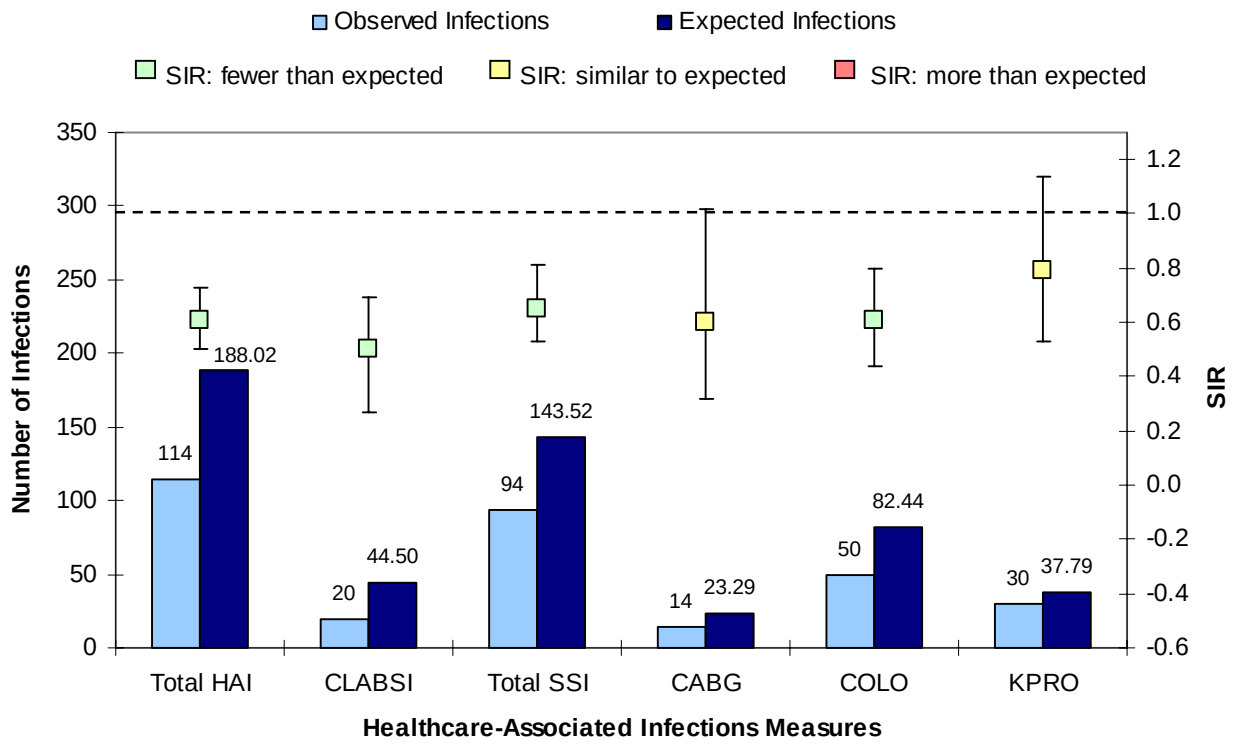
There were 114 healthcare-associated infections reported across all 26 acute care hospitals in New Hampshire in 2010. These infections represent CLABSI in ICUs and SSI following colon, knee, and coronary artery bypass procedures. Based on national data, we expected to observe 188.02 infections. The overall observed number of healthcare-associated infections was 39% fewer than expected based on national data. More specifically, there were 55% fewer CLASBI and 35% fewer SSI. Looking individually at the specific procedures, there were 40% fewer coronary artery bypass infections, 39% fewer colon infections, and 21% fewer knee arthroplasty infections than expected; however, the differences for coronary artery bypass and knee arthroplasty were not statistically significant and the number of infections observed is considered similar to national data.

TABLE 1: Statewide standardized infection ratios (SIR), Jan 1–Dec 31, 2010

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Overall HAI SIR	114	188.02	0.61	0.50 , 0.73	Lower
	The overall observed number of HAI in New Hampshire hospitals was 39% fewer than expected based on national data. This difference is statistically significant, which means the overall number of HAI in the state is LOWER than seen nationally.				
CLABSI SIR	20	44.5	0.45	0.27, 0.69	Lower
	The overall observed number of CLABSI in New Hampshire hospitals was 55% fewer than expected based on national data. This difference is statistically significant, which means the overall number of CLABSI in the state is LOWER than seen nationally.				
Overall SSI SIR	94	143.52	0.65	0.53 , 0.81	Lower
	The overall observed number of SSI in New Hampshire hospitals was 35% fewer than expected based on national data. This difference is statistically significant, which means the overall number of SSI in the state is LOWER than seen nationally.				
CABG SIR	14	23.29	0.60	0.32 , 1.02	Similar
	The overall observed number of CABG infections in New Hampshire hospitals was 40% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CABG infections in the state is SIMILAR to the number seen nationally.				
COLO SIR	50	82.44	0.61	0.44 , 0.80	Lower
	The overall observed number of COLO infections in New Hampshire hospitals was 39% fewer than expected based on national data. This difference is statistically significant, which means the overall number of COLO infections in the state is LOWER to the number seen nationally.				
KPRO SIR	30	37.79	0.79	0.53 , 1.14	Similar
	The overall observed number of KPRO infections in New Hampshire hospitals was 21% fewer than expected 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
SSI: Surgical site infections
CABG: Surgical site infections associated with coronary artery bypass graft procedures
COLO: Surgical site infections associated with colon procedures
KPRO: Surgical site infections associated with knee arthroplasty procedures

FIGURE 1: Statewide standardized infection ratios (SIR), Jan 1–Dec 31, 2010



HAI: Healthcare-associated infection
CLABSI: Central line-associated blood stream infections
SSI: Surgical site infections
CABG: Surgical site infections associated with coronary artery bypass graft procedures
COLO: Surgical site infections associated with colon procedures
KPRO: Surgical site infections associated with knee arthroplasty procedures

Overall Standardized Infection Ratios by Hospital

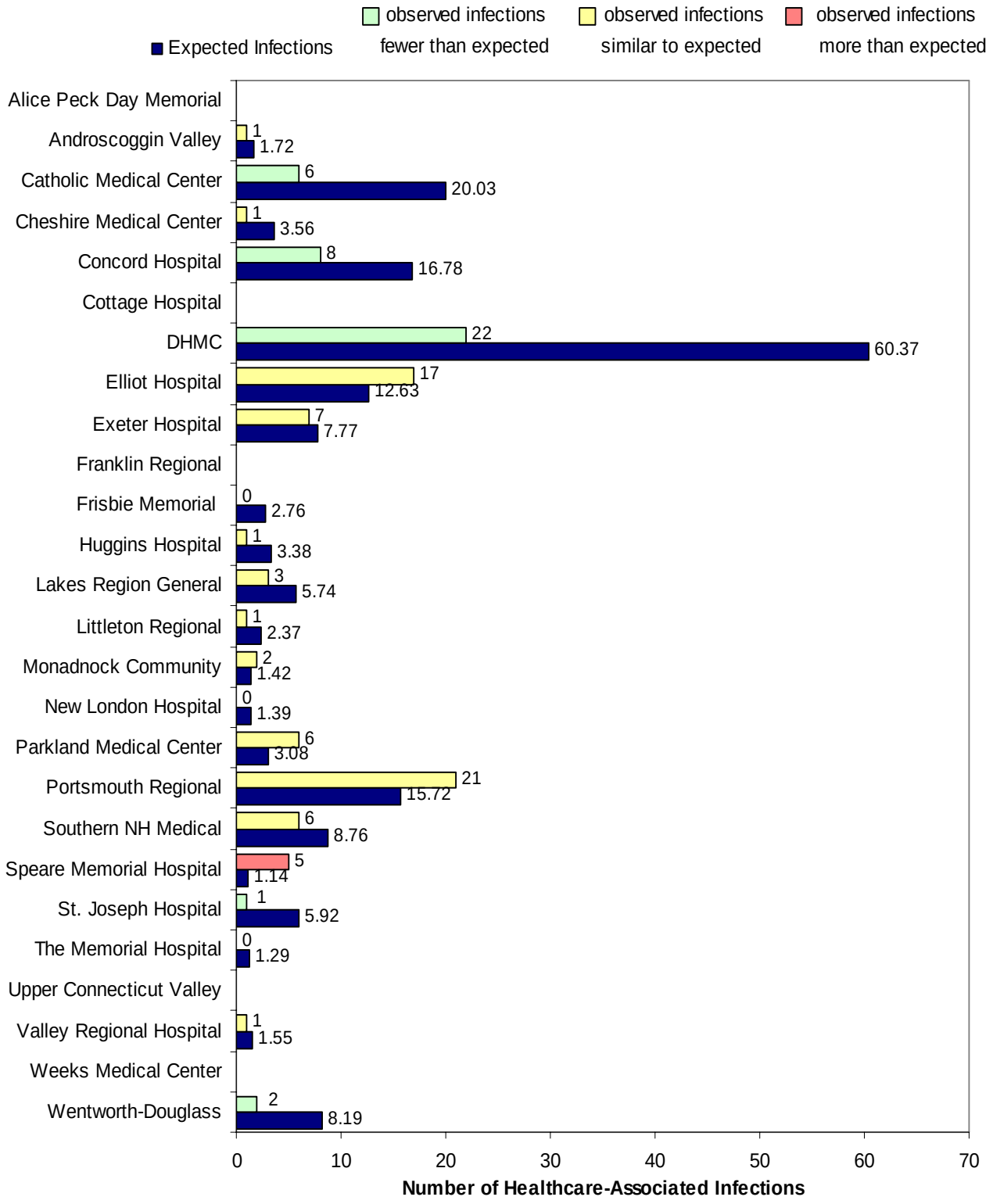
The table below shows the total number of HAI reported by each hospital. These infections represent CLABSI in intensive care units and SSI following colon, knee, and coronary artery bypass procedures. Twenty-one hospitals had robust enough data to provide in the table. Of these 21, five hospitals had an overall number of infections that was lower than expected based on national data. One hospital observed more infections than was expected. The remaining 15 all observed a similar number of infections as were expected based on national data.

TABLE 2: Overall healthcare-associated infections standardized infection ratios, Jan 1–Dec 31, 2010

Hospital	Observed Infections*	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Alice Peck Day Memorial	†	†	†	†	†
Androscoggin Valley	1	1.72	0.58	0.01 , 3.23	Similar
Catholic Medical Center	6	20.03	0.30	0.11 , 0.65	Lower
Cheshire Medical Center	1	3.56	0.28	- , 1.56	Similar
Concord Hospital	8	16.78	0.48	0.21 , 0.94	Lower
Cottage Hospital	†	†	†	†	†
DHMC	22	60.37	0.36	0.23 , 0.55	Lower
Elliot Hospital	17	12.63	1.35	0.78 , 2.15	Similar
Exeter Hospital	7	7.77	0.90	0.36 , 1.86	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0	2.76	0.00	- , 1.33	Similar
Huggins Hospital	1	3.38	0.30	0.00 , 1.64	Similar
Lakes Region General	3	5.74	0.52	0.10 , 1.53	Similar
Littleton Regional	1	2.37	0.42	0.01 , 2.34	Similar
Monadnock Community	2	1.42	1.40	0.16 , 5.07	Similar
New London Hospital	0	1.39	0.00	- , 2.64	Similar
Parkland Medical Center	6	3.08	1.95	0.71 , 4.25	Similar
Portsmouth Regional	21	15.72	1.34	0.83 , 2.04	Similar
Southern NH Medical	6	8.76	0.68	0.25 , 1.49	Similar
Speare Memorial Hospital	5	1.14	4.37	1.41 , 10.21	Higher
St. Joseph Hospital	1	5.92	0.17	0.00 , 0.94	Lower
The Memorial Hospital	0	1.29	0.00	- , 2.84	Similar
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	1	1.55	0.64	0.01 , 3.58	Similar
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	2	8.19	0.24	0.03 , 0.88	Lower
State Total	114	188.02	0.61	0.50 , 0.73	Lower

† Data are not shown for hospitals with less than one expected infection.
* Observed number of infections includes all infections that are required to be reported (central line–associated bloodstream infections and surgical site infections following coronary artery bypass, colon, and knee arthroplasty procedures).

FIGURE 2: Overall healthcare-associated infections standardized infection ratios, Jan 1–Dec 31, 2010



Note: Data are not shown for hospitals with less than one expected infection. Observed number of infections includes all infections that are required to be reported (central line–associated bloodstream infections and surgical site infections following coronary artery bypass, colon, and knee arthroplasty procedures).

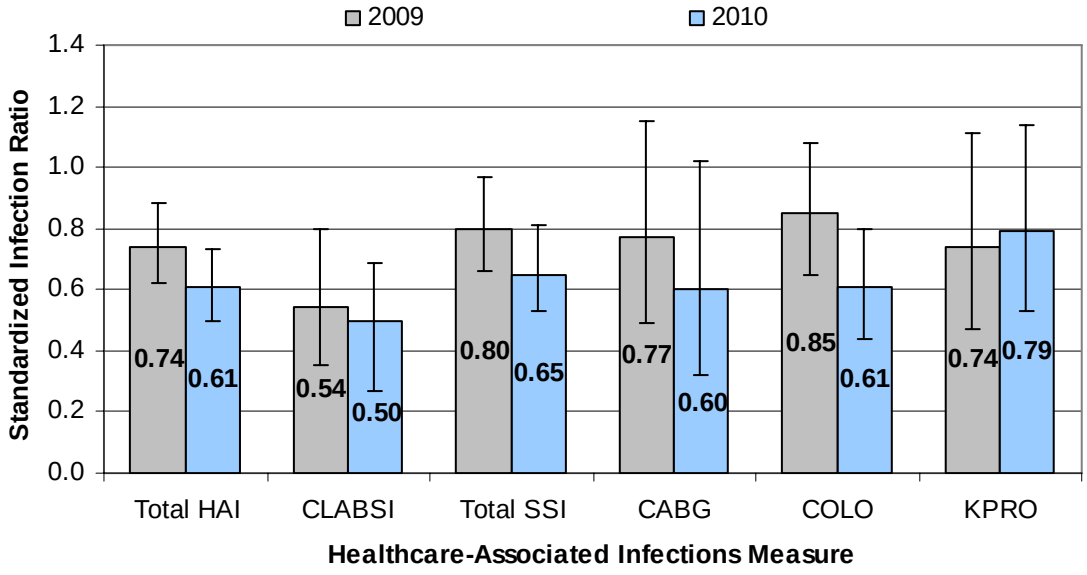
Overall statewide standardized infection ratios: Comparison to 2009 Data

Overall, the statewide SIR in 2010 decreased compared to 2009, however, this difference was not statistically significant. In 2010, a total of 114 HAIs were reported, representing 94 SSI and 20 CLABSI compared to 134 HAI (110 SSI and 24 CLABSI) in 2009. Twenty-one hospitals had robust enough data to provide overall HAI SIR in table 4. While the overall SIR decreased in many hospitals, these decreases were not statistically significant.

TABLE 3: Overall healthcare-associated infections standardized infection ratios, comparison between 2009 and 2010

Hospital	Standardized Infection Ratio (SIR) 2010	95% Confidence Interval 2010	Standardized Infection Ratio (SIR) 2009	95% Confidence Interval 2009	2010 Compared to 2009
Overall HAI SIR	0.61	0.50 , 0.73	0.74	0.62, 0.88	Similar
CLABSI SIR	0.45	0.27 , 0.69	0.54	0.35 , 0.80	Similar
Overall SSI SIR	0.65	0.53 , 0.81	0.81	0.66 , 0.97	Similar
CABG SIR	0.60	0.32 , 1.02	0.77	0.49 , 1.15	Similar
COLO SIR	0.61	0.44 , 0.80	0.85	0.65 , 1.08	Similar
KPRO SIR	0.79	0.53 , 1.14	0.74	0.47, 1.11	Similar

FIGURE 3: Statewide standardized infection ratios (SIR), comparison between 2009 and 2010



HAI: Healthcare-associated infection
CLABSI: Central line-associated blood stream infections
SSI: Surgical site infections
CABG: Surgical site infections associated with coronary artery bypass graft procedures
COLO: Surgical site infections associated with colon procedures
KPRO: Surgical site infections associated with knee arthroplasty procedures

TABLE 4: Overall healthcare-associated infections standardized infection ratios by hospital, comparison between 2009 and 2010

Hospital	Standardized Infection Ratio (SIR) 2010	95% Confidence Interval 2010	Standardized Infection Ratio (SIR) 2009	95% Confidence Interval 2009	2010 Compared to 2009
Alice Peck Day Memorial	†	†	†	†	†
Androscoggin Valley	0.58	0.01 , 3.23	†	†	†
Catholic Medical Center	0.30	0.11 , 0.65	0.45	0.19 , 0.89	Similar
Cheshire Medical Center	0.28	- , 1.56	1.00	0.32 , 2.34	Similar
Concord Hospital	0.48	0.21 , 0.94	0.47	0.21 , 0.89	Similar
Cottage Hospital	†	†	†	†	†
DHMC	0.36	0.23 , 0.55	0.64	0.45 , 0.89	Similar
Elliot Hospital	1.35	0.78 , 2.15	0.84	0.42 , 1.51	Similar
Exeter Hospital	0.90	0.36 , 1.86	1.13	0.54 , 2.08	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0.00	- , 1.33	0.00	- , 1.45	Similar
Huggins Hospital	0.30	0.00 , 1.64	1.09	0.12 , 3.92	Similar
Lakes Region General	0.52	0.10 , 1.53	0.78	0.25 , 1.82	Similar
Littleton Regional	0.42	0.01 , 2.34	0.50	0.01 , 2.78	Similar
Monadnock Community	1.40	0.16 , 5.07	2.33	0.47 , 6.80	Similar
New London Hospital	0.00	- , 2.64	0.00	- , 3.04	Similar
Parkland Medical Center	1.95	0.71 , 4.25	1.03	0.21 , 3.00	Similar
Portsmouth Regional	1.34	0.83 , 2.04	1.28	0.80 , 1.94	Similar
Southern NH Medical	0.68	0.25 , 1.49	1.41	0.68 , 2.60	Similar
Speare Memorial Hospital	4.37	1.41 , 10.21	0.97	0.01 , 5.40	Similar
St. Joseph Hospital	0.17	0.00 , 0.94	0.00	- , 0.57	Similar
The Memorial Hospital	0.00	- , 2.84	1.52	0.17 , 5.49	Similar
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	0.64	0.01 , 3.58	0.00	- , 2.37	Similar
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	0.24	0.03 , 0.88	0.31	0.03 , 1.10	Similar
State Total	0.61	0.50 , 0.73	0.74	0.62 , 0.88	Similar

† Data are not shown for hospitals with less than one expected infection.

Central Line–Associated Bloodstream Infections

In general terms, CLABSI is a laboratory-confirmed bloodstream infection that develops after insertion of a central line and is not secondary to an infection at another body site. The following tables show the number of infections that were identified in adult intensive care units at each acute care hospital in NH. The analyses presented in the tables below show that among hospitals that had robust enough data to report, one hospital observed fewer infections than expected and all other hospitals observed a similar number of infections as expected based on national data. See methods section for additional information on data collection.

Statewide CLABSI Rates

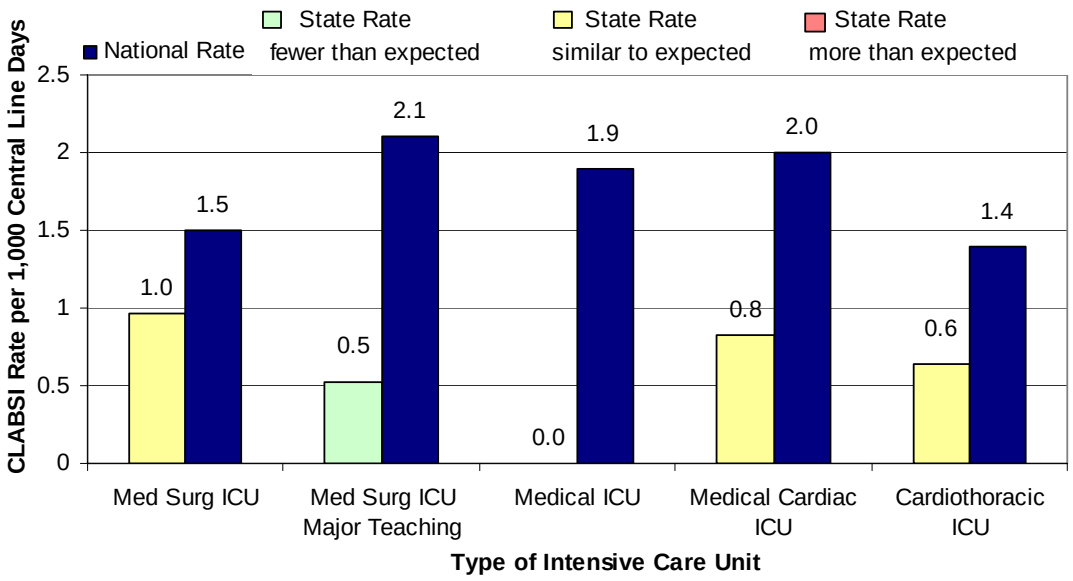
The statewide rate for CLABSI in medical surgical intensive care units at major teaching hospitals (0.52 infections per 1,000 central line days) was lower than the national rate for CLABSI in medical surgical ICUs (2.1 infections per 1,000 central line days). The statewide rates for CLABSI in all other types of ICUs were similar to the national rate.

TABLE 5: Statewide rates for central line–associated bloodstream infections, Jan 1–Dec 31, 2010

CLABSI Rates	Infections	Denominator*	State Rate*	National Rate	p-value	State Rate Compared to National Rate
Medical/Surgical ICU (n=21)	12	12449	0.96	1.5	0.115	Similar
Medical/Surgical ICU- Major Teaching Hospital (n=1)	4	7710	0.52	2.1	<0.001	Lower
Medical ICU (n=2)	0	233	0.00	1.9	0.643	Similar
Medical Cardiac ICU (n=1)	2	2423	0.83	2.0	0.137	Similar
Cardiothoracic ICU (n=1)	2	3108	0.64	1.4	0.195	Similar

Note: For CLABSI, denominator is number of central line days. CLABSI rate is the number of infections per 1,000 central line days.

FIGURE 4: Statewide rates for central line–associated bloodstream infections, Jan 1–Dec 31, 2010



Med Surg = medical surgical ICU = intensive care unit

TABLE 6: Central line–associated bloodstream infections rates, Jan 1–Dec 31, 2010

	Unit Type	Infections	Central line days	Hospital Rate	National Rate	p-value	Hospital Rate Compared to National Rate
Alice Peck Day	-	-	-	-	-	-	-
Androscoggin Valley	Med/Surg ICU	0	78	0.0	1.5	0.890	Similar
Catholic Medical	Med/Surg ICU	3	3174	0.9	1.5	0.316	Similar
Cheshire Medical	Medical ICU	0	175	0.0	1.9	0.718	Similar
Concord Hospital	Med/Surg ICU	3	2084	1.4	1.5	0.634	Similar
Cottage Hospital	Med/Surg ICU	†	†	†	†	†	†
DHMC	Med Cardiac ICU	2	2423	0.8	2.0	0.137	Similar
	Med/Surg ICU	4	7710	0.5	2.1	<0.001	Lower
Elliot Hospital	Med/Surg ICU	4	1545	2.6	1.5	0.194	Similar
Exeter Hospital	Med/Surg ICU	0	1570	0.0	1.5	0.096	Similar
Franklin Regional	Med/Surg ICU	0	53	0.0	1.5	0.924	Similar
Frisbie Memorial	Med/Surg ICU	†	†	†	†	†	†
Huggins Hospital	Med/Surg ICU	0	142	0.0	1.5	0.809	Similar
Lakes Region General	Med/Surg ICU	0	601	0.0	1.5	0.407	Similar
Littleton Regional	Med/Surg ICU	0	134	0.0	1.5	0.818	Similar
Monadnock Hospital	Med/Surg ICU	0	116	0.0	1.5	0.841	Similar
New London Hospital	Med/Surg ICU	0	69	0.0	1.5	0.902	Similar
Parkland Medical	Med/Surg ICU	0	400	0.0	1.5	0.550	Similar
Portsmouth Regional	Cardiothoracic ICU	2	3108	0.6	1.4	0.195	Similar
Southern NH Medical	Med/Surg ICU	0	767	0.0	1.5	0.318	Similar
Speare Memorial	Med/Surg ICU	†	†	†	†	†	†
St. Joseph Hospital	Med/Surg ICU	1	538	1.9	1.5	0.553	Similar
The Memorial Hospital	Medical ICU	0	58	0.0	1.9	0.896	Similar
Upper Connecticut Valley	Med/Surg ICU	†	†	†	†	†	†
Valley Regional	Med/Surg ICU	†	†	†	†	†	†
Weeks Medical Center	Med/Surg ICU	†	†	†	†	†	†
Wentworth Douglass	Med/Surg ICU	0	1053	0.0	1.5	0.207	Similar

Note: Alice Peck Day Memorial Hospital did not have an intensive care unit in which to monitor infections and as such, had no data to report.
† Data are not shown for hospitals with fewer than 50 central line days. Med/Surg = medical surgical ICU = intensive care unit

CLABSI standardized infection ratios

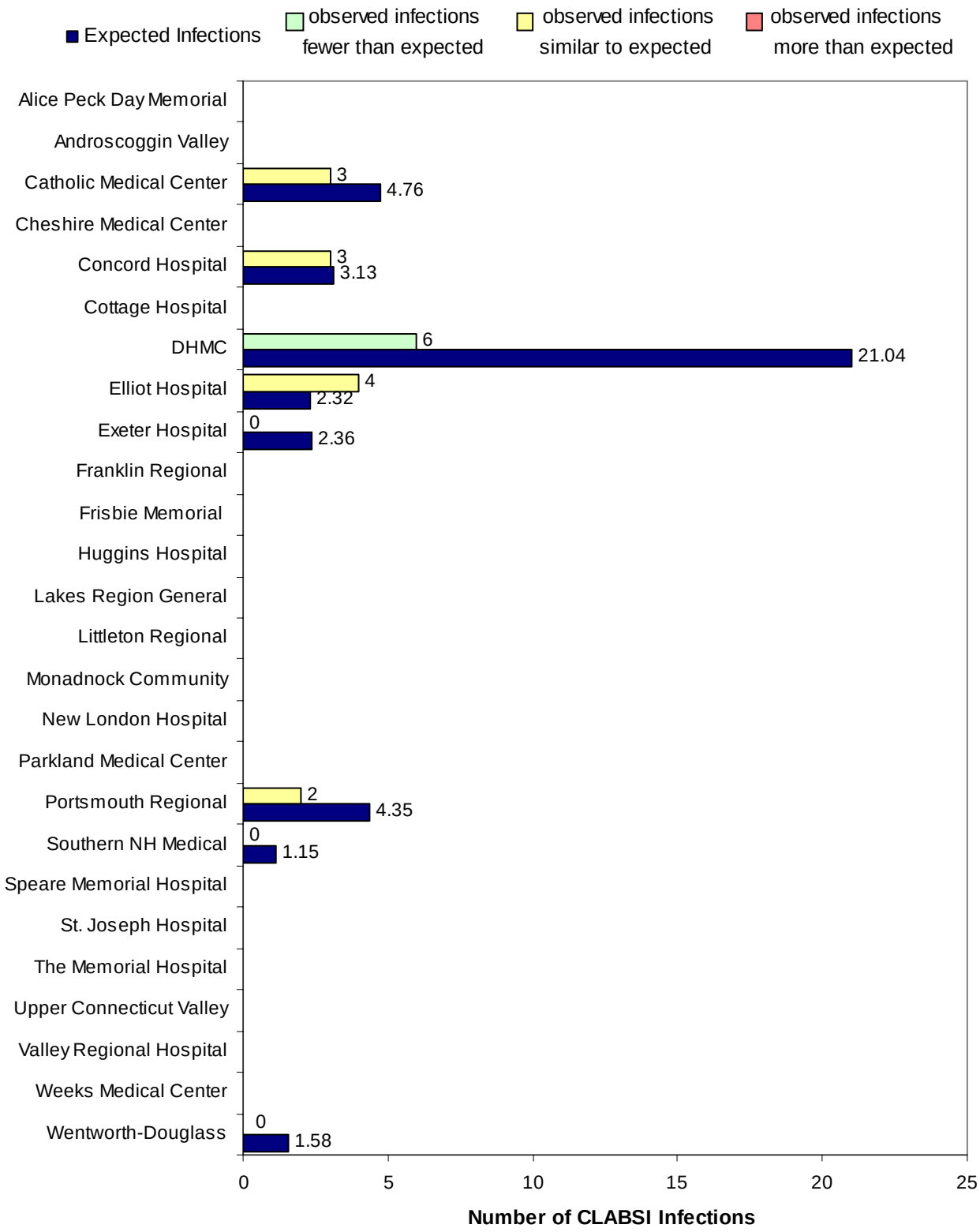
Overall, the observed number of CLABSI was 55% fewer than expected based on national data. The analysis presented in Table 7 shows that overall one hospital observed fewer infections than expected, seven hospitals observed a similar number of infections as expected, and none of the hospitals observed more infections than expected based on national data.

TABLE 7: Central line–associated bloodstream infections standardized infection ratios, Jan 1–Dec 31, 2010

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Alice Peck Day Memorial	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†
Catholic Medical Center	3	4.76	0.63	0.17 , 1.63	Similar
Cheshire Medical Center	†	†	†	†	†
Concord Hospital	3	3.13	0.96	0.26 , 2.48	Similar
Cottage Hospital	†	†	†	†	†
DHMC	6	21.04	0.29	0.12 , 0.56	Lower
Elliot Hospital	4	2.32	1.73	0.59 , 3.95	Similar
Exeter Hospital	0	2.36	0.00	0.00 , 1.27	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†
Huggins Hospital	†	†	†	†	†
Lakes Region General	†	†	†	†	†
Littleton Regional	†	†	†	†	†
Monadnock Community	†	†	†	†	†
New London Hospital	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†
Portsmouth Regional	2	4.35	0.46	0.08 , 1.45	Similar
Southern NH Medical	0	1.15	0.00	- , 2.60	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	†	†	†	†	†
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	0	1.58	0.00	0.00 , 1.90	Similar
State Total	20	44.50	0.45	0.27 , 0.69	Lower

Note: Alice Peck Day Memorial Hospital did not have an intensive care unit in which to monitor infections.
† Data are not shown for hospitals with less than one expected infection.

FIGURE 5: Central line–associated bloodstream infections (CLABSI) standardized infection ratios, Jan 1–Dec 31, 2010



Note: Alice Peck Day Memorial Hospital did not have an intensive care unit in which to monitor infections. Data are not shown for hospitals with less than one expected infection.

Central line-associated bloodstream infections: Comparison to 2009 Data

Overall, in 2010 the statewide CLABSI SIR did not increase or decrease from 2009. The analysis presented in Table 8 shows that all 8 hospitals for which data are shown observed a similar number of infections in 2010 and 2009.

TABLE 8: Central line–associated bloodstream infections standardized infection ratios, comparison between 2009 and 2010

Hospital	Standardized Infection Ratio (SIR) 2010	95% Confidence Interval 2010	Standardized Infection Ratio (SIR) 2009	95% Confidence Interval 2009	2010 Compared to 2009
Alice Peck Day Memorial	†	-	-	-	-
Androscoggin Valley	†	†	†	†	†
Catholic Medical Center	0.63	0.17 , 1.63	0.41	0.07 , 1.31	Similar
Cheshire Medical Center	†	†	†	†	†
Concord Hospital	0.96	0.26 , 2.48	0.89	0.24 , 2.31	Similar
Cottage Hospital	†	†	†	†	†
DHMC	0.29	0.12 , 0.56	0.76	0.46 , 1.88	Similar
Elliot Hospital	1.73	0.59 , 3.95	0.75	0.13 , 2.35	Similar
Exeter Hospital	0.00	0.00 , 1.27	0.40	0.02 , 1.89	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†
Huggins Hospital	†	†	†	†	†
Lakes Region General	†	†	†	†	†
Littleton Regional	†	†	†	†	†
Monadnock Community	†	†	†	†	†
New London Hospital	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†
Portsmouth Regional	0.46	0.08 , 1.45	0.29	0.02 , 1.39	Similar
Southern NH Medical	0.00	0.00 , 2.60	0.78	0.04 , 3.72	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	†	†	0.00	- , 2.49	†
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	0.00	0.00 , 1.90	0.00	- , 2.40	Similar
State Total	0.45	0.27 , 0.69	0.57	0.36 , 0.84	Similar

Note: Alice Peck Day Memorial Hospital did not have an intensive care unit in which to monitor infections.
† Data are not shown for hospitals with less than one expected infection.

Central Line Insertion Practices

Central line insertion practices (CLIP) monitoring assesses key infection prevention practices that occur during the insertion of a central line. In order to comply with all infection prevention practices during the insertion, the inserter must: 1) perform hand hygiene prior to insertion, 2) use all five barriers (gloves, gown, cap, mask, and drape), 3) use an appropriate skin preparation agent, and 4) ensure skin was dry prior to insertion. See methods section for additional information on monitoring central line insertion practices.

The tables below show the number of insertions during which all four infection-prevention practices were appropriately followed, which is referred to as bundle adherence. A confidence interval is provided to assess any statistically significant differences in bundle adherence between groups. Groups are compared with the overall State compliance percentage since there are no national data for comparison. Groups with a confidence interval that overlaps the State's overall confidence interval are considered to be similar to the State adherence percentage. Any occupation or hospital with a confidence interval that is higher than, and does not overlap, the State's overall confidence interval is considered to have a significantly higher adherence percentage than the State adherence percentage. Groups with a confidence interval that is lower than, and does not overlap, the State's overall confidence interval are considered to have a significantly lower adherence percentage than the State adherence percentage. The analysis presented in Table 9 suggests that IV Teams more frequently adhered to all four infection-prevention practices during central line insertions. The analysis presented in Table 10 shows that two hospitals had higher adherence compared with the State adherence percentage, ten hospitals had similar adherence as the State adherence percentage, and none of the hospitals had lower adherence compared with the State adherence percentage.

TABLE 9: Central line insertion practices adherence percentages by occupation of inserter, Jan 1–Dec 31, 2010

Occupation of Inserter	Insertions that Adhered to Bundle*	Total Number of Insertions	% Adherence	95% Confidence Interval	Occupation % Compared to State %
Attending Physician	789	821	96.1	94.6 , 97.3	Similar
IV Team	541	542	99.8	99.1 , -	Higher
Intern/Resident	405	413	98.1	96.4 , 99.1	Similar
Fellow	271	289	93.8	90.5 , 96.2	Similar
Other Medical Staff	115	122	94.3	89.0 , 97.5	Similar
Other	153	162	94.4	90.1 , 97.3	Similar
Physician Assistant	44	46	95.7	86.4 , 99.3	Similar
Medical Student	†	†	†	†	†
PICC	47	49	95.9	87.2 , 99.3	Similar
State Total	2368	2447	96.8	96.0 , 97.4	

Note: An IV Team is a specially trained group of practitioners (most often nurses or phlebotomists) who are dedicated to assessing, maintaining, and inserting intravascular devices. Other Medical Staff represents other (non-attending) physicians.

† Data are not shown when fewer than 20 insertions were performed.

* Bundle adherence refers to performing all four infection-prevention practices during central line insertion.

TABLE 10: Central line insertion practices adherence percentages by hospital, Jan 1–Dec 31, 2010

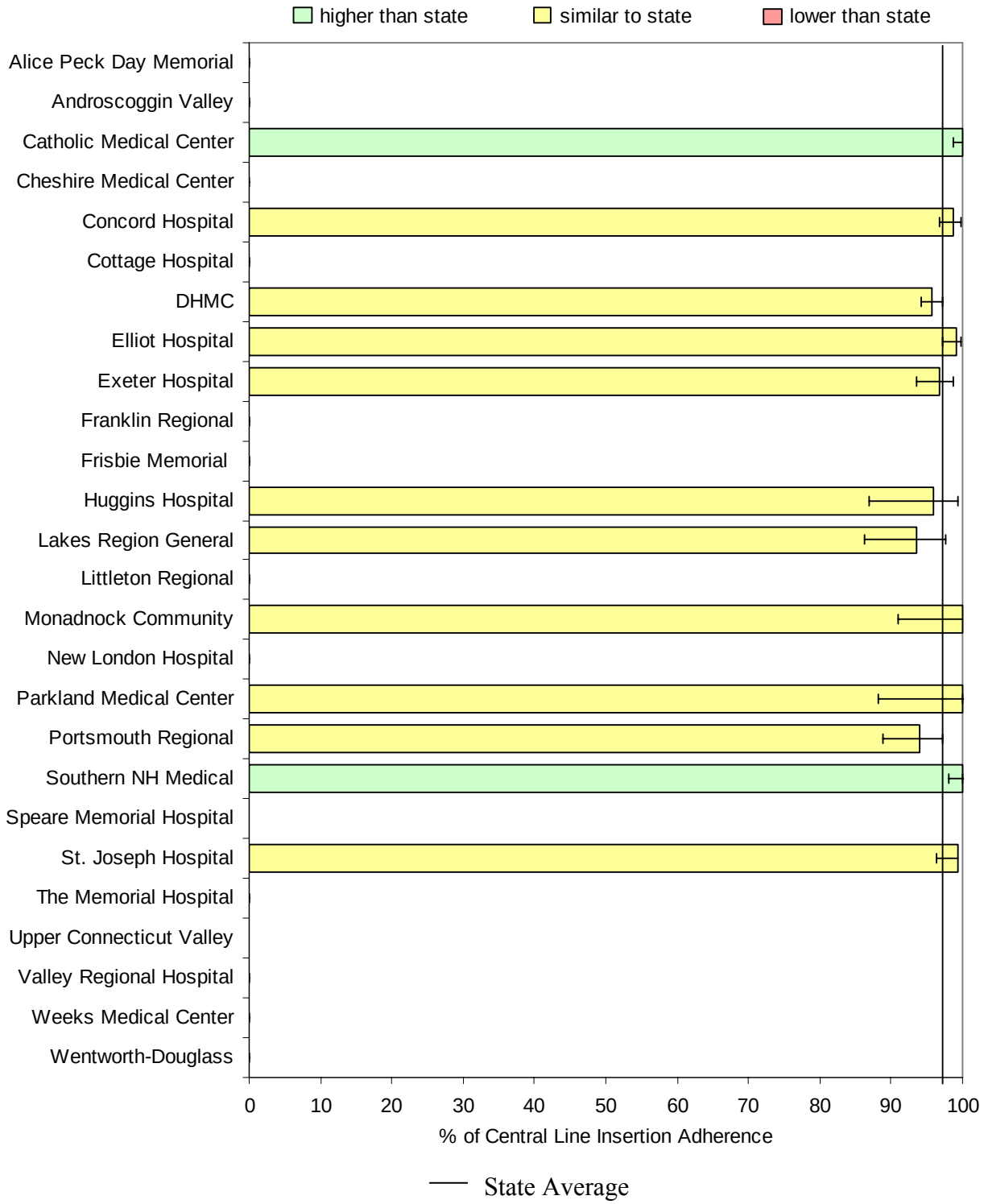
Hospital	Insertions that Adhered to Bundle*	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	-	-	-	-	-
Androscoggin Valley	†	†	†	†	†
Catholic Medical Center	214	214	100.0	98.6 , -	Higher
Cheshire Medical Center	†	†	†	†	†
Concord Hospital	242	245	98.8	96.7 , 99.7	Similar
Cottage Hospital	†	†	†	†	†
DHMC	807	843	95.7	94.2 , 97.0	Similar
Elliot Hospital	226	228	99.1	97.1 , 99.9	Similar
Exeter Hospital	181	187	96.8	93.5 , 98.7	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†
Huggins Hospital	46	48	95.8	86.9 , 99.3	Similar
Lakes Region General	73	78	93.6	86.4 , 97.6	Similar
Littleton Regional	†	†	†	†	†
Monadnock Community	32	32	100.0	91.0 , -	Similar
New London Hospital	†	†	†	†	†
Parkland Medical Center	24	24	100.0	88.3 , -	Similar
Portsmouth Regional	125	133	94.0	88.9 , 97.17	Similar
Southern NH Medical	155	155	100.0	98.1 , -	Higher
Speare Memorial Hospital	-	-	-	-	-
St. Joseph Hospital	136	137	99.3	96.5 , -	Similar
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	†	†	†	†	†
State Total	2368	2447	96.8	96.0 , 97.4	

Note: Alice Peck Day Memorial Hospital did not have an intensive care unit in which to monitor insertion practices. Upper Connecticut Valley and Speare Memorial Hospital did not perform any insertions in the intensive care unit for 2010.

† Data are not shown when fewer than 20 insertions were performed.

* Bundle adherence refers to performing all four infection-prevention practices during central line insertion.

FIGURE 6: Central line insertion practices adherence percentages by hospital, Jan 1–Dec 31, 2010



Note: Alice Peck Day Memorial Hospital did not have an intensive care unit in which to monitor insertion practices. Upper Connecticut Valley and Speare Memorial Hospital did not perform any insertions in the intensive care unit.
Data are not shown when fewer than 20 insertions were performed.
* Bundle adherence refers to performing all four infection-prevention practices during central line insertion.

Central line insertion practices: Comparison to 2009 Data

Overall, in 2010 the statewide adherence percentage for CLIP increased significantly from 2009. The analysis presented in Table 11 shows that CLIP adherence in 2010 significantly increased compared to 2009 for insertions performed by attending physicians and fellows and was similar for insertions performed by all other occupations. Specifically by hospital, the analysis presented in Table 12 shows that two hospitals increased CLIP adherence in 2010 compared to 2009, 12 hospitals had similar CLIP adherence, and none of the hospitals decreased CLIP adherence.

TABLE 11: Central line insertion practices adherence percentages by occupation of inserter, comparison between 2009 and 2010

Occupation of Inserter	% Adherence* 2010	95% Confidence Interval 2010	% Adherence* 2009	95% Confidence Interval 2009	2010 Compared to 2009
Attending Physician	96.1	94.6 , 97.3	92.8	90.5 , 94.5	Higher
IV Team	99.8	99.1 , -	99.0	97.7 , 99.6	Similar
Intern/Resident	98.1	96.4 , 99.1	94.4	91.5 , 96.5	Similar
Fellow	93.8	90.5 , 96.2	83.6	78.1 , 88.1	Higher
Other Medical Staff	94.3	89.0 , 97.5	89.9	84.7 , 93.8	Similar
Other	94.4	90.1 , 97.3	93.4	88.8 , 96.5	Similar
Physician Assistant	95.7	86.4 , 99.3	†	†	†
Medical Student	†	†	†	†	†
PICC	95.9	87.2 , 99.3	-	-	-
State Total	96.8	96.0 , 97.4	93.5	92.3 , 94.5	Higher

Note: An IV Team is a specially trained group of practitioners (most often nurses or phlebotomists) who are dedicated to assessing, maintaining, and inserting intravascular devices. Other Medical Staff represents other (non-attending) physicians.

† Data are not shown when fewer than 20 insertions were performed.

* Bundle adherence refers to performing all four infection-prevention practices during central line insertion.

TABLE 12: Central line insertion practices adherence percentages by hospital, comparison between 2009 and 2010

Hospital	% Adherence* 2010	95% Confidence Interval 2010	% Adherence* 2009	95% Confidence Interval 2009	2010 Compared to 2009
Alice Peck Day Memorial	-	-	-	-	-
Androscoggin Valley	†	†	†	†	†
Catholic Medical Center	100.0	98.6 , -	100.0	97.6 , -	Similar
Cheshire Medical Center	†	†	100.0	86.7 , -	†
Concord Hospital	98.8	96.7 , 99.7	97.6	95.0 , 99.0	Similar
Cottage Hospital	†	†	†	†	†
DHMC	95.7	94.2, 97.0	90.1	87.7 , 92.2	Higher
Elliot Hospital	99.1	97.1 , 99.9	92.2	88.1 , 95.2	Higher
Exeter Hospital	96.8	93.5 , 98.7	98.0	94.9 , 99.2	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†
Huggins Hospital	95.8	86.9 , 99.3	95.0	87.0 , 98.7	Similar
Lakes Region General	93.6	86.4, 97.6	91.5	83.3 , 96.5	Similar
Littleton Regional	†	†	†	†	†
Monadnock Community	100.0	91.0 , -	100.0	89.5 , -	Similar
New London Hospital	†	†	†	†	†
Parkland Medical Center	100.0	88.3 , -	†	†	†
Portsmouth Regional	94.0	88.9 , 97.2	88.0	76.7 , 94.9	Similar
Southern NH Medical	100.0	98.1 , -	97.1	93.3 , 99.1	Similar
Speare Memorial Hospital	-	-	†	†	†
St. Joseph Hospital	99.3	96.5 , -	100.0	97.8 , -	Similar
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	†
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	†	†	84.0	65.8 , 94.7	†
State Total	96.8	96.0 , 97.4	93.5	92.3 , 94.5	Higher

Note: Alice Peck Day Memorial Hospital did not have an intensive care unit in which to monitor insertion practices. Upper Connecticut Valley Hospital did not perform any insertions in the intensive care unit in 2010 and 2009. Speare Memorial Hospital did not perform any insertions in the ICU in 2010.
† Data are not shown when fewer than 20 insertions were performed.
* Bundle adherence refers to performing all four infection-prevention practices during central line insertion.

Surgical Site Infections

In general terms, a SSI is an infection that develops at the site of a surgical procedure. The tables below show the number of infections that were identified following the three monitored procedures at each acute care hospital in New Hampshire. Overall, the observed number of surgical site infections was 35% fewer than expected based on national data. The analysis presented in Table 13 shows that overall, four hospitals observed fewer infections than expected, fifteen hospitals observed a similar number of infections as expected, and two hospitals observed more infections than expected based on national data. For coronary artery bypass graft procedures (Table 15), two hospitals observed fewer infections than expected, two hospitals observed a similar number of infections as expected, and none of the hospitals observed more infections than expected based on national data. For colon procedures (Table 16), five hospitals observed fewer infections than expected, 11 hospitals observed a similar number of infections as expected, and none of the hospitals observed more infections than expected based on national data. For knee arthroplasty (Table 17), ten hospitals observed a similar number of infections as expected based on national data. One hospital observed fewer infections than expected.

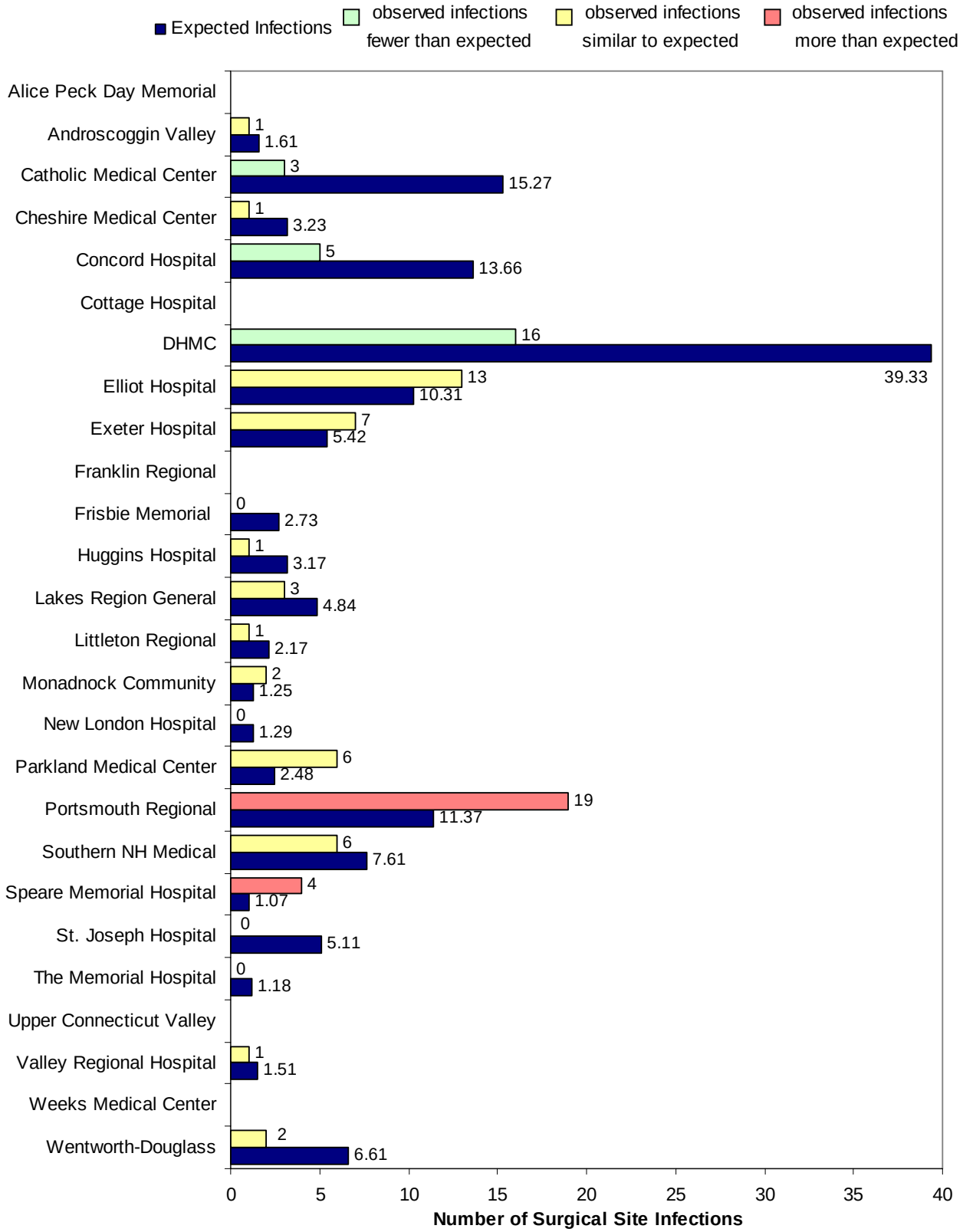
In the 2009 HAI report, SSI rates and SIRs were presented. This 2010 report does not display SSI rates due to a change in NHSN analysis features, as CDC transitions from risk adjusted rates to SIRs. SSI data are presented throughout this report as standardized infection ratios (SIRs). This allows adjustment for underlying patient or hospital factors. The new SSI SIR is a result of logistic regression modeling, providing better risk adjustment and comparisons. See Appendix 1 for technical notes for more detail regarding the SIR.

TABLE 13: Surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010

Hospital	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Alice Peck Day Memorial	†	†	†	†	†
Androscoggin Valley	1	1.61	0.62	0.01 , 3.46	Similar
Catholic Medical Center	3	15.27	0.20	0.04 , 0.57	Lower
Cheshire Medical Center	1	3.23	0.31	0.00 , 1.73	Similar
Concord Hospital	5	13.66	0.37	0.12 , 0.85	Lower
Cottage Hospital	†	†	†	†	†
DHMC	16	39.33	0.41	0.23 , 0.66	Lower
Elliot Hospital	13	10.31	1.26	0.67 , 2.16	Similar
Exeter Hospital	7	5.42	1.29	0.52 , 2.66	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0	2.73	0.00	- , 1.34	Similar
Huggins Hospital	1	3.17	0.32	- , 1.76	Similar
Lakes Region General	3	4.84	0.62	0.13 , 1.81	Similar
Littleton Regional	1	2.17	0.46	0.01 , 2.56	Similar
Monadnock Community	2	1.25	1.60	0.18 , 5.77	Similar
New London Hospital	0	1.29	0.00	- , 2.85	Similar
Parkland Medical Center	6	2.48	2.42	0.89 , 5.28	Similar
Portsmouth Regional	19	11.37	1.67	1.01 , 2.61	Higher
Southern NH Medical	6	7.61	0.79	0.29 , 1.72	Similar
Speare Memorial Hospital	4	1.07	3.72	1.00* , 9.53	Higher
St. Joseph Hospital	0	5.11	0.00	- , 0.72	Lower
The Memorial Hospital	0	1.18	0.00	- , 3.10	Similar
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	1	1.51	0.66	0.01 , 3.67	Similar
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	2	6.61	0.30	0.03 , 1.09	Similar
State Total	94.00	143.52	0.65	0.53 , 0.81	Lower

† Data are not shown for hospitals with less than one expected infection.
* The lower bound of this confidence interval is 1.002, which rounds down to 1.00. Therefore, since the true unrounded interval is greater than 1.0, the SIR is significantly higher.

FIGURE 7: Surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010



Note: Data are not shown for hospitals with less than one expected infection.

Overall surgical site infections: Comparison to 2009 Data

Overall, in 2010 the statewide SSI SIR did not did not increase or decrease from 2009. The analysis presented in Table 14 shows that all 19 hospitals for which data are shown observed similar numbers of infections in 2010 and 2009.

TABLE 14: Surgical site infections standardized infection ratios, comparison between 2009 and 2010

Hospital	Standardized Infection Ratio (SIR) 2010	95% Confidence Interval 2010	Standardized Infection Ratio (SIR) 2009	95% Confidence Interval 2009	2010 Compared to 2009
Alice Peck Day Memorial	†	†	†	†	†
Androscoggin Valley	0.62	0.01 , 3.46	†	†	†
Catholic Medical Center	0.20	0.04 , 0.57	0.46	0.17 , 1.01	Similar
Cheshire Medical Center	0.31	- , 1.73	1.12	0.36 , 2.62	Similar
Concord Hospital	0.37	0.12 , 0.85	0.41	0.15 , 0.90	Similar
Cottage Hospital	†	†	†	†	†
DHMC	0.41	0.23 , 0.66	0.58	0.36 , 0.89	Similar
Elliot Hospital	1.26	0.67 , 2.16	0.93	0.43 , 2.70	Similar
Exeter Hospital	1.29	0.52 , 2.66	1.42	0.65 , 2.70	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0.00	- , 1.34	0.00	- , 1.55	Similar
Huggins Hospital	0.32	- , 1.76	1.28	0.14 , 4.62	Similar
Lakes Region General	0.62	0.13 , 1.81	0.89	0.29 , 2.08	Similar
Littleton Regional	0.46	0.01 , 2.56	0.55	0.01 , 3.03	Similar
Monadnock Community	1.60	0.18 , 5.77	2.82	0.57 , 8.24	Similar
New London Hospital	0.00	- , 2.85	0.00	- , 3.29	Similar
Parkland Medical Center	2.42	0.89 , 5.28	1.26	0.25 , 3.67	Similar
Portsmouth Regional	1.67	1.01 , 2.61	1.52	0.94 , 2.33	Similar
Southern NH Medical	0.79	0.29 , 1.72	1.55	0.71 , 2.95	Similar
Speare Memorial Hospital	3.72	1.00 , 9.53	†	†	†
St. Joseph Hospital	0.00	- , 0.72	0.00	- , 0.71	Similar
The Memorial Hospital	0.00	- , 3.10	1.64	0.18 , 5.93	Similar
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	0.66	0.01 , 3.67	0.00	- , 2.54	Similar
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	0.30	0.03 , 1.09	0.38	0.04 , 1.37	Similar
State Total	0.65	0.53 , 0.81	0.81	0.66 , 0.97	Similar

† Data are not shown for hospitals with less than one expected infection.

TABLE 15: Coronary artery bypass graft procedure-associated surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010

Hospital	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Catholic Medical	2*	8.41	0.24	0.03, 0.86	Lower
Concord Hospital	0	1.76	0.00	- , 2.09	Similar
DHMC	2*	7.76	0.26	0.03, 0.93	Lower
Portsmouth Regional	10	5.37	1.86	0.89, 3.43	Similar
State Total	14	23.29	0.60	0.32, 1.02	Similar

*****Secondary infections at the donor site (where the vessel was taken from) are not included in the SIR. DHMC observed one secondary infection and Catholic Medical observed three secondary infections, which are not included in the table above.

FIGURE 8: Coronary artery bypass graft procedure-associated surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010

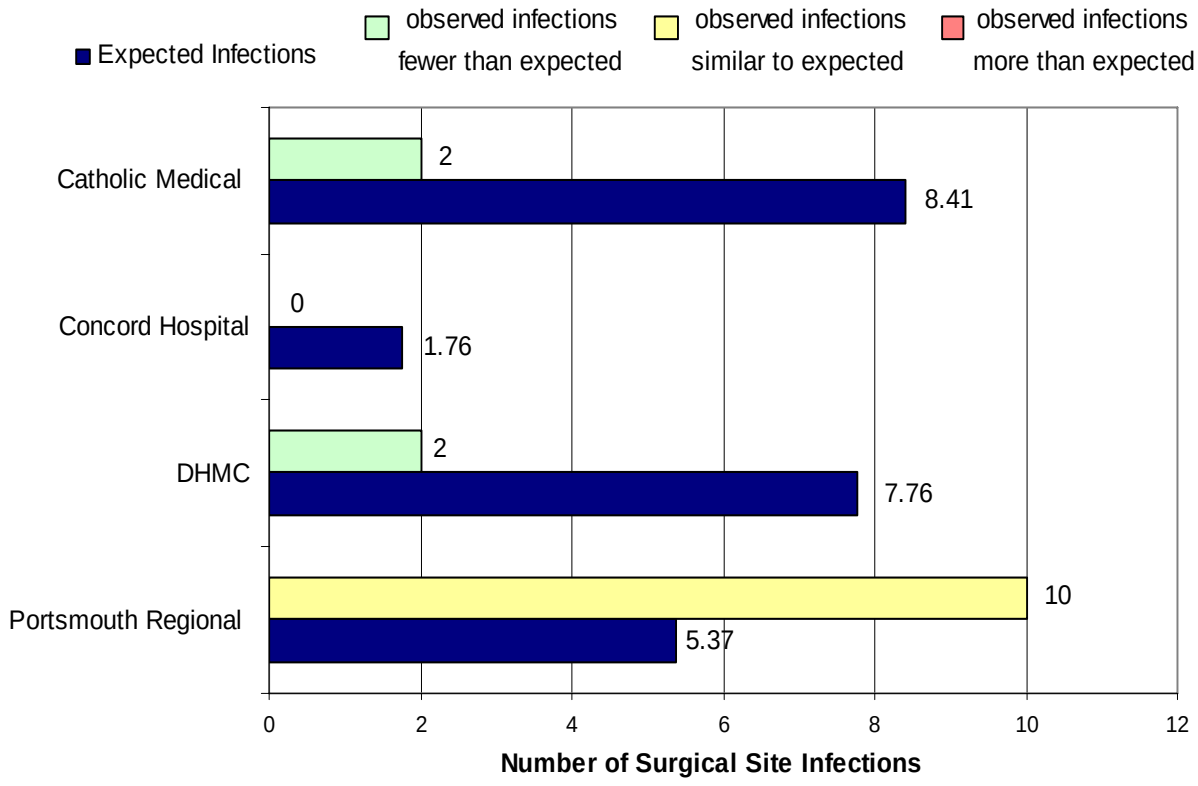
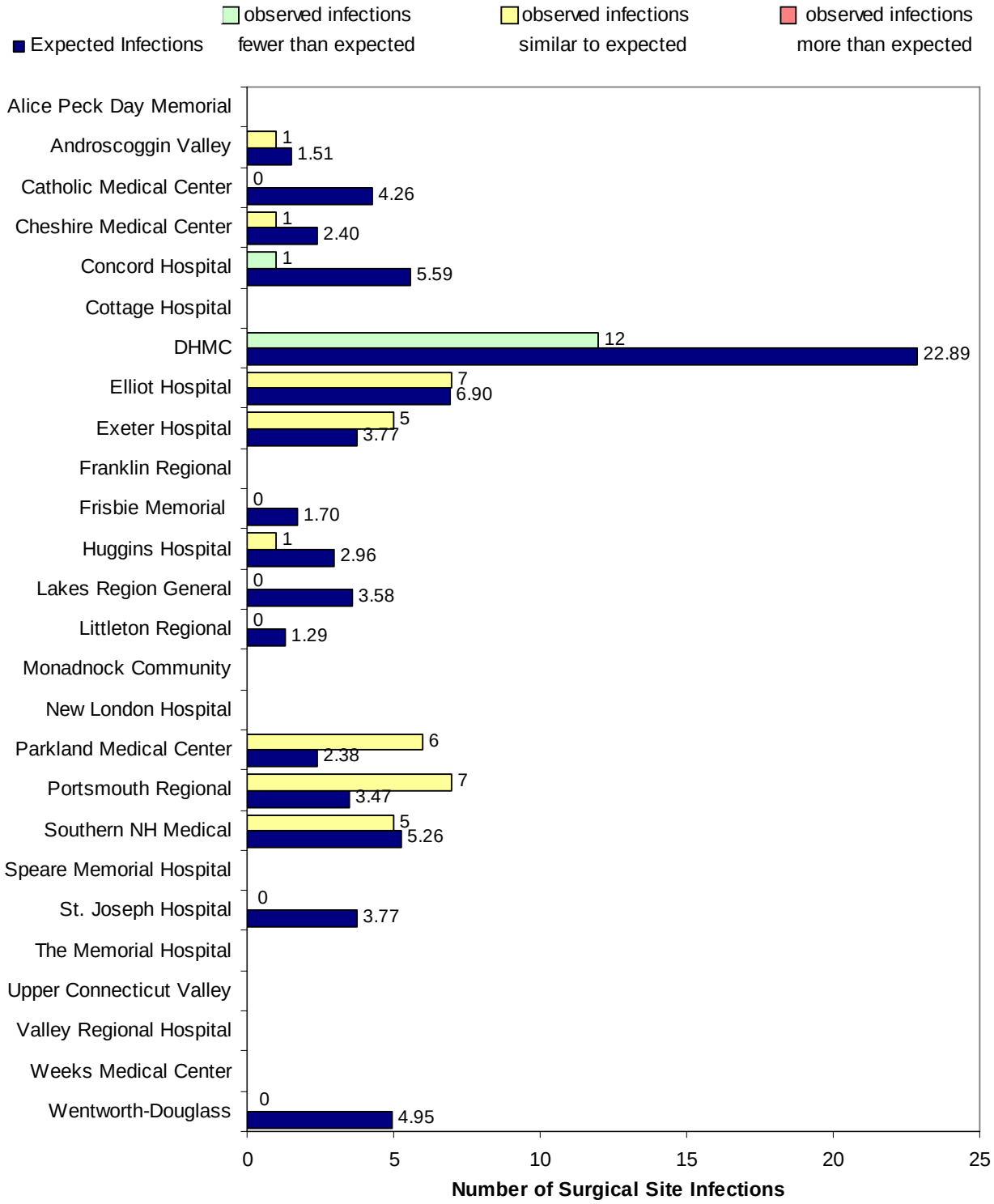


TABLE 16: Colon procedure-associated surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010

Hospital	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Alice Peck Day Memorial	†	†	†	†	†
Androscoggin Valley	1	1.51	0.66	0.01, 3.67	Similar
Catholic Medical Center	0	4.26	0.00	- , 0.86	Lower
Cheshire Medical Center	1	2.40	0.42	0.01, 2.31	Similar
Concord Hospital	1	5.59	0.18	0.00, 1.00*	Lower
Cottage Hospital	†	†	†	†	†
DHMC	12	22.89	0.52	0.27, 0.92	Lower
Elliot Hospital	7	6.90	1.01	0.41, 2.09	Similar
Exeter Hospital	5	3.77	1.33	0.43, 3.10	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0	1.70	0.00	- , 2.16	Similar
Huggins Hospital	1	2.96	0.34	- , 1.88	Similar
Lakes Region General	0	3.58	0.00	- , 1.03	Similar
Littleton Regional	0	1.29	0.00	- , 2.84	Similar
Monadnock Community	†	†	†	†	†
New London Hospital	†	†	†	†	†
Parkland Medical Center	6	2.38	2.53	0.92, 5.50	Similar
Portsmouth Regional	7	3.47	2.02	0.81, 4.16	Similar
Southern NH Medical	5	5.26	0.95	0.31, 2.22	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	0	3.77	0.00	- , 0.97	Lower
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	0	4.95	0.00	- , 0.74	Lower
State Total	50	82.44	0.61	0.45, 0.80	Lower

† Data are not shown for hospitals with less than one expected infection.
* The upper bound of this confidence interval is 0.996, which rounds up to 1.00. Therefore, since the true unrounded interval is less than 1.0, the SIR is significantly lower.

FIGURE 9: Colon procedure-associated surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010



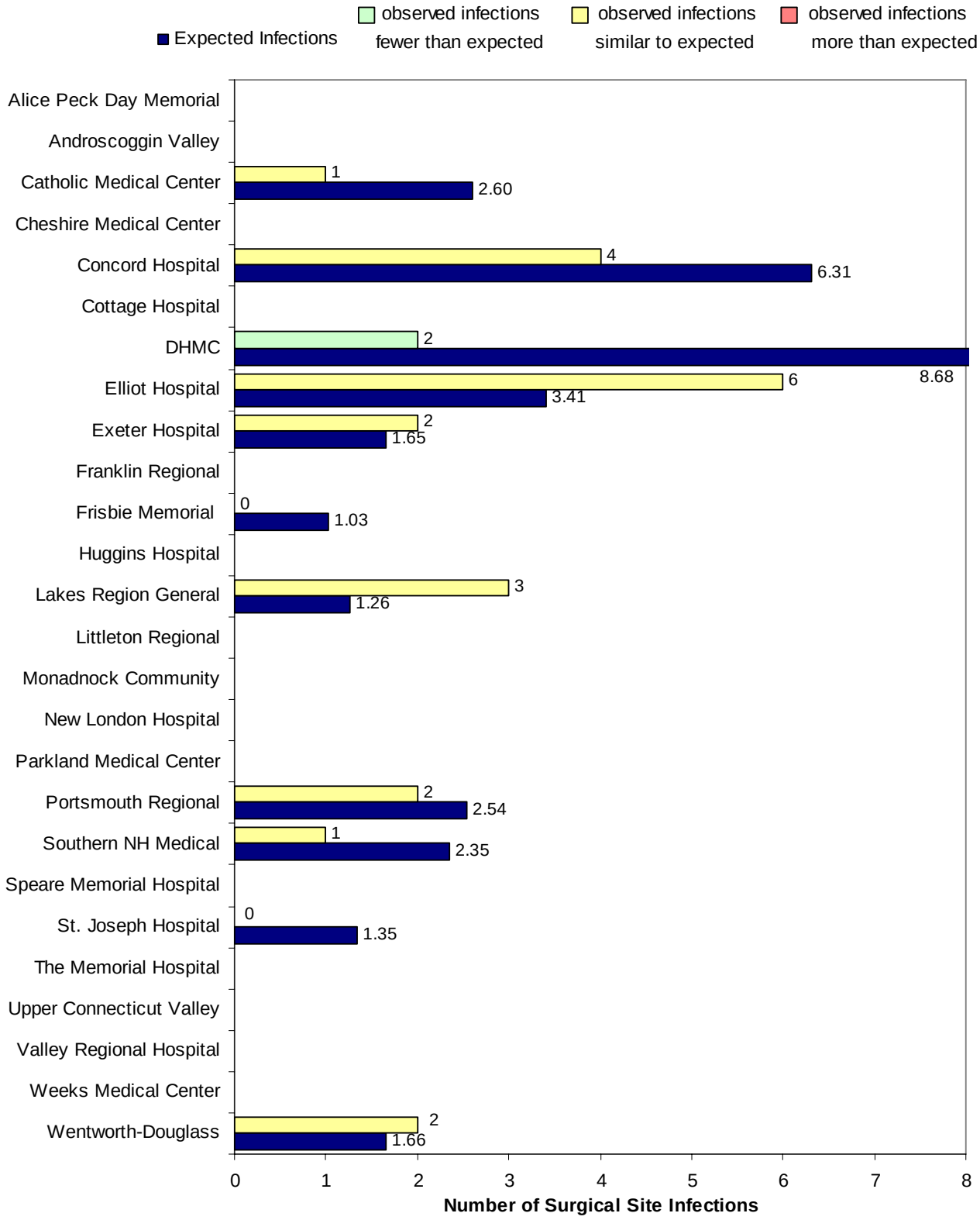
Note: Data are not shown for hospitals with less than one expected infection.

TABLE 17: Knee arthroplasty procedure-associated surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010

Hospital	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Alice Peck Day Memorial	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†
Catholic Medical Center	1	2.60	0.38	0.01 , 2.14	Similar
Cheshire Medical Center	†	†	†	†	†
Concord Hospital	4	6.31	0.63	0.17 , 1.62	Similar
Cottage Hospital	†	†	†	†	†
DHMC	2	8.68	0.23	0.03 , 0.83	Lower
Elliot Hospital	6	3.41	1.76	0.64 , 3.83	Similar
Exeter Hospital	2	1.65	1.21	0.14 , 4.37	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0	1.03	0.00	- , 3.57	Similar
Huggins Hospital	†	†	†	†	†
Lakes Region General	3	1.26	2.38	0.48 , 6.95	Similar
Littleton Regional	†	†	†	†	†
Monadnock Community	†	†	†	†	†
New London Hospital	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†
Portsmouth Regional	2	2.54	0.79	0.09 , 2.85	Similar
Southern NH Medical	1	2.35	0.42	0.01 , 2.36	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	0	1.35	0.00	- , 2.72	Similar
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	2	1.66	1.20	0.14 , 4.34	Similar
State Total	30	37.79	0.79	0.53 , 1.14	Similar

† Data are not shown for hospitals with less than one expected infection.

FIGURE 10: Knee arthroplasty procedure-associated surgical site infections standardized infection ratios, Jan 1–Dec 31, 2010

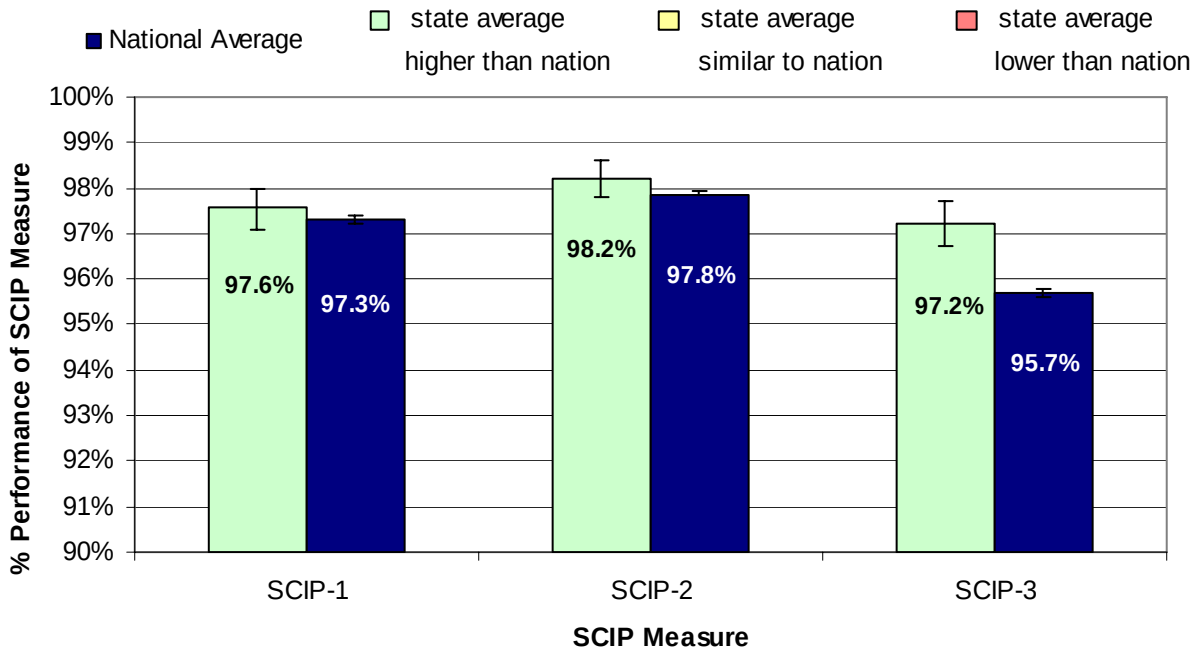


Note: Data are not shown for hospitals with less than one expected infection.

Surgical Antimicrobial Prophylaxis Administration

Overall, New Hampshire hospitals perform surgical antimicrobial prophylaxis correctly more often than the national average. For SCIP measure 1, 97.6% of patients in New Hampshire received prophylactic antibiotic within one hour prior to surgery compared with 97.3% nationally. For SCIP measure 2, 98.2% of patients in New Hampshire received the appropriate prophylactic antibiotic compared with 97.8% nationally. For SCIP measure 3, 97.2% of patients in New Hampshire had his or her prophylactic antibiotic discontinued within 24 hours after surgery compared with 95.7% nationally. The analysis presented in Table 18 shows that five hospitals observed higher SCIP-1 adherence, one observed lower SCIP-1 adherence, and the other 19 observed similar SCIP-1 adherence compared to the state data. Table 19 (SCIP-2) shows that two hospitals observed higher adherence, 2 hospitals observed lower adherence, and 21 observed similar adherence to the state average. Table 20 (SCIP-3) displays that two hospitals observed higher adherence, two hospitals observed lower adherence, and 21 hospitals observed similar adherence to the state average. See methods section for additional information on how this information is collected.

FIGURE 11: Statewide Performance of Surgical Care Improvement Project (SCIP) measures, Jan 1–Dec 31, 2010



SCIP-1: Percentage of patients who received prophylactic antibiotic within one hour prior to surgery
SCIP-2: Percentage of patients who received the appropriate prophylactic antibiotic
SCIP-3: Percentage of patients whose prophylactic antibiotic was discontinued within 24 hours after surgery

Additional surgical antimicrobial prophylaxis data by hospital with state and national comparison data through December 2010 are available at: http://www.nhqualitycare.org/reports.php?id=sip.

Surgical Antimicrobial prophylaxis data by hospital for January 1–December 31, 2010 are reproduced in the following tables with comparisons to the state average.

TABLE 18: Performance of Surgical Care Improvement Project (SCIP) measure 1 by hospital, Jan 1–Dec 31, 2010

Hospital	Number of Patients Prophylaxed	Total Number of Patients	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	47	48	97.9	90.4 , 99.9	Similar
Androscoggin Valley	30	32	93.8	80.9 , 98.9	Similar
Catholic Medical Center	379	387	97.9	96.1 , 99.0	Similar
Cheshire Medical Center	179	182	98.4	95.6 , 99.6	Similar
Concord Hospital	335	346	96.8	94.5 , 98.3	Similar
Cottage Hospital	42	44	95.5	85.8 , 99.2	Similar
DHMC	612	636	96.2	94.5 , 97.5	Similar
Elliot Hospital	257	258	99.6	98.1 , -	Higher
Exeter Hospital	394	396	99.5	98.3 , 99.9	Higher
Franklin Regional	14	14	100.0	80.7 , -	Similar
Frisbie Memorial	170	173	98.3	95.4 , 99.6	Similar
Huggins Hospital	73	73	100.0	96.0 , -	Similar
Lakes Region General	265	276	96.0	93.2 , 97.9	Similar
Littleton Regional	154	162	95.1	90.8 , 97.7	Similar
Monadnock Community	105	110	95.5	90.2 , 98.3	Similar
New London Hospital	82	102	80.4	71.8 , 87.2	Lower
Parkland Medical Center	62	62	100.0	95.3 , -	Similar
Portsmouth Regional	375	376	99.7	98.7 , -	Higher
Southern NH Medical	419	421	99.5	98.4 , 99.9	Higher
Speare Memorial Hospital	62	62	100.0	95.3 , -	Similar
St. Joseph Hospital	173	181	95.6	91.8 , 97.9	Similar
The Memorial Hospital	58	60	96.7	89.4 , 99.4	Similar
Upper Connecticut Valley	0	0	-	-	-
Valley Regional Hospital	83	84	98.8	94.3 , 99.9	Similar
Weeks Medical Center	32	33	97.0	86.0 , 99.9	Similar
Wentworth-Douglass	290	290	100.0	99.0 , -	Higher
State Total	4692	4808	97.6	97.1 , 98.0	

SCIP-1: Percentage of patients who received prophylactic antibiotic within one hour prior to surgery
Note: Statistics cannot be calculated for hospitals with 0 number of patients given prophylaxis.

TABLE 19: Performance of Surgical Care Improvement Project (SCIP) measure 2 by hospital, Jan 1–Dec 31, 2010

Hospital	Number of Patients Prophylaxed	Total Number of Patients	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	46	48	95.8	96.9 , 99.3	Similar
Androscoggin Valley	30	32	93.8	80.9 , 98.9	Similar
Catholic Medical Center	388	395	98.2	96.5 , 99.2	Similar
Cheshire Medical Center	183	184	99.5	97.4 , -	Similar
Concord Hospital	343	353	97.2	95.0 , 98.6	Similar
Cottage Hospital	43	44	97.7	89.3 , 99.9	Similar
DHMC	634	647	98.0	96.7 , 98.9	Similar
Elliot Hospital	258	262	98.5	96.4 , 99.5	Similar
Exeter Hospital	395	402	98.3	96.6 , 99.2	Similar
Franklin Regional	14	15	93.3	71.3 , 99.7	Similar
Frisbie Memorial	171	173	98.8	96.2 , 99.8	Similar
Huggins Hospital	69	74	93.2	85.7 , 97.5	Lower
Lakes Region General	264	277	95.3	92.3 , 97.4	Lower
Littleton Regional	160	164	97.6	94.2 , 99.2	Similar
Monadnock Community	106	111	95.5	90.3 , 98.3	Similar
New London Hospital	101	102	99.0	95.3 , -	Similar
Parkland Medical Center	62	63	98.4	92.4 , 99.9	Similar
Portsmouth Regional	401	402	99.8	98.8 , -	Higher
Southern NH Medical	426	427	99.8	98.9 , -	Higher
Speare Memorial Hospital	62	62	100.0	95.3 , -	Similar
St. Joseph Hospital	179	181	98.9	96.4 , 99.8	Similar
The Memorial Hospital	58	59	98.3	91.9 , 99.9	Similar
Upper Connecticut Valley	0	0	-	-	-
Valley Regional Hospital	82	84	97.6	92.4 , 99.6	Similar
Weeks Medical Center	34	34	100.0	91.6 , -	Similar
Wentworth-Douglass	290	291	99.7	98.3 , -	Similar
State Total	4799	4886	98.2	97.8 , 98.6	

SCIP-2: Percentage of patients who received the correct prophylactic antibiotic.
Note: Statistics cannot be calculated for hospitals with 0 number of patients given prophylaxis.

TABLE 20: Performance of Surgical Care Improvement Project (SCIP) measure 3 by hospital, Jan 1–Dec 31, 2010

Hospital	Number of Patients Prophylaxed	Total Number of Patients	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	48	48	100.0	94.0 , -	Similar
Androscoggin Valley	27	29	93.1	79.0 , 98.8	Similar
Catholic Medical Center	363	374	97.1	95.0 , 98.4	Similar
Cheshire Medical Center	176	180	97.8	94.7 , 99.3	Similar
Concord Hospital	324	340	95.3	92.6 , 97.2	Similar
Cottage Hospital	39	44	88.6	76.6 , 95.7	Lower
DHMC	597	620	96.3	94.6 , 97.6	Similar
Elliot Hospital	238	248	96.0	92.9 , 97.9	Similar
Exeter Hospital	369	382	96.6	94.4 , 98.1	Similar
Franklin Regional	14	14	100.0	80.7 , -	Similar
Frisbie Memorial	167	168	99.4	97.1 , -	Similar
Huggins Hospital	72	73	98.6	93.4 , 99.9	Similar
Lakes Region General	256	267	95.9	93.0 , 97.8	Similar
Littleton Regional	158	162	97.5	94.2 , 99.2	Similar
Monadnock Community	103	105	98.1	93.9 , 99.7	Similar
New London Hospital	97	100	97.0	92.1 , 99.2	Similar
Parkland Medical Center	58	58	100.0	95.0 , -	Similar
Portsmouth Regional	358	358	100.0	99.2 , -	Higher
Southern NH Medical	414	420	98.6	97.1 , 99.4	Similar
Speare Memorial Hospital	60	61	98.4	92.2 , 99.9	Similar
St. Joseph Hospital	174	178	97.8	94.7 , 99.3	Similar
The Memorial Hospital	51	58	87.9	77.6 , 94.6	Lower
Upper Connecticut Valley	0	0	-	-	-
Valley Regional Hospital	80	83	96.4	90.5 , 99.1	Similar
Weeks Medical Center	32	33	97.0	86.0 , 99.9	Similar
Wentworth-Douglass	285	287	99.3	97.7 , 99.9	Higher
State Total	4560	4690	97.2	96.7 , 97.7	

SCIP-3: Percentage of patients whose prophylactic antibiotic was discontinued within 24 hours after surgery.
Note: Statistics cannot be calculated for hospitals with 0 number of patients given prophylaxis.

Surgical antimicrobial prophylaxis: Comparison to 2009 Data

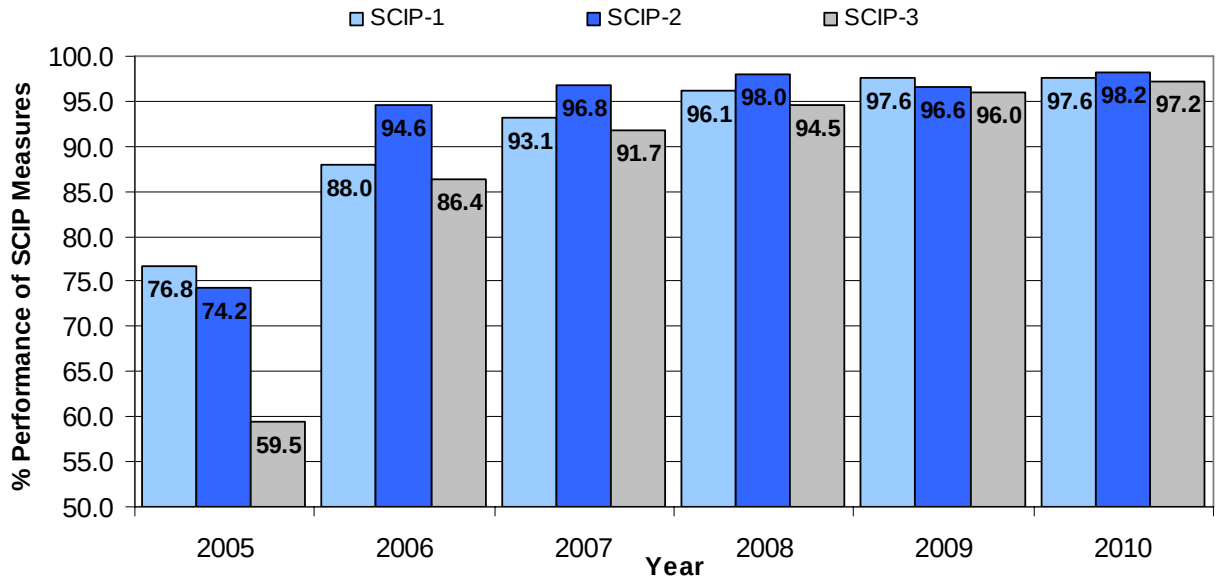
Overall, in 2010 the statewide adherences to SCIP-1 and SCIP-2 measures were similar when compared to 2009 and adherence to SCIP-3 was higher when compared to 2009. Further analysis showed that one hospital (Portsmouth Regional) had significantly increased SCIP-3 compliance from 2009 to 2010. All other hospitals had similar SCIP-1, SCIP-2, and SCIP-3 adherence in 2010 when compared to 2009. Overall, statewide adherence to SCIP measures in New Hampshire hospitals has improved significantly since 2005.

TABLE 21: Performance of Surgical Care Improvement Project (SCIP) measures, comparison between 2009 and 2010

SCIP Measure	% Adherence 2010	95% Confidence Interval 2010	% Adherence 2009	95% Confidence Interval 2009	2010 Compared to 2009
SCIP-1	97.6	97.1 , 98.0	97.6	97.1 , 98.0	Similar
SCIP-2	98.2	97.8 , 98.6	98.6	98.3 , 99.0	Similar
SCIP-3	97.2	96.7 , 97.7	96.0	95.4 , 96.5	Higher

SCIP-1: Percentage of patients who received prophylactic antibiotic within one hour prior to surgery
SCIP-2: Percentage of patients who received the appropriate prophylactic antibiotic
SCIP-3: Percentage of patients whose prophylactic antibiotic was discontinued within 24 hours after surgery

FIGURE 12: Statewide Performance of Surgical Care Improvement Project (SCIP) measures, 2005 - 2010



SCIP-1: Percentage of patients who received prophylactic antibiotic within one hour prior to surgery
SCIP-2: Percentage of patients who received the appropriate prophylactic antibiotic
SCIP-3: Percentage of patients whose prophylactic antibiotic was discontinued within 24 hours after surgery

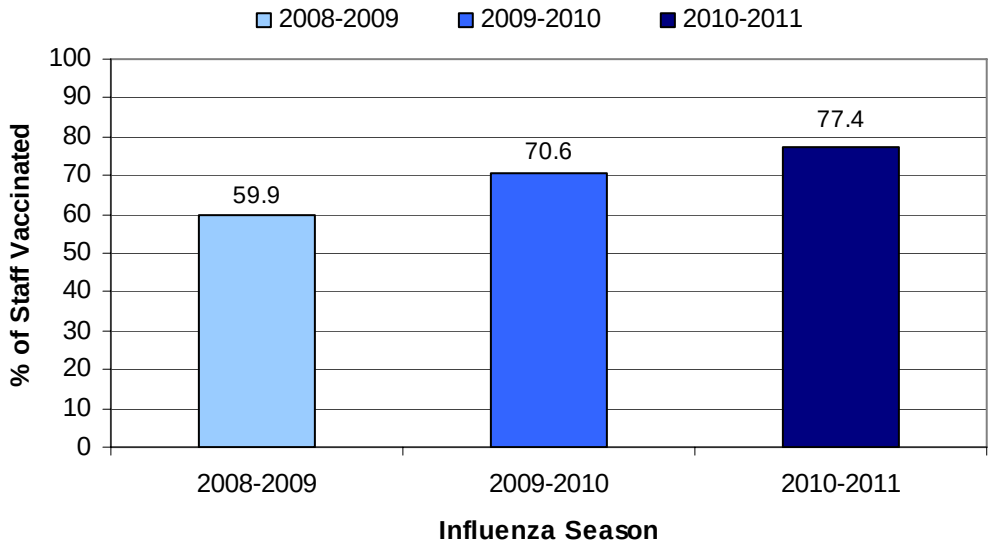
Additional surgical antimicrobial prophylaxis data by hospital with state and national comparison data through December 2010 are available at: http://www.nhqualitycare.org/reports.php?id=sip.

Influenza Vaccination Rates

Healthcare workers can become infected with the influenza virus through contact with infected patients and can transmit influenza to patients and other staff. Despite documented benefits of healthcare worker influenza vaccination on patient outcomes and healthcare worker absenteeism nationally, vaccination coverage among healthcare workers remains low. A 2003 CDC survey showed influenza vaccination coverage in healthcare workers was 40%.[7] Because healthcare workers provide care to patients at high risk for complications of influenza, they should be offered influenza vaccine each year. Currently there are no regulations requiring vaccination in New Hampshire, and healthcare workers are free to decline vaccination for any reason. However, some hospitals do have policies requiring mandatory staff vaccination. Vaccination rates in hospital staff have been monitored in New Hampshire for several years. See methods section for additional information on data collection.

Table 23 below shows the total number of staff and the number of staff vaccinated against seasonal influenza at each hospital during the 2010–2011 influenza season. Vaccination rates by hospital ranged from 50.2% to 95.1%, and the overall State rate was 77.4%. A confidence interval is provided to assess any statistically significant differences in staff vaccination between hospitals. The analysis presented in Table 23 shows that five hospitals had vaccination percentages similar to the overall State vaccination percentage, 13 hospitals reported vaccination percentages that were significantly higher than the overall State vaccination percentage, and 13 hospitals reported vaccination percentages that were significantly lower than the overall State vaccination percentage.

FIGURE 13: Statewide influenza vaccination rates for hospital staff by influenza season



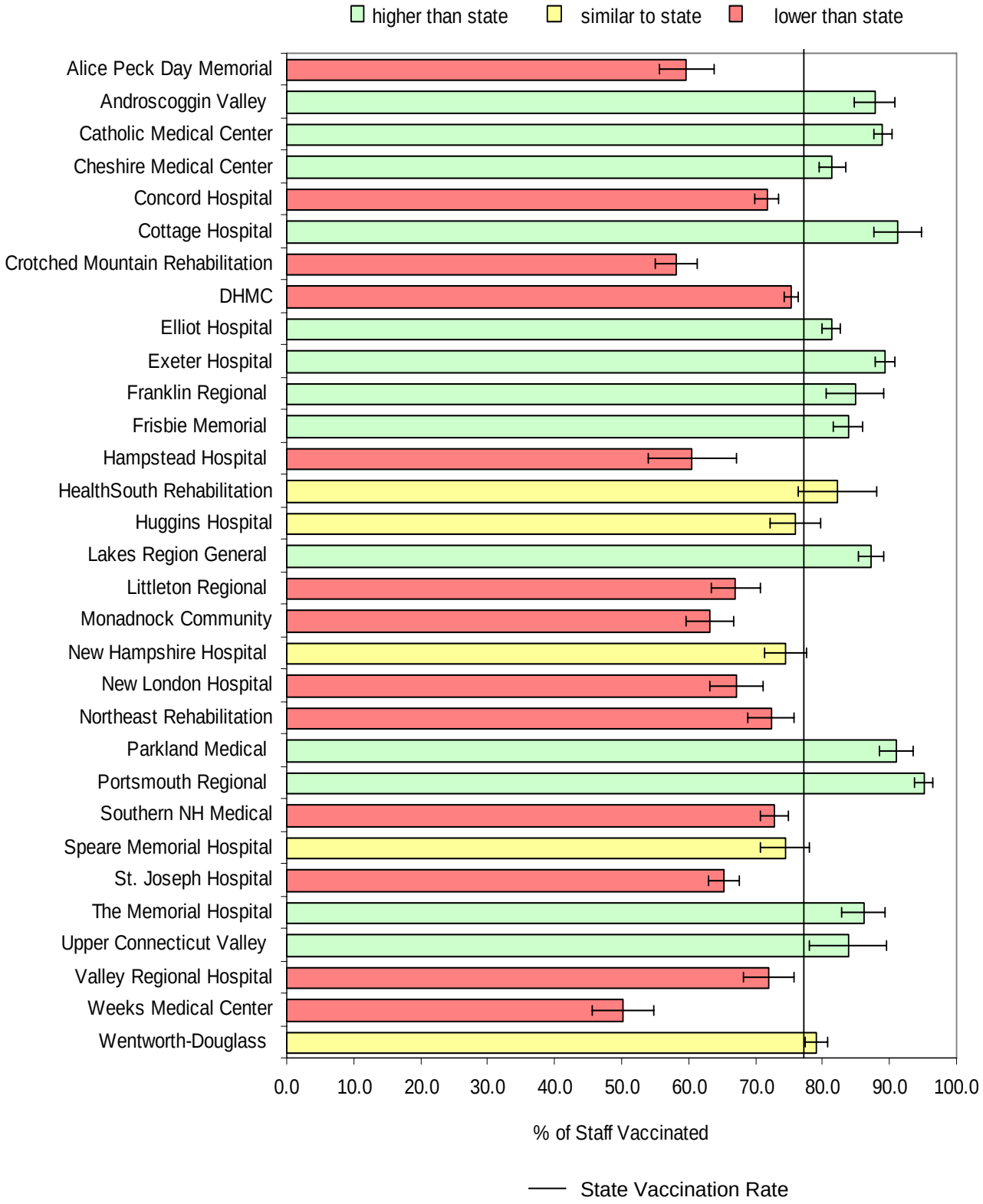
2008-2009 season reports on staff between October 1st, 2008 and April 30th, 2009
2009-2010 season reports on staff between October 1st, 2009 and March 31st, 2010
2010-2001 season reports on staff between October 1st, 2010 and March 31st, 2011

[7] CDC. Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). Morbidity and Mortality Weekly Report; 54(RR08):1-40.
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5408a1.htm

TABLE 22: Influenza vaccination rates for hospital staff by hospital, 2010–2011 influenza season, October 1, 2010–March 31, 2011)

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	342	573	59.7	55.7 , 63.7	Lower
Androscoggin Valley	410	467	87.8	84.8 , 90.8	Higher
Catholic Medical Center	2066	2321	89.1	87.7 , 90.3	Higher
Cheshire Medical Center	1206	1481	81.4	79.4 , 83.4	Higher
Concord Hospital	1690	2358	71.7	69.9 , 73.5	Lower
Cottage Hospital	229	251	91.2	87.7 , 94.9	Higher
DHMC	4640	6165	75.3	74.2 , 76.4	Lower
Elliot Hospital	2900	3566	81.3	80.0 , 82.6	Higher
Exeter Hospital	1435	1607	89.3	87.8 , 90.8	Higher
Franklin Regional	231	272	84.9	80.6 , 89.2	Higher
Frisbie Memorial	838	1000	83.8	81.5 , 86.1	Higher
Huggins Hospital	388	511	75.9	72.2 , 79.6	Similar
Lakes Region General	1087	1245	87.3	85.5 , 89.1	Higher
Littleton Regional	421	628	67.0	63.3 , 70.7	Lower
Monadnock Community	434	687	63.2	59.6 , 66.8	Lower
New London Hospital	358	533	67.2	63.2 , 71.2	Lower
Parkland Medical Center	463	509	91.0	88.5 , 93.5	Higher
Portsmouth Regional	1019	1071	95.1	93.8 , 96.4	Higher
Southern NH Medical	1196	1642	72.8	70.6 , 75.0	Lower
Speare Memorial Hospital	390	524	74.4	70.7 , 78.1	Similar
St. Joseph Hospital	1017	1557	65.3	62.9 , 67.7	Lower
The Memorial Hospital	390	453	86.1	82.9 , 89.3	Higher
Upper Connecticut Valley	129	154	83.9	78.1 , 89.7	Higher
Valley Regional Hospital	399	554	72.0	68.3 , 75.7	Lower
Weeks Medical Center	235	468	50.2	45.7 , 54.7	Lower
Wentworth-Douglass	1779	2250	79.1	77.4 , 80.8	Similar
Crotched Mountain Rehabilitation	540	930	58.1	54.9 , 61.3	Lower
HealthSouth Rehabilitation	135	164	82.3	76.5 , 88.1	Similar
Northeast Rehabilitation	470	650	72.3	68.9 , 75.7	Lower
Hampstead Hospital	127	210	60.5	53.9 , 67.1	Lower
New Hampshire Hospital	557	749	74.4	71.3 , 77.5	Similar
State Total	27521	36550	77.4	77.0, 77.8	

FIGURE 14: Influenza vaccination rates for hospital staff by hospital, 2010–2011 influenza season, (October 1, 2010–March 31, 2011)



Influenza vaccination rates: Comparison to 2009 and 2010 Data

The overall statewide hospital staff vaccination rate increased significantly from 2008–2009 to 2009–2010, which may have been explained by overall increased interest in influenza vaccination as a result of the 2009 H1N1 pandemic. However, the influenza vaccination rate continued to increase between the 2009-2010 and 2010-2011 seasons suggesting other influences, such as the public reporting of influenza vaccination rates. The analysis presented in Table 24 shows that overall, 11 hospitals increased staff influenza vaccination in 2010-2011 compared to 2009-2010, 13 hospitals had similar vaccination rates, and one hospital decreased influenza vaccination rates.

FIGURE 15: Influenza vaccination rates for hospital staff by hospital, 2009–2010 and 2010–2011 influenza seasons

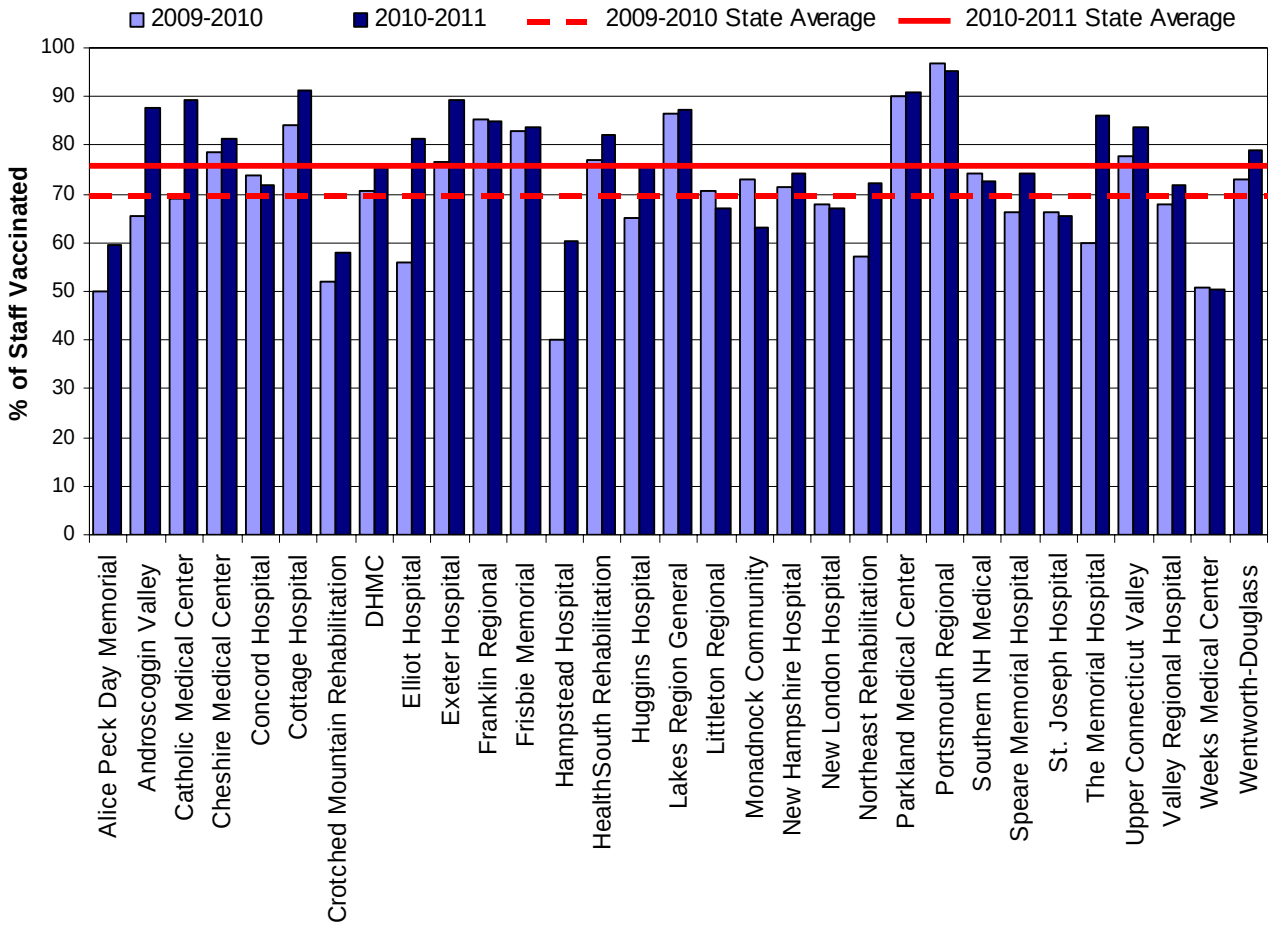


TABLE 23: Influenza vaccination rates for hospital staff by hospital, comparison between 2009-2010 and 2010-1011 influenza seasons

Hospital	% Vaccinated 2010	95% Confidence Interval 2010	% Vaccinated 2009	95% Confidence Interval 2009	2010 Compared to 2009
Alice Peck Day Memorial	59.7	55.7 , 63.7	50.0	45.6 , 54.4	Higher
Androscoggin Valley	87.8	84.8 , 90.8	65.4	60.9 , 69.9	Higher
Catholic Medical Center	89.0	87.7 , 90.3	69.0	67.0 , 71.0	Higher
Cheshire Medical Center	81.4	79.4 , 83.4	78.7	76.6 , 80.8	Similar
Concord Hospital	71.7	69.9, 73.5	73.8	72.3 , 75.3	Similar
Cottage Hospital	91.2	87.7 , 94.9	84.0	79.1 , 88.9	Similar
DHMC	75.3	74.2 , 76.4	70.5	69.4 , 71.6	Higher
Elliot Hospital	81.3	80.0 , 82.6	56.1	54.4 , 57.8	Higher
Exeter Hospital	89.3	87.8 , 90.8	76.4	74.4 , 78.4	Higher
Franklin Regional	84.9	80.6 , 89.2	85.3	81.6 , 89.0	Similar
Frisbie Memorial	83.8	81.5 , 86.1	83.1	80.8 , 85.4	Similar
Huggins Hospital	75.9	72.2 , 79.6	65.0	60.9 , 69.1	Higher
Lakes Region General	87.3	85.5 , 89.1	86.4	84.5 , 88.3	Similar
Littleton Regional	67.0	63.3 , 70.7	70.6	66.2 , 75.0	Similar
Monadnock Community	63.2	59.6 , 66.8	73.0	69.7 , 76.3	Lower
New London Hospital	67.2	63.2 , 71.2	67.8	64.1 , 71.5	Similar
Parkland Medical Center	91.0	88.5 , 93.5	89.9	87.4 , 92.4	Similar
Portsmouth Regional	95.1	93.8 , 96.4	96.9	95.8 , 98.0	Similar
Southern NH Medical	72.8	70.6 , 75.0	74.2	72.1 , 76.3	Similar
Speare Memorial Hospital	74.4	70.7 , 78.1	66.1	61.4 , 70.8	Similar
St. Joseph Hospital	65.3	62.9 , 67.7	66.1	63.6 , 68.6	Similar
The Memorial Hospital	86.1	82.9 , 89.3	60.0	55.6, 64.4	Higher
Upper Connecticut Valley	83.8	78.1 , 89.7	77.9	71.1 , 84.7	Similar
Valley Regional Hospital	72.0	68.3 , 75.7	67.9	63.9 , 71.9	Similar
Weeks Medical Center	50.2	45.7 , 54.7	50.8	45.7 , 55.9	Similar
Wentworth-Douglass	79.1	77.4 , 80.8	73.0	71.0 , 75.0	Higher
Crotched Mountain Rehabilitation	58.1	54.9 , 61.3	52.1	49.1 , 55.1	Similar
HealthSouth Rehabilitation	82.3	76.5 , 88.1	76.9	70.6 , 83.2	Similar
Northeast Rehabilitation	72.3	68.9 , 75.7	57.1	53.4 , 60.8	Higher
Hampstead Hospital	60.5	53.9 , 67.1	40.0	33.4 , 46.6	Higher
New Hampshire Hospital	74.4	71.3 , 77.5	71.4	68.4 , 74.4	Similar
State Total	77.4	77.0 , 77.8	70.6	70.1 , 71.1	Higher

CONCLUSIONS

This second report on HAI surveillance data displays progress toward the goal of eliminating HAIs in New Hampshire. This report provides a picture of selected HAI data that can be used by healthcare facilities to identify areas for improvement and prevention, as well as healthcare consumers to make informed healthcare decisions.

Key findings described in this report include the following:

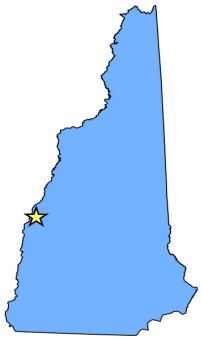
- All 31 licensed hospitals in New Hampshire complied with the HAI mandatory reporting law in 2010.
- Overall, New Hampshire hospitals reported fewer HAIs associated with central lines and selected surgeries than expected based on national data. While the total number of infections reported decreased in 2010 compared to 2009, this difference was not statistically significant**.**
- The majority of hospitals have infection rates that are lower or similar to national rates. While all hospitals should continue to work to eliminate HAIs, this report highlights a few hospitals that have higher infection rates for certain procedures, which may warrant changes to current infection prevention practices in order to reduce infections. Also, some rates have increased since 2009, suggesting that current hospital practices or data collection methods should be reviewed.
- Overall statewide adherence to all four infection-prevention practices during central line insertions was 96.8%, which represents an increase from 2010 (93.5 %). Hospitals have made improvement and should continue to work toward the goal of 100% adherence.
- Overall, New Hampshire hospitals performed surgical antimicrobial prophylaxis correctly more often than the national average. Compared to 2010, the percentage of patients whose prophylactic antibiotic was discontinued within 24 hours after surgery increased (SCIP-3). SCIP-1 and SCIP-2 did not significantly increase or decrease.
- Vaccination rates by hospital during the 2010–2011 influenza season ranged from 50.2% to 95.1%. The overall State rate was 77.4%, which represents a significant increase from the 2009–2010 influenza season when the statewide vaccination rate was 70.6% (in 2008-2009 the vaccination rate was 59.9%).

While this report only includes information on a subset of HAIs, the information provided can be used as an important indicator of healthcare quality and infection prevention efforts in New Hampshire hospitals. Although data in this report have not been independently validated to assess reporting accuracy, this process is ongoing and will be the subject of a future report.

Healthcare consumers can discuss the information provided in this report with their healthcare provider and should review Appendix 3 for information on what individual patients can do to prevent healthcare-associated infections.

ACUTE CARE HOSPITAL REPORTS

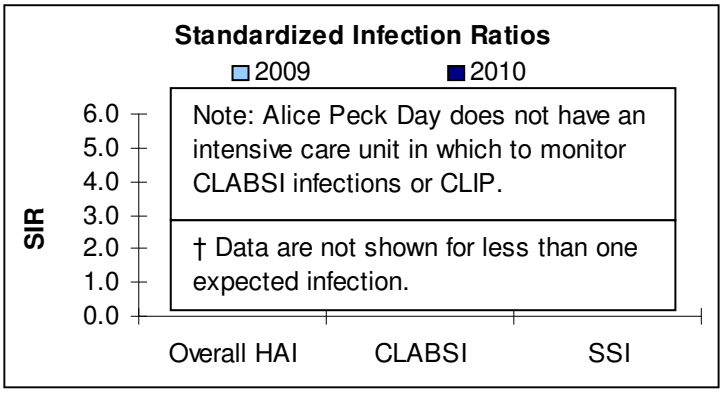
Because data must be broken down into categories for risk adjustment and because rates must be suppressed if data are too sparse, data that can be presented for New Hampshire facilities may be limited. Due to restrictions on presenting data if not enough central line days or procedures were performed, there are several hospitals for which hospital-specific infections data cannot be presented. See technical notes for additional information on data restriction and presentation.



ALICE PECK DAY MEMORIAL

Lebanon, New Hampshire
Not-for-profit
# of Admissions: 1,195
# of Beds: 25
# of ICU Beds: 0
# of Patient-days: 6,488

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

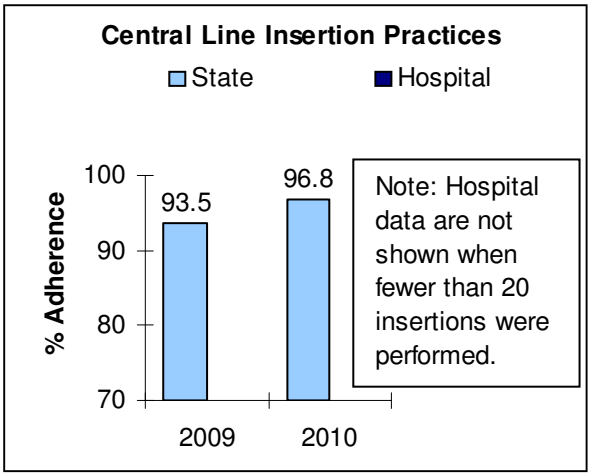
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	†	†	†	†	†
CLABSI					
SSI	†	†	†	†	†
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

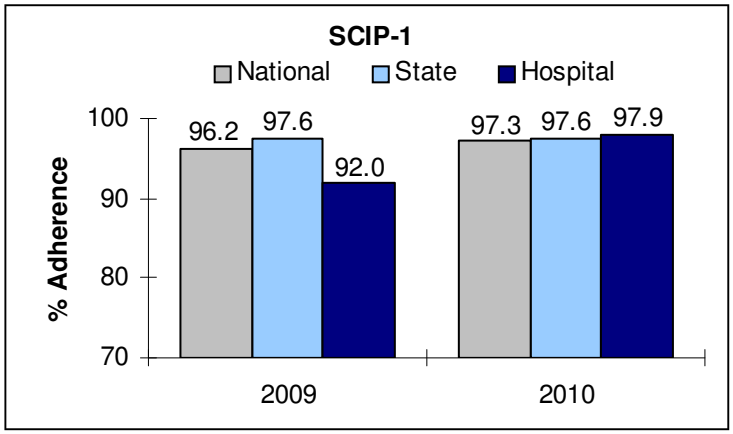
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

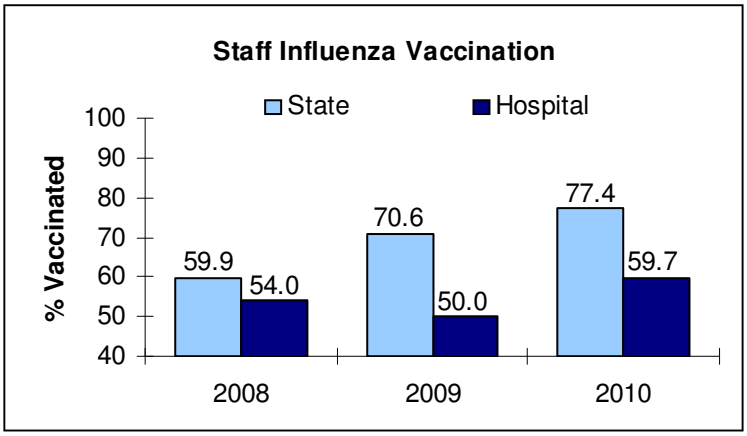
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
No ICU					

PROCESS MEASURES

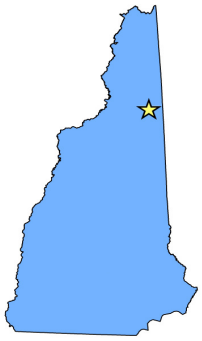
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP		96.8	
SCIP-1	97.9	97.6	Similar
SCIP-2	95.8	98.6	Similar
SCIP-3	100.0	96.0	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	59.7	77.4	Lower







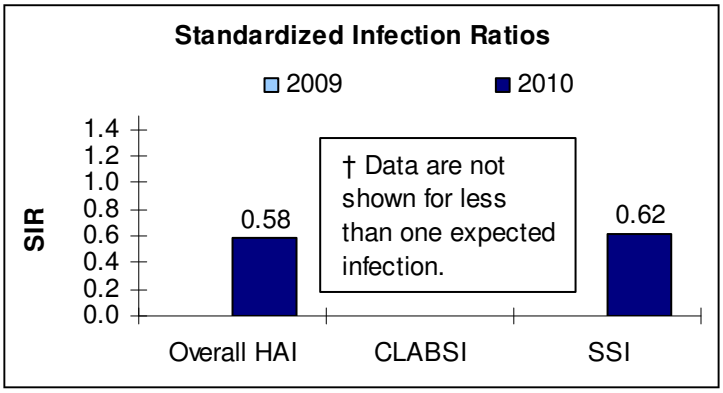
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



ANDROSCOGGIN VALLEY

Berlin, New Hampshire
Not-for-profit
# of Admissions: 1,414
# of Beds: 25
# of ICU Beds: 4
# of Patient-days: 5,503

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

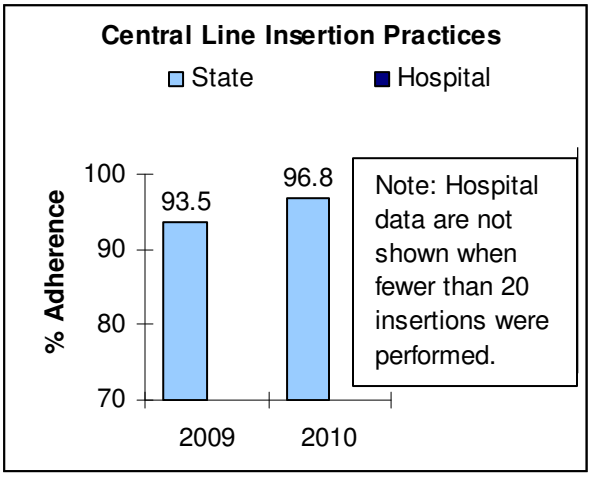
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	1	1.72	0.58	0.01 , 3.23	Similar
CLABSI	†	†	†	†	†
SSI	1	1.61	0.62	0.01 , 3.46	Similar
CABG					
COLO	1	1.51	0.66	0.01 , 3.67	Similar
KPRO	†	†	†	†	†

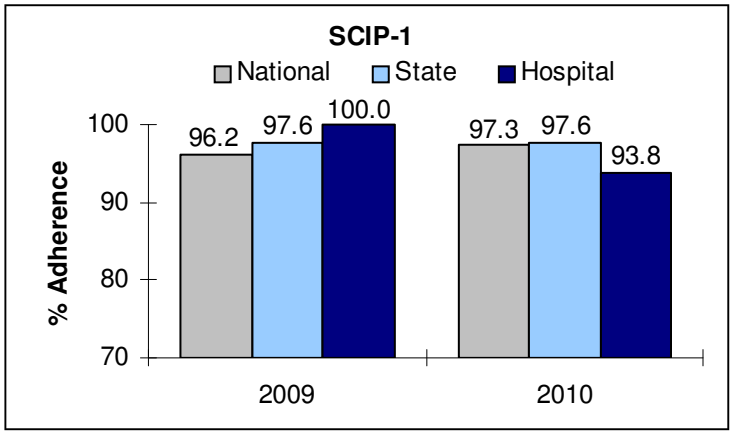
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

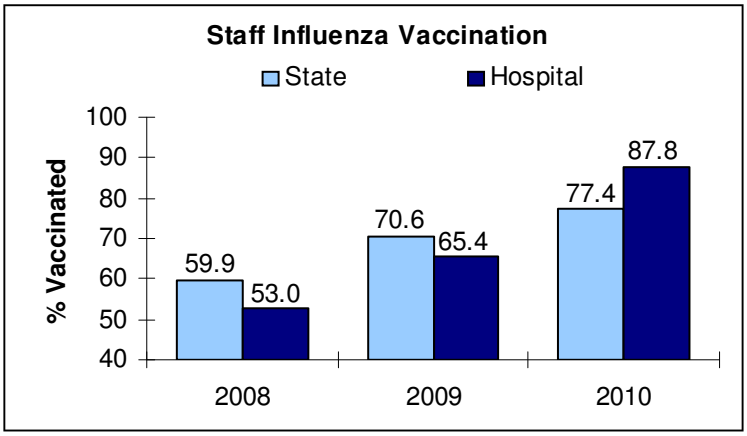
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	78	0.0	1.5	Similar

PROCESS MEASURES

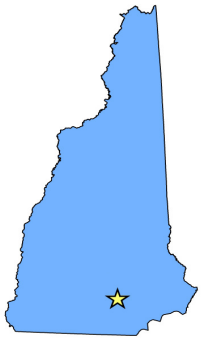
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	93.8	97.6	Similar
SCIP-2	93.8	98.2	Similar
SCIP-3	93.1	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	87.8	77.4	Higher







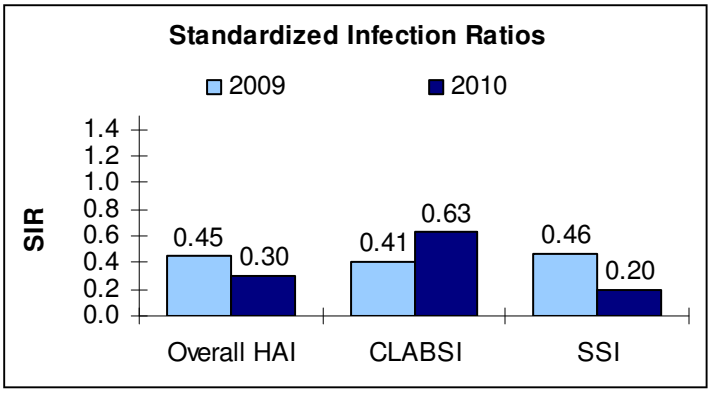
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



CATHOLIC MEDICAL CENTER

Manchester, New Hampshire
Not-for-profit
# of Admissions: 8,743
# of Beds: 239
# of ICU Beds: 20
# of Patient-days: 41,934

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

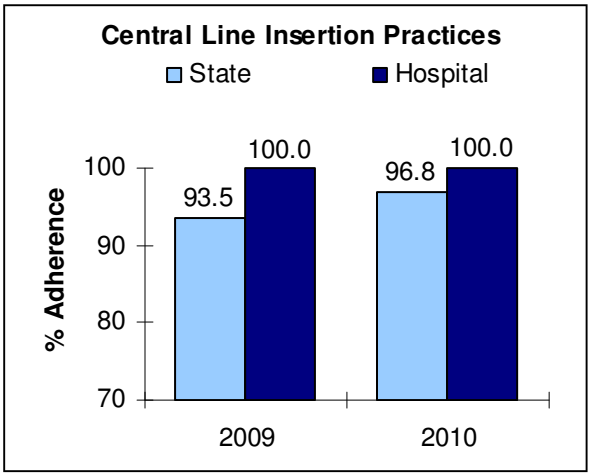
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	6	20.03	0.30	0.11 , 0.65	Lower
CLABSI	3	4.76	0.63	0.17 , 1.63	Similar
SSI	3	15.27	0.20	0.04 , 0.57	Lower
CABG	2	8.41	0.24	0.03 , 0.86	Lower
COLO	0	4.26	0.00	- , 0.86	Lower
KPRO	1	2.60	0.38	0.01 , 2.14	Similar

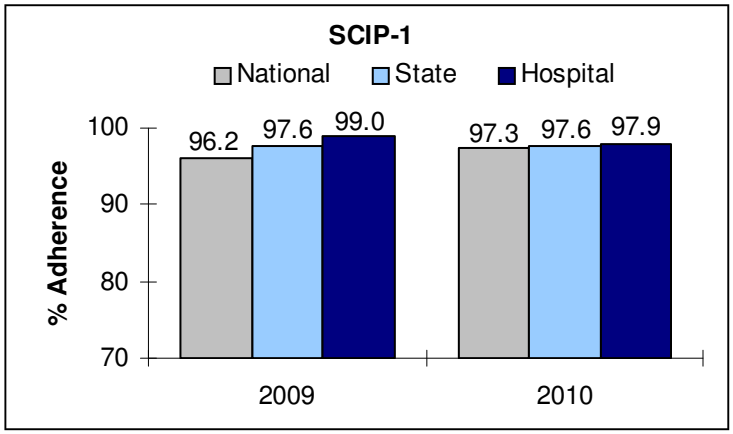
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

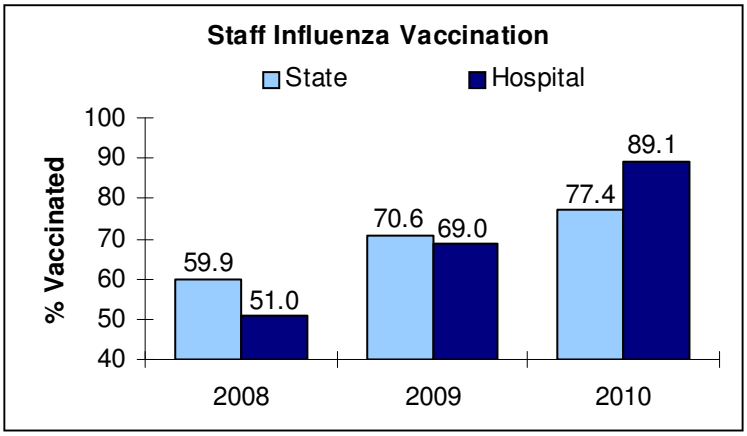
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	3	3174	0.9	1.5	Similar

PROCESS MEASURES

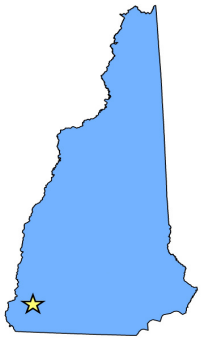
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	100.0	96.8	Higher
SCIP-1	97.9	97.6	Similar
SCIP-2	98.2	98.2	Similar
SCIP-3	97.1	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	89.1	77.4	Higher







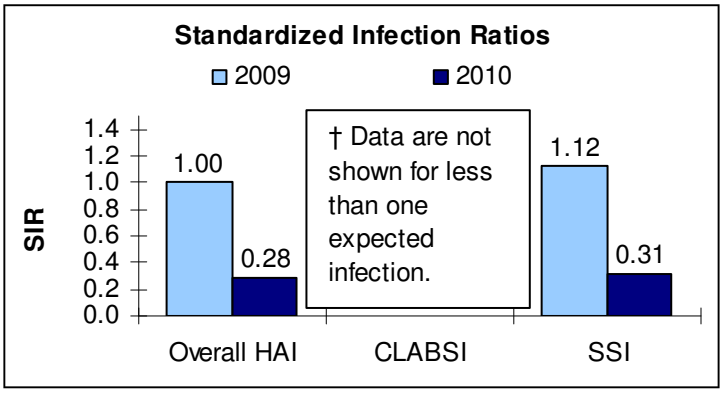
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



CHESHIRE MEDICAL CENTER

Keene, New Hampshire
Not-for-profit
# of Admissions: 4,922
# of Beds: 167
# of ICU Beds: 10
# of Patient-days: 21,174

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

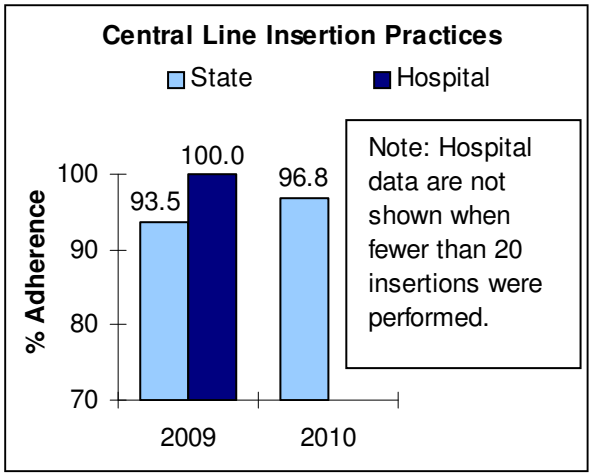
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	1	3.56	0.28	- , 1.56	Similar
CLABSI	†	†	†	†	†
SSI	1	3.23	0.31	- , 1.73	Similar
CABG					
COLO	1	2.40	0.42	0.01 , 2.31	Similar
KPRO	†	†	†	†	†

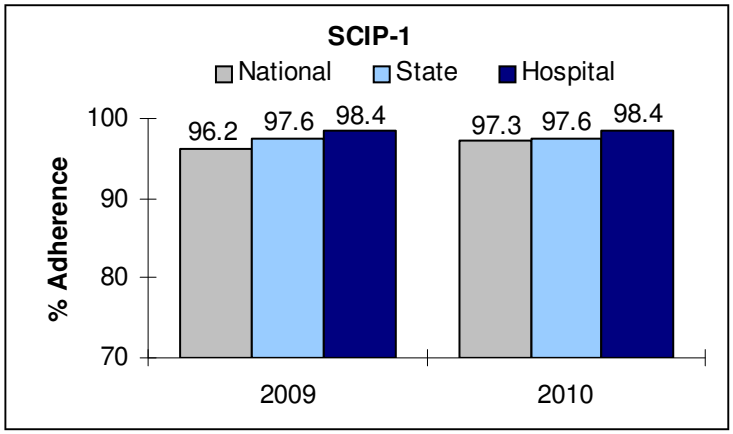
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

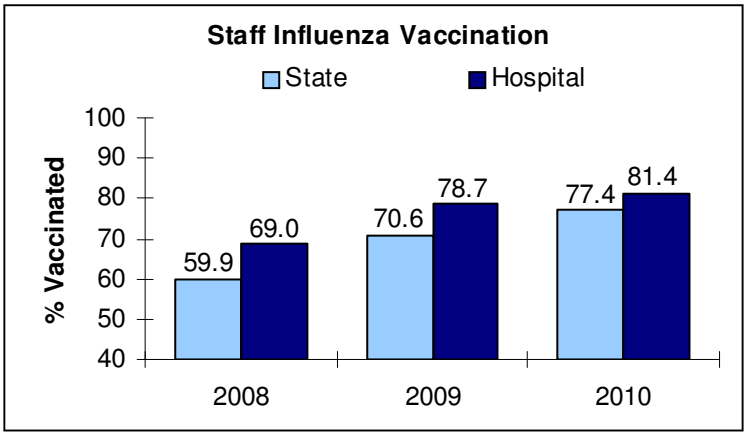
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical ICU	0	175	0.0	1.9	Similar

PROCESS MEASURES

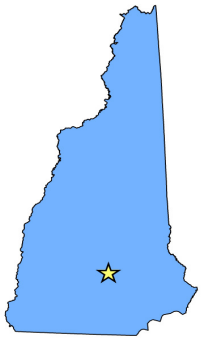
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	98.4	97.6	Similar
SCIP-2	99.5	98.2	Similar
SCIP-3	97.8	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	81.4	77.4	Higher







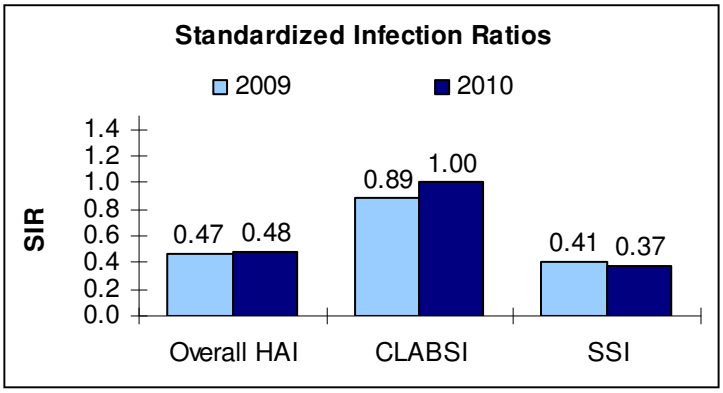
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



CONCORD HOSPITAL

Concord, New Hampshire
Not-for-profit
# of Admissions: 13,713
# of Beds: 206
# of ICU Beds: 18
# of Patient-days: 60,580

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

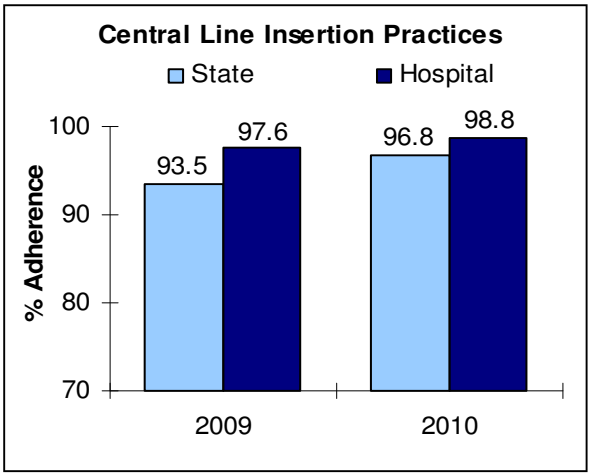
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	8	16.78	0.48	0.21 , 0.94	Lower
CLABSI	3	3.13	0.96	0.26 , 2.48	Similar
SSI	5	13.66	0.37	0.12 , 0.85	Lower
CABG	0	1.76	0.00	- , 2.09	Similar
COLO	1	5.59	0.18	0.00, 1.00	Lower
KPRO	4	6.31	0.63	0.17 , 1.62	Similar

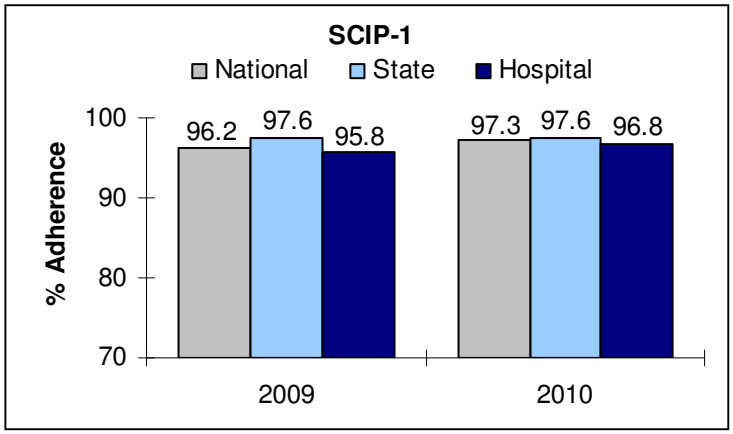
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

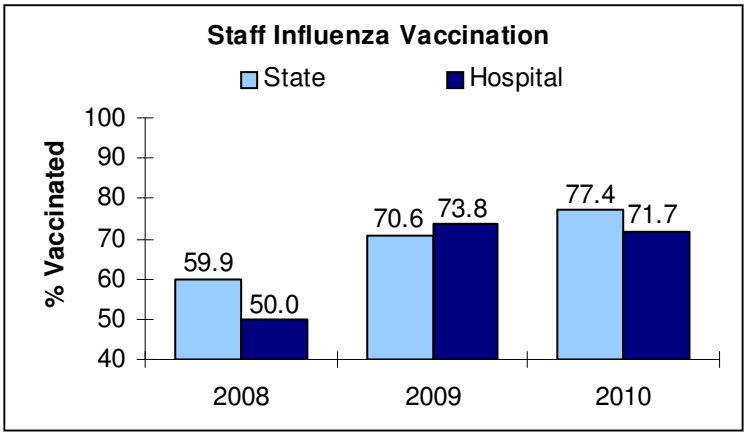
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	3	2084	1.4	1.5	Similar

PROCESS MEASURES

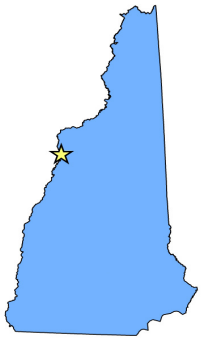
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	98.8	96.8	Similar
SCIP-1	96.8	97.6	Similar
SCIP-2	97.2	98.2	Similar
SCIP-3	95.3	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	71.7	77.4	Lower







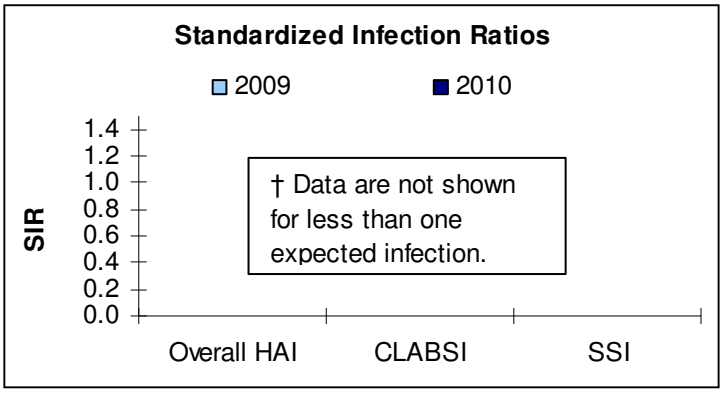
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



COTTAGE HOSPITAL

Woodsville, New Hampshire
Not-for-profit
# of Admissions: 1,173
# of Beds: 25
# of ICU Beds: 3
# of Patient-days: 4,320

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

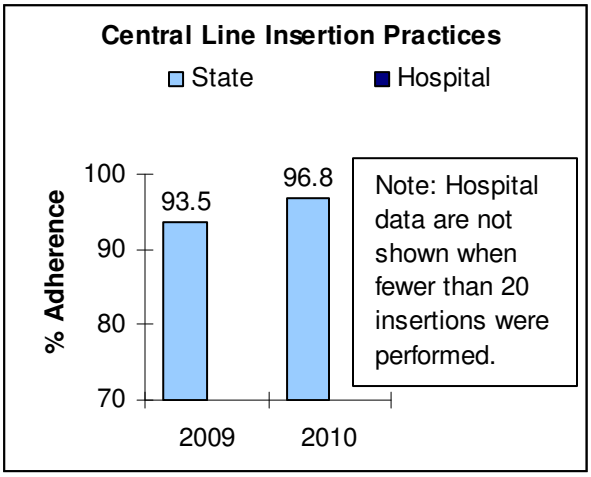
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	†	†	†	†	†
CLABSI	†	†	†	†	†
SSI	†	†	†	†	†
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

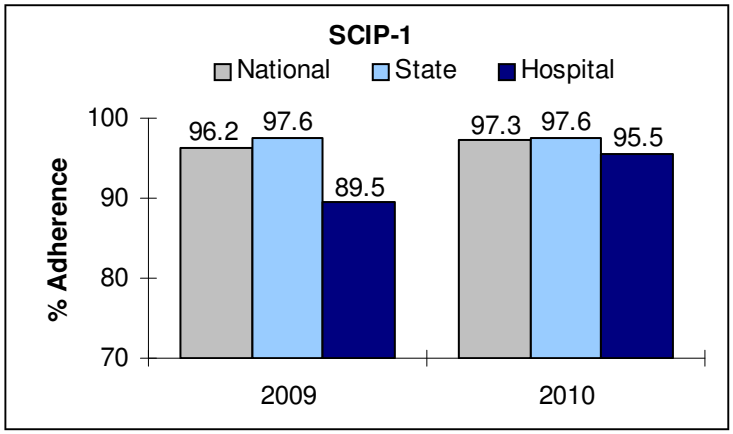
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

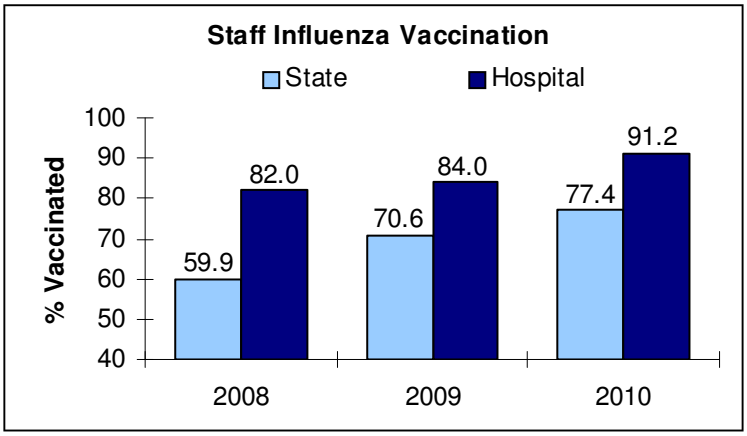
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	†	†	†	1.5	†

PROCESS MEASURES

Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	95.5	97.6	Similar
SCIP-2	97.7	98.2	Similar
SCIP-3	88.6	97.2	Lower
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	91.2	77.4	Higher

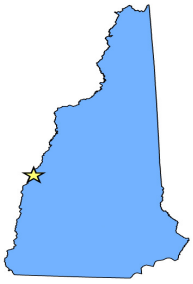






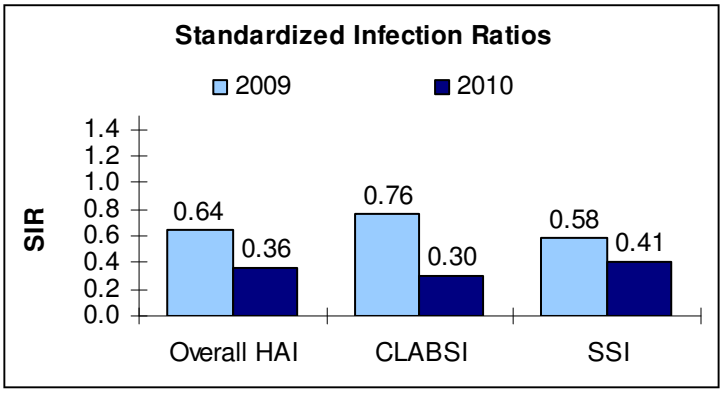
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices

DARTMOUTH-HITCHCOCK MEDICAL CENTER



Lebanon, New Hampshire
Not-for-profit
# of Admissions: 23,162
# of Beds: 397
# of ICU Beds: 80
# of Patient-days: 122,276

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

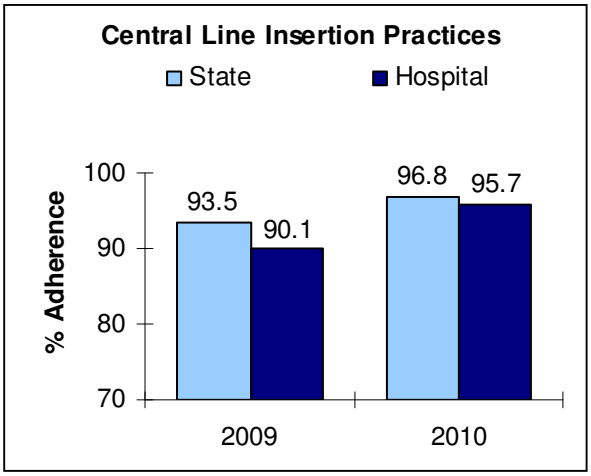
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	22	60.37	0.36	0.23 , 0.55	Lower
CLABSI	6	21.04	0.30	0.12 , 0.56	Lower
SSI	16	39.33	0.41	0.23 , 0.66	Lower
CABG	2	7.76	0.26	0.02 , 0.93	Lower
COLO	12	22.89	0.52	0.27 , 0.92	Lower
KPRO	2	8.68	0.23	0.03 , 0.83	Lower

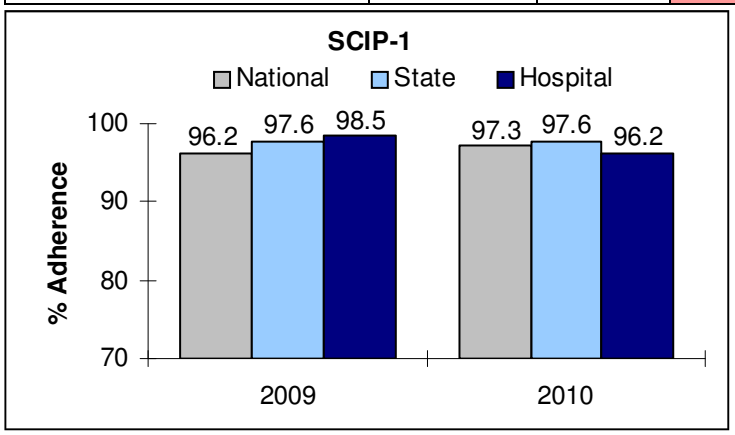
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

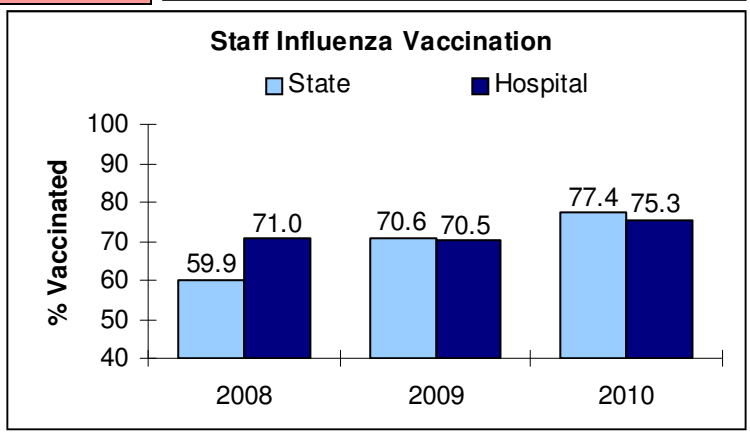
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	4	7710	0.5	2.1	Lower
Med Cardiac ICU	2	2423	0.8	2.0	Similar

PROCESS MEASURES

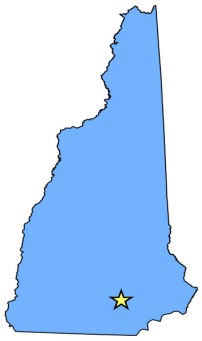
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	95.7	96.8	Similar
SCIP-1	96.2	97.6	Similar
SCIP-2	98.0	98.2	Similar
SCIP-3	96.3	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	75.3	77.4	Lower







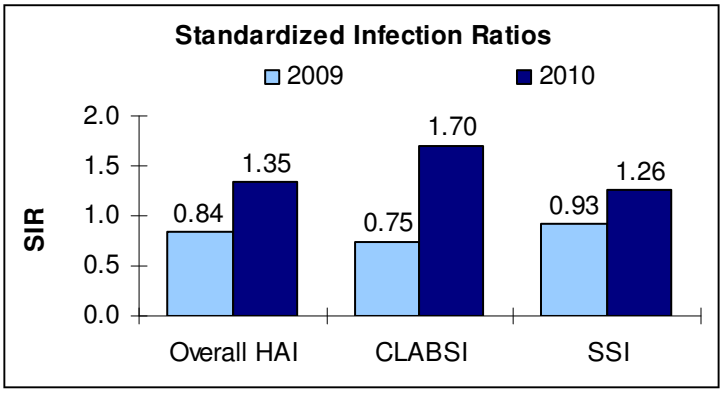
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



ELLIOT HOSPITAL

Manchester, New Hampshire
Not-for-profit
# of Admissions: 14,287
# of Beds: 281
# of ICU Beds: 40
# of Patient-days: 64,779

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

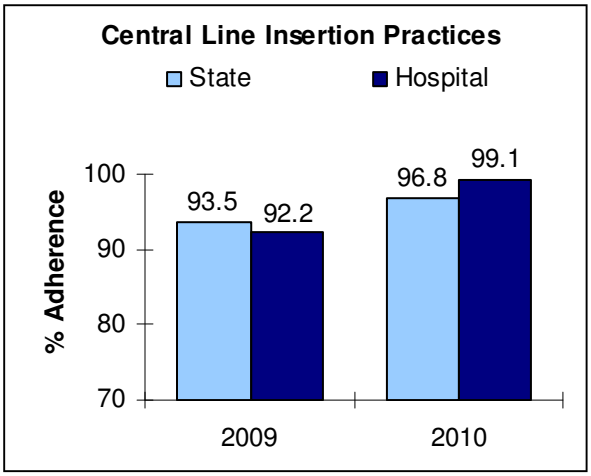
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	17	12.63	1.35	0.78 , 2.15	Similar
CLABSI	4	2.32	1.73	0.59 , 3.95	Similar
SSI	13	10.31	1.26	0.67 , 2.16	Similar
CABG					
COLO	7	6.90	1.01	0.41 , 2.09	Similar
KPRO	6	3.41	1.76	0.64 , 3.83	Similar

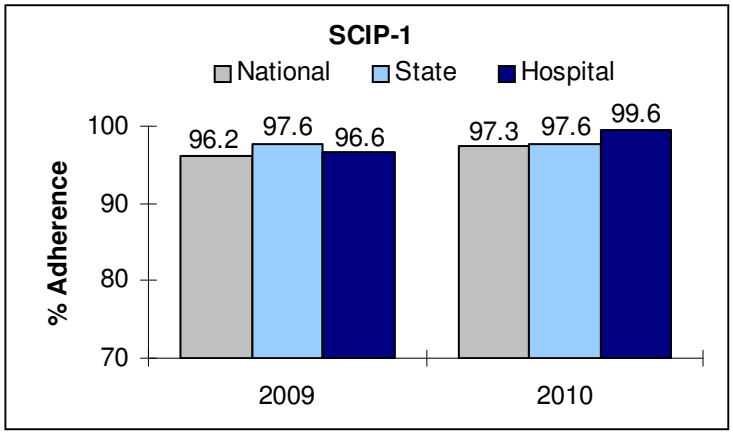
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

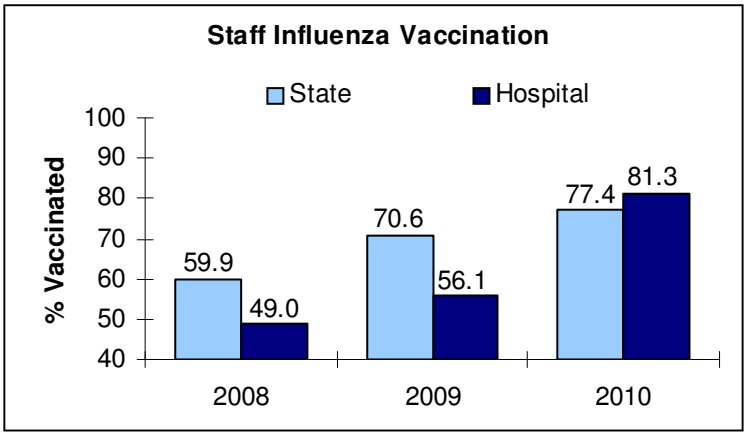
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	4	1545	2.6	1.5	Similar

PROCESS MEASURES

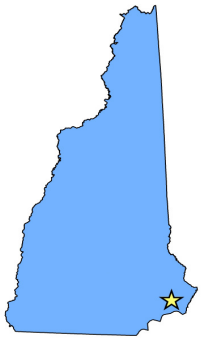
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	99.1	96.8	Similar
SCIP-1	99.6	97.6	Higher
SCIP-2	98.5	98.2	Similar
SCIP-3	96.0	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	81.3	77.4	Higher







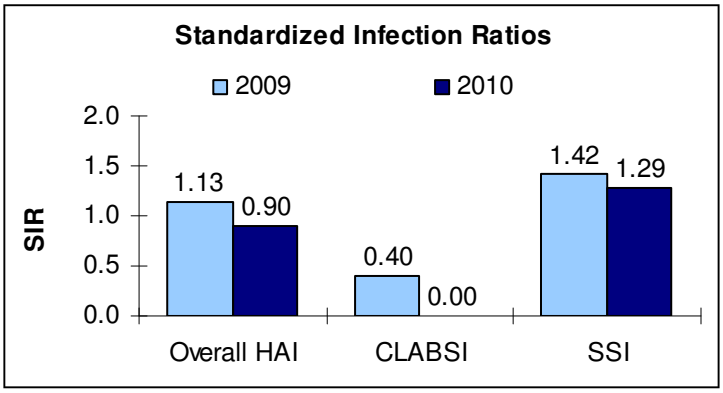
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



EXETER HOSPITAL

Exeter, New Hampshire
Not-for-profit
# of Admissions: 6,605
# of Beds: 100
# of ICU Beds: 10
# of Patient-days: 22,823

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

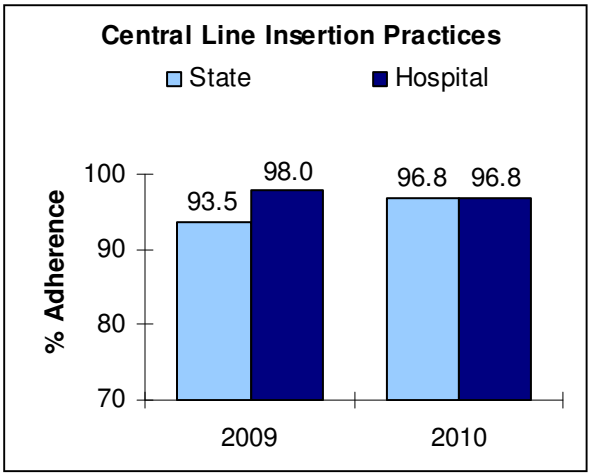
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	7	7.77	0.90	0.36 , 1.86	Similar
CLABSI	0	2.36	0.00	0.00 , 1.27	Similar
SSI	7	5.42	1.29	0.52 , 2.66	Similar
CABG					
COLO	5	3.77	1.33	0.43 , 3.10	Similar
KPRO	2	1.65	1.21	0.14 , 4.37	Similar

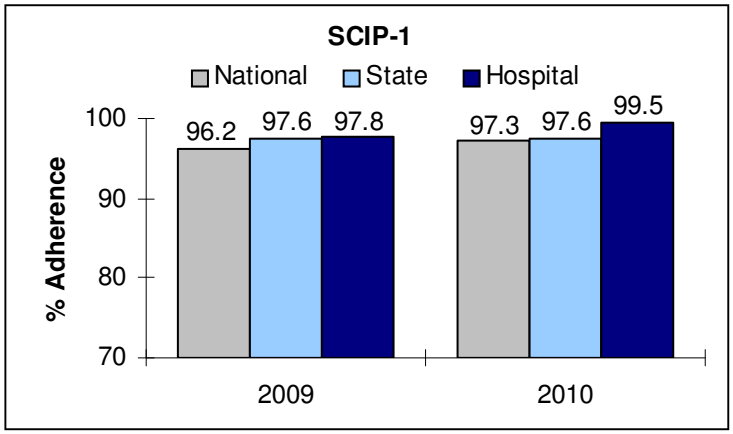
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

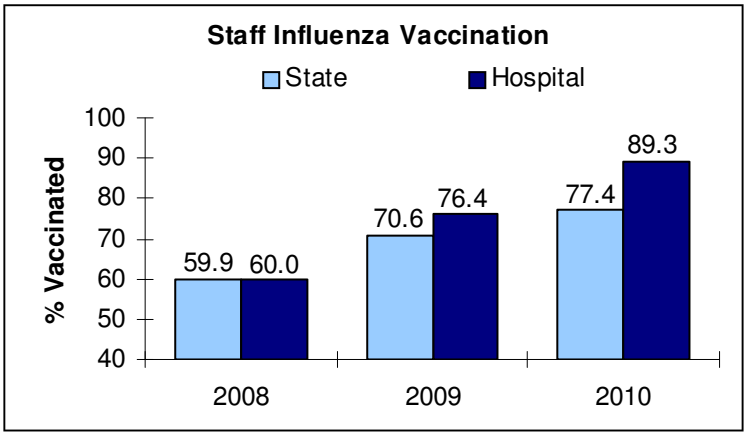
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	1570	0.0	1.5	Similar

PROCESS MEASURES

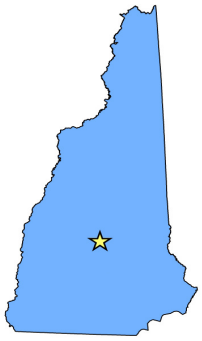
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	96.8	96.8	Similar
SCIP-1	99.5	97.6	Higher
SCIP-2	98.3	98.2	Similar
SCIP-3	96.6	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	89.3	77.4	Higher







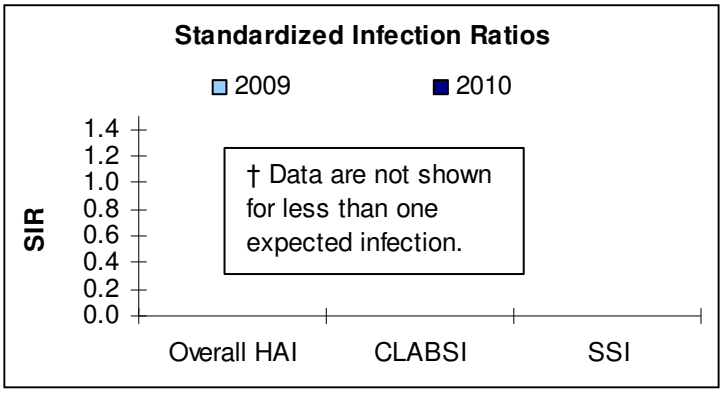
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



FRANKLIN REGIONAL

Franklin, New Hampshire
Not-for-profit
# of Admissions: 756
# of Beds: 25
# of ICU Beds: 5
# of Patient-days: 2,212

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

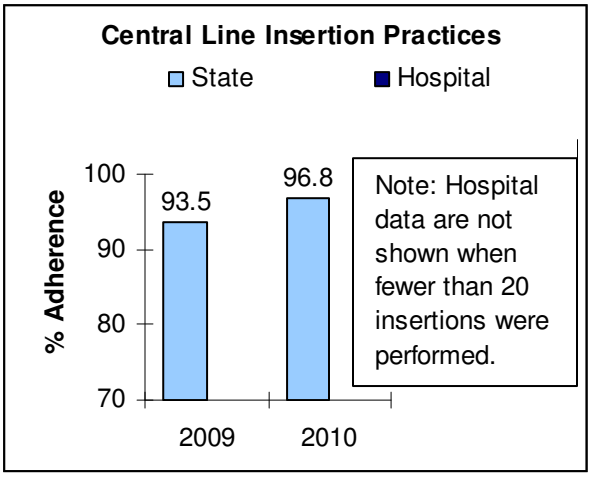
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	†	†	†	†	†
CLABSI	†	†	†	†	†
SSI	†	†	†	†	†
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

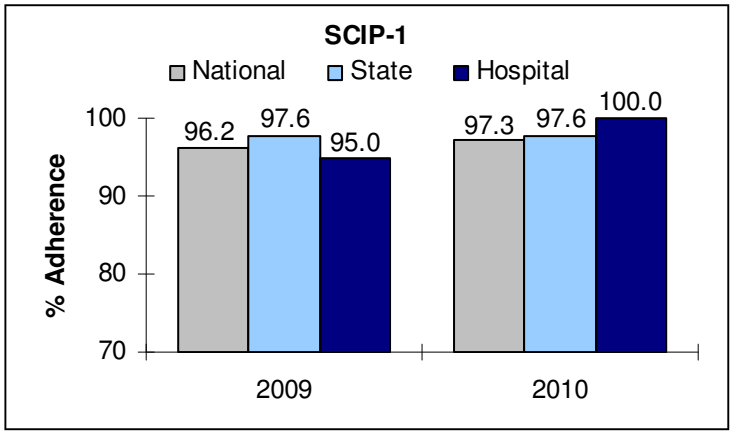
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

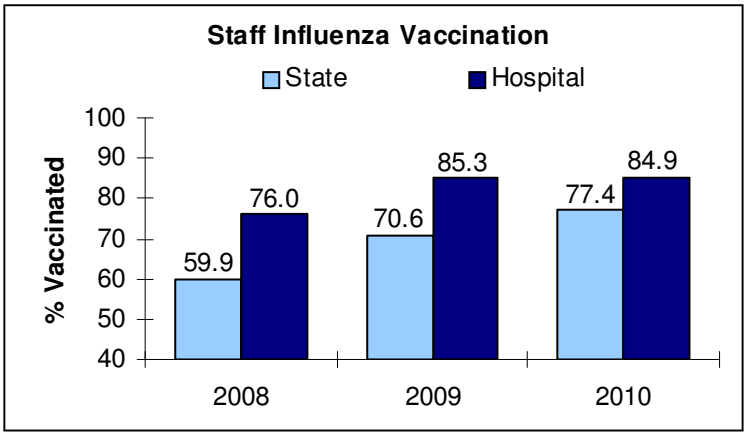
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	53	0.0	1.5	Similar

PROCESS MEASURES

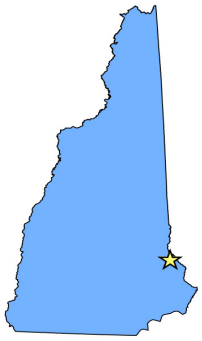
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	100.0	97.6	Similar
SCIP-2	93.3	98.2	Similar
SCIP-3	100.0	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	84.9	77.4	Higher





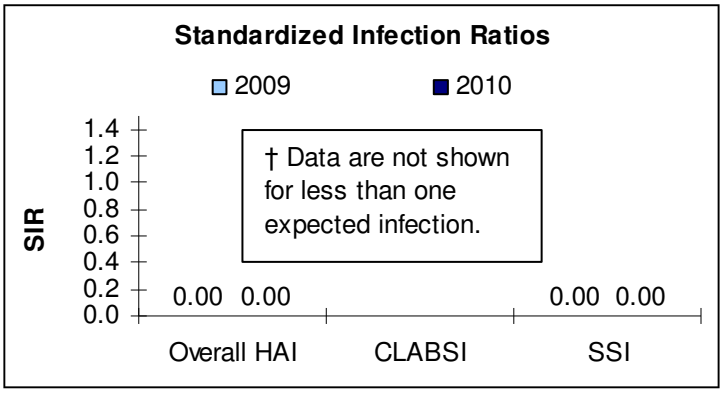


HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



FRISBIE MEMORIAL
Rochester, New Hampshire
Not-for-profit
# of Admissions: 3,722
# of Beds: 88
# of ICU Beds: 8
# of Patient-days: 14,771

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

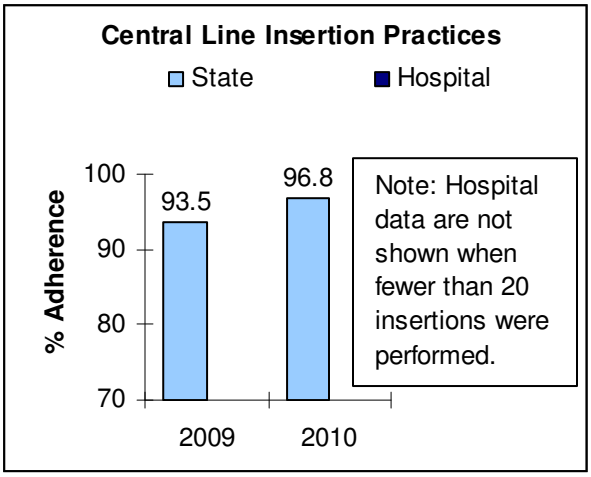
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	0	2.76	0.00	- , 1.33	Similar
CLABSI	†	†	†	†	†
SSI	0	2.73	0.00	- , 1.34	Similar
CABG					
COLO	0	1.70	0.00	- , 2.16	Similar
KPRO	0	1.03	0.00	- , 3.57	Similar

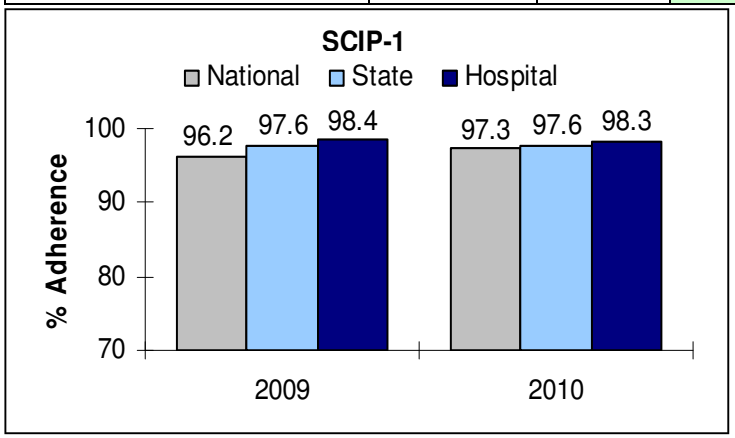
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

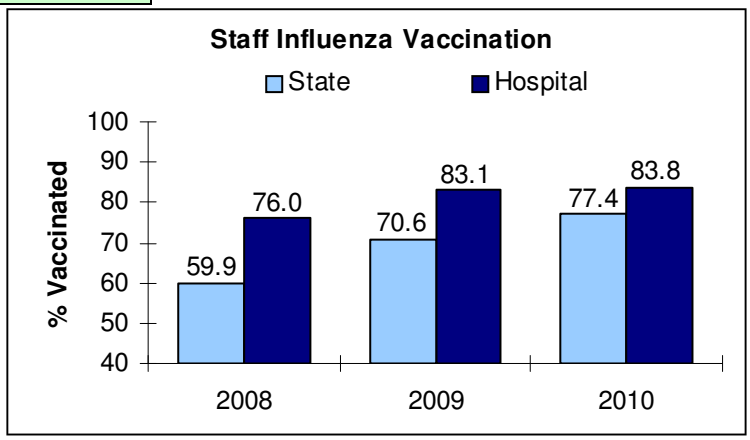
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	†	†	†	1.5	†

PROCESS MEASURES

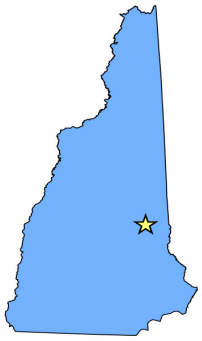
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	98.3	97.6	Similar
SCIP-2	98.8	98.2	Similar
SCIP-3	99.4	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	83.8	77.4	Higher







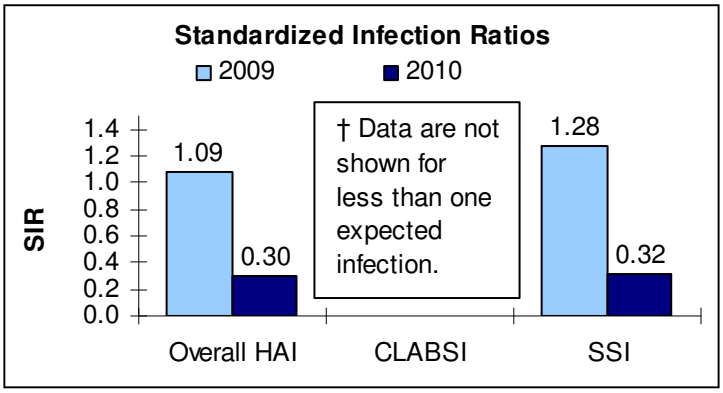
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



HUGGINS HOSPITAL

Wolfeboro, New Hampshire
Not-for-profit
# of Admissions: 1,312
# of Beds: 25
# of ICU Beds: 4
# of Patient-days: 4,414

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

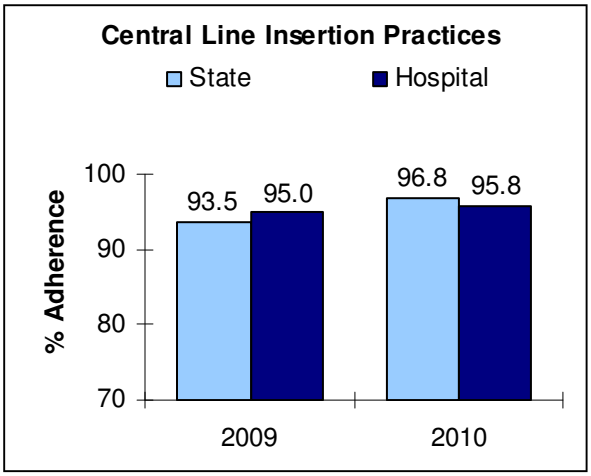
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	1	3.38	0.30	0.00 , 1.64	Similar
CLABSI	†	†	†	†	†
SSI	1	3.17	0.32	- , 1.76	Similar
CABG					
COLO	1	2.96	0.34	- , 1.88	Similar
KPRO	†	†	†	†	†

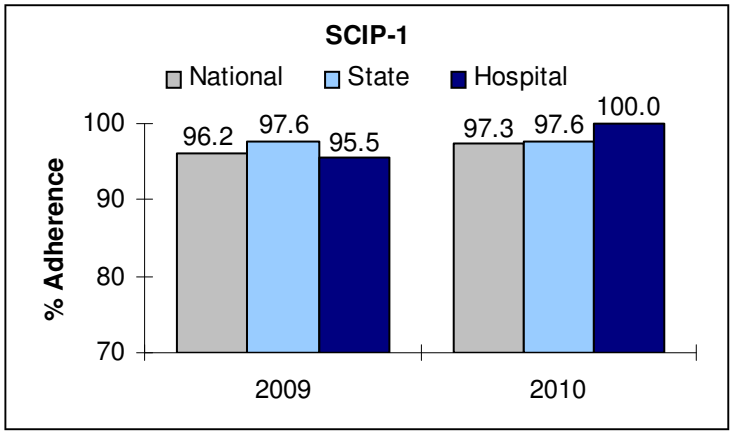
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

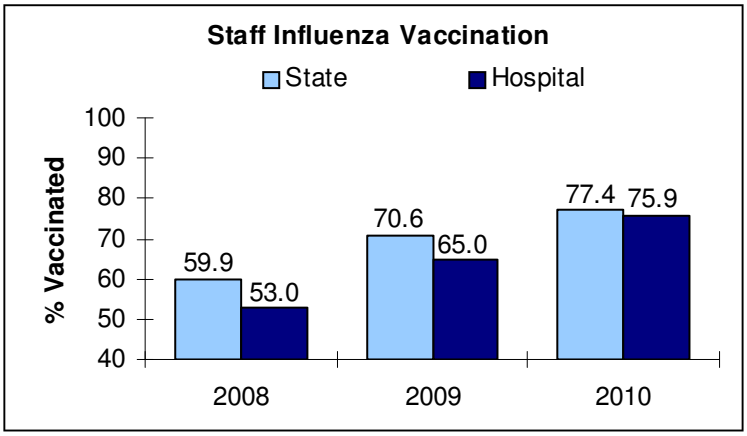
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	142	0.0	1.5	Similar

PROCESS MEASURES

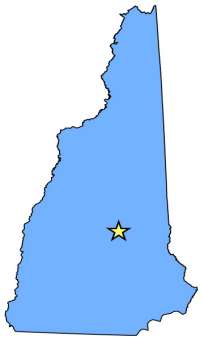
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	95.8	96.8	Similar
SCIP-1	100.0	97.6	Similar
SCIP-2	93.2	98.2	Lower
SCIP-3	98.6	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	75.9	77.4	Similar







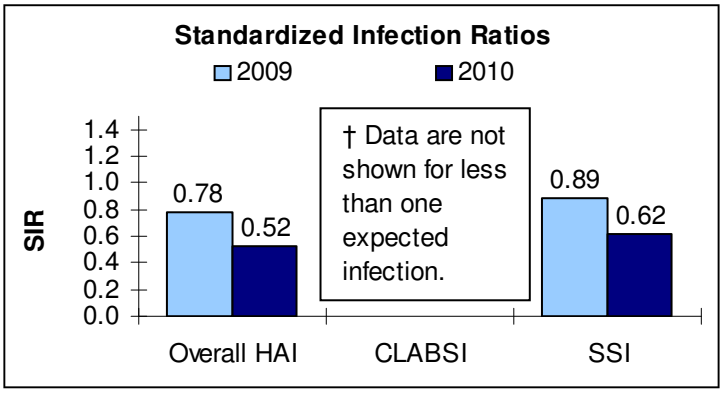
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



LAKES REGION GENERAL

Laconia, New Hampshire
Not-for-profit
# of Admissions: 4,320
# of Beds: 137
# of ICU Beds: 8
# of Patient-days: 19,167

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

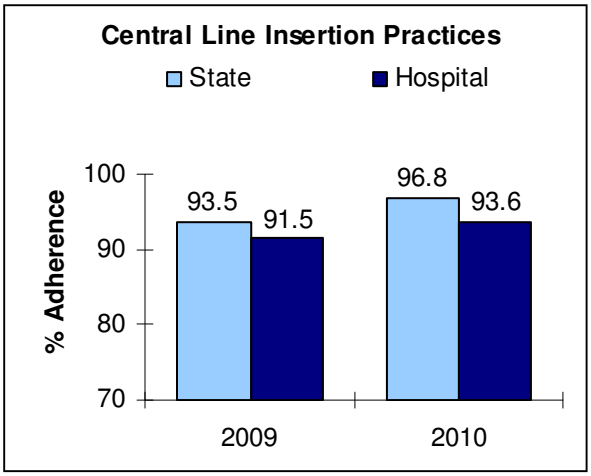
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	3	5.74	0.52	0.10 , 1.53	Similar
CLABSI	†	†	†	†	†
SSI	3	4.84	0.62	0.13 , 1.81	Similar
CABG					
COLO	0	3.58	0.00	- , 1.03	Similar
KPRO	3	1.26	2.38	0.48 , 6.95	Similar

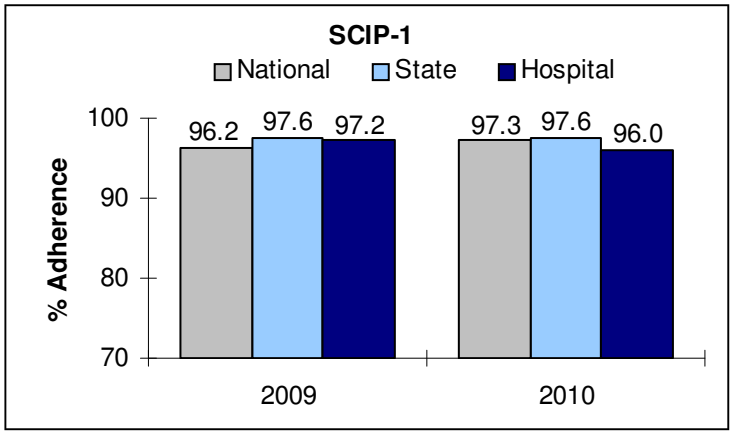
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

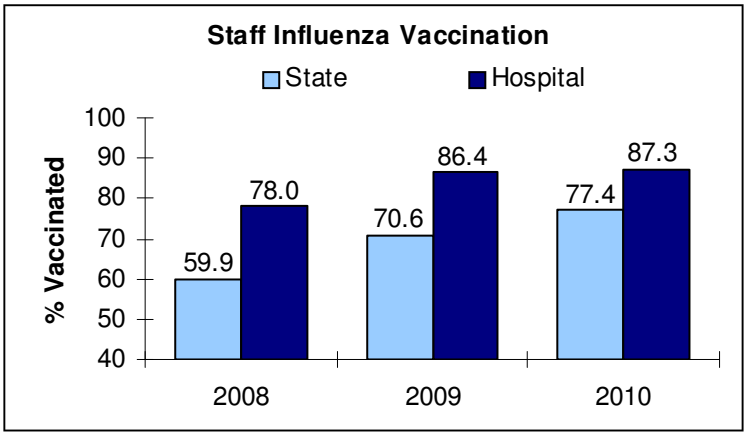
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	601	0.0	1.5	Similar

PROCESS MEASURES

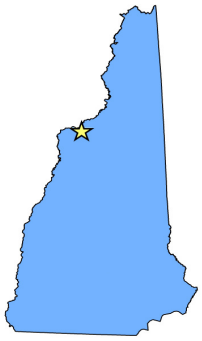
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	93.6	96.8	Similar
SCIP-1	96.0	97.6	Similar
SCIP-2	95.3	98.2	Lower
SCIP-3	95.9	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	87.3	77.4	Higher







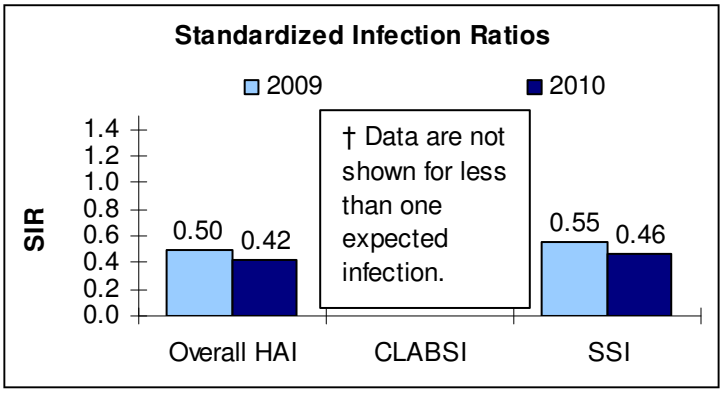
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



LITTLETON REGIONAL

Littleton, New Hampshire
Not-for-profit
# of Admissions: 1,359
# of Beds: 25
# of ICU Beds: 4
# of Patient-days: 5,129

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

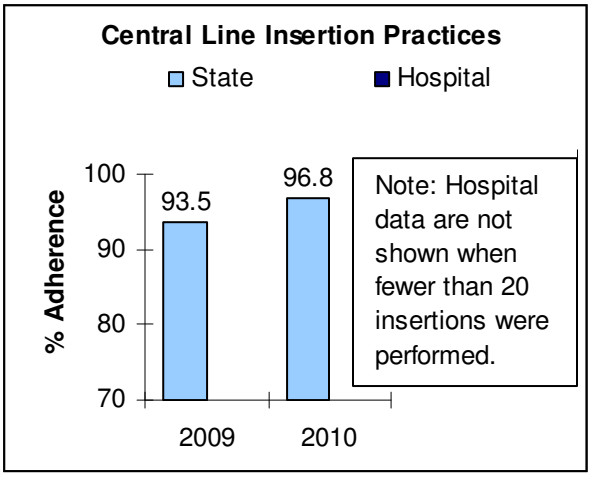
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	1	2.37	0.42	0.01 , 2.34	Similar
CLABSI	†	†	†	†	†
SSI	1	2.17	0.46	0.01 , 2.56	Similar
CABG					
COLO	0	1.29	0.00	- , 2.84	Similar
KPRO	†	†	†	†	†

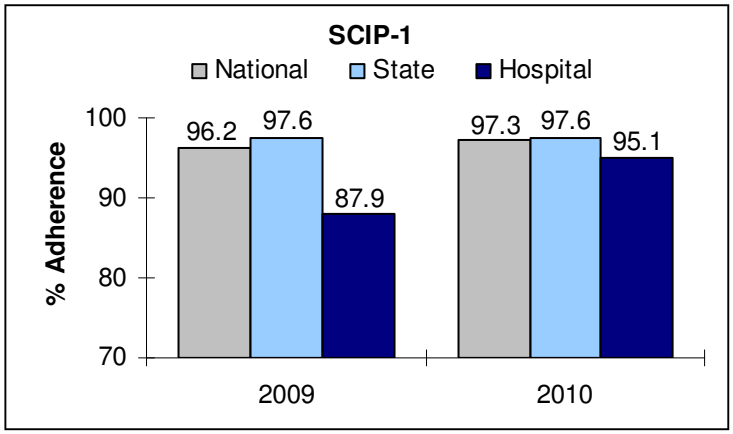
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

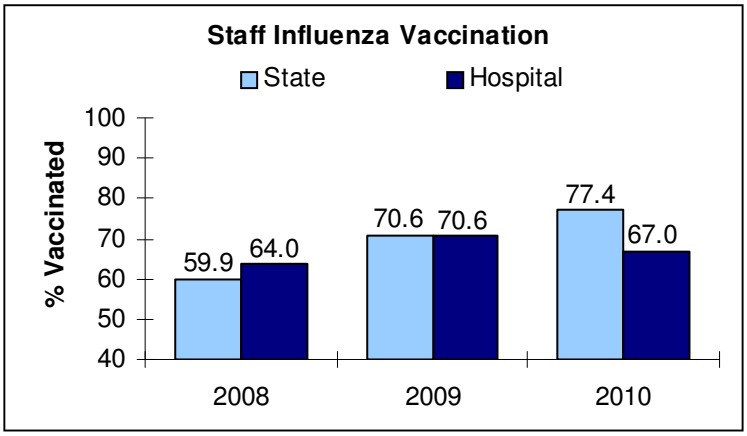
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	134	0.0	1.5	Similar

PROCESS MEASURES

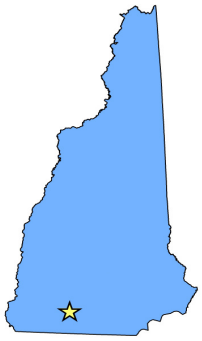
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	95.1	97.6	Similar
SCIP-2	97.6	98.2	Similar
SCIP-3	97.5	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	67.0	77.4	Lower







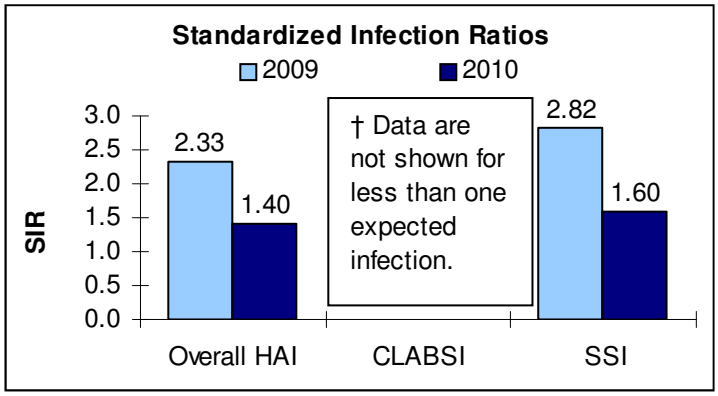
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



MONADNOCK COMMUNITY

Peterborough, New Hampshire
Not-for-profit
# of Admissions: 1,698
# of Beds: 25
# of ICU Beds: 4
# of Patient-days: 5,203

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

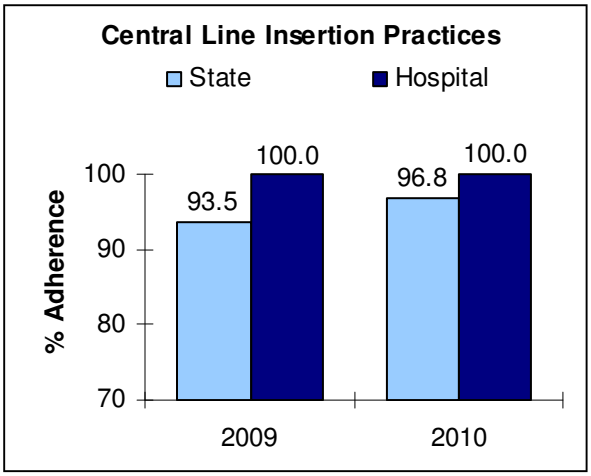
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	2	1.42	1.40	0.16 , 5.07	Similar
CLABSI	†	†	†	†	†
SSI	2	1.25	1.60	0.18 , 5.77	Similar
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

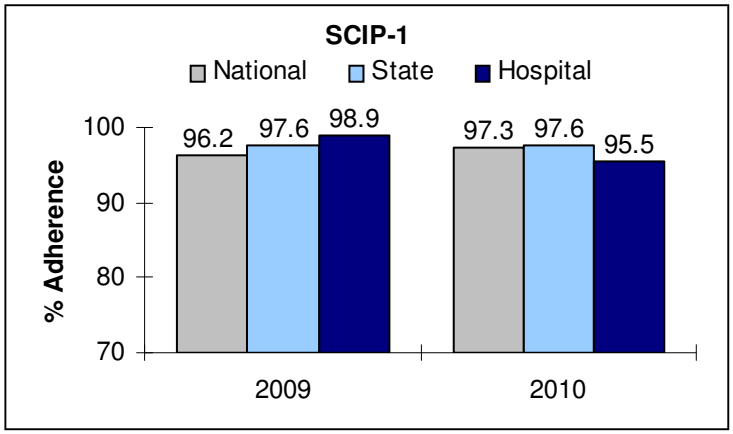
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

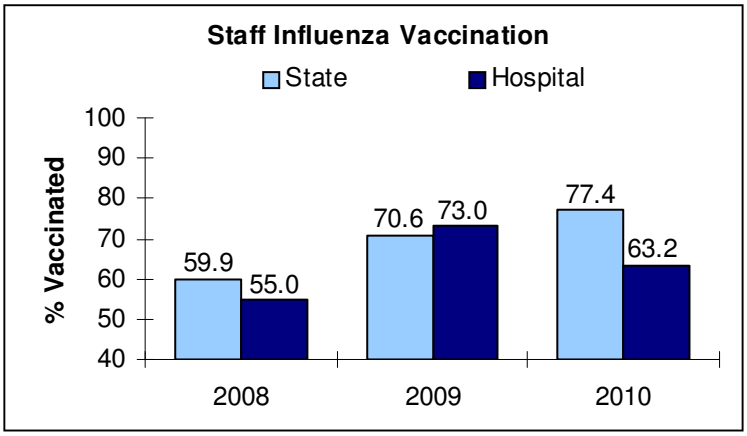
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	116	0.0	1.5	Similar

PROCESS MEASURES

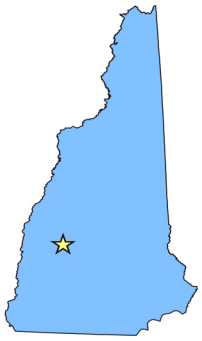
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	100.0	96.8	Similar
SCIP-1	95.5	97.6	Similar
SCIP-2	95.5	98.2	Similar
SCIP-3	98.1	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	63.2	77.4	Lower







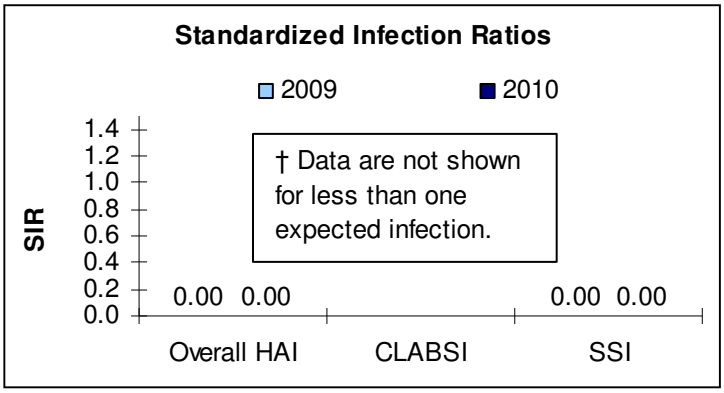
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



NEW LONDON HOSPITAL

New London, New Hampshire
For-profit
# of Admissions: 1,022
# of Beds: 25
# of ICU Beds: 4
# of Patient-days: 3,395

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

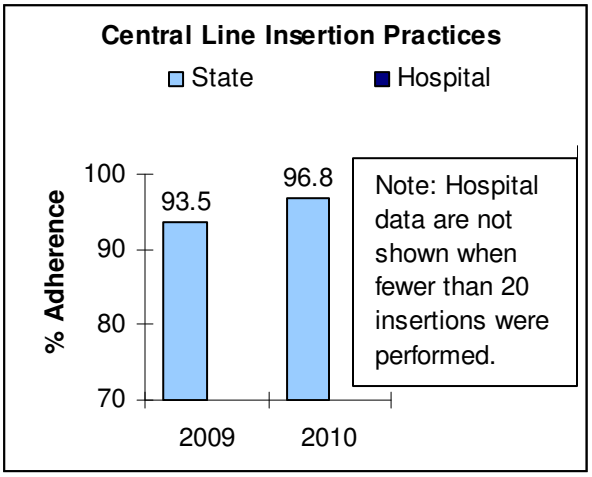
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	0	1.39	0.00	- , 2.64	Similar
CLABSI	†	†	†	†	†
SSI	0	1.29	0.00	- , 2.85	Similar
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

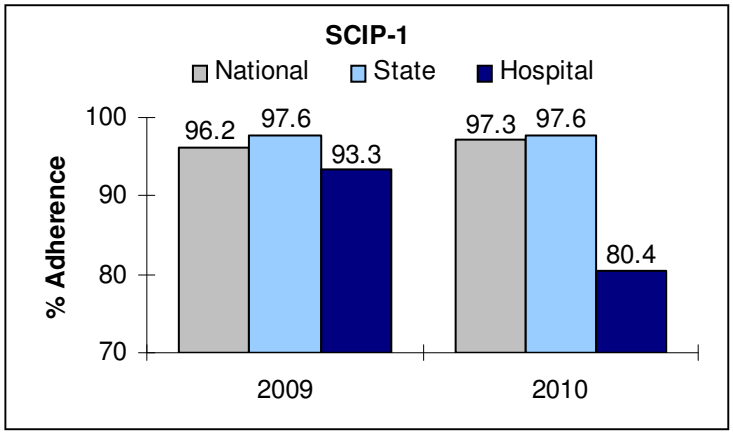
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

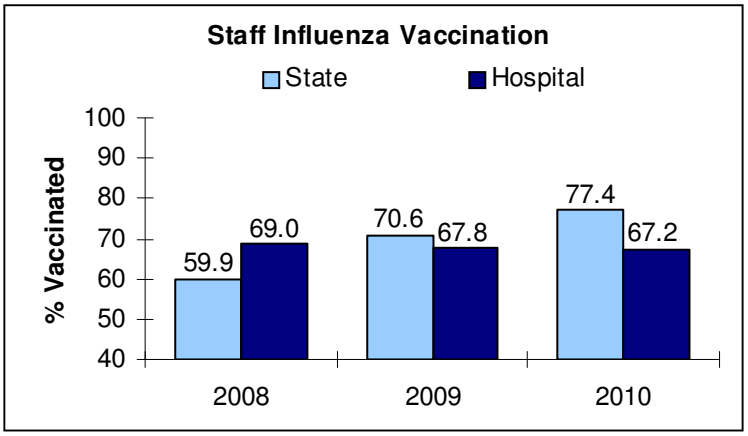
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	69	0.0	1.5	Similar

PROCESS MEASURES

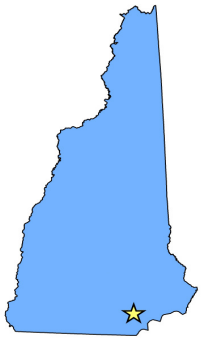
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	80.4	97.6	Lower
SCIP-2	99.0	98.2	Similar
SCIP-3	97.0	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	67.2	77.4	Lower







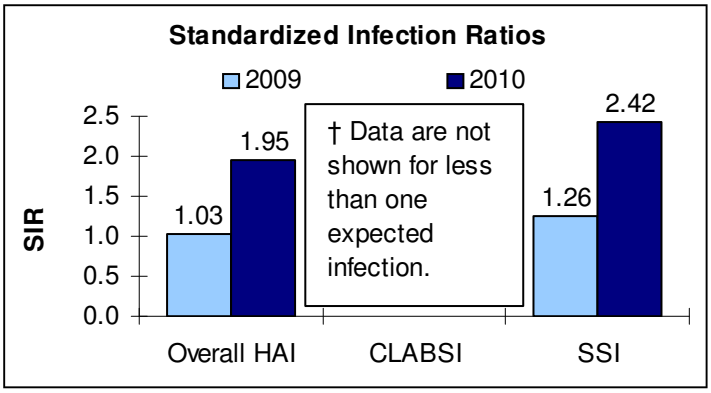
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



PARKLAND MEDICAL CENTER

Derry, New Hampshire
For-profit
# of Admissions: 3,129
# of Beds: 86
# of ICU Beds: 8
# of Patient-days: 10,931

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

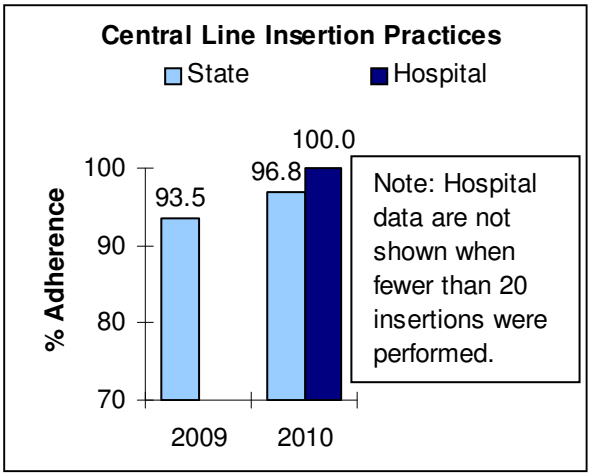
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	6	3.08	1.95	0.71 , 4.25	Similar
CLABSI	†	†	†	†	†
SSI	6	2.48	2.42	0.89 , 5.28	Similar
CABG					
COLO	6	2.38	2.53	0.92 , 5.50	Similar
KPRO	†	†	†	†	†

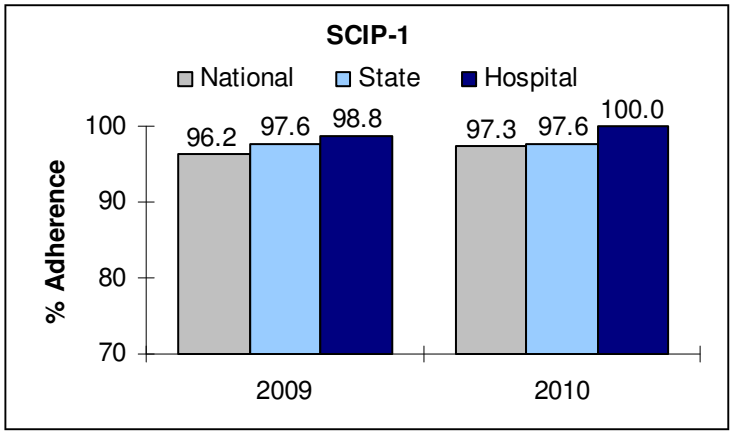
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

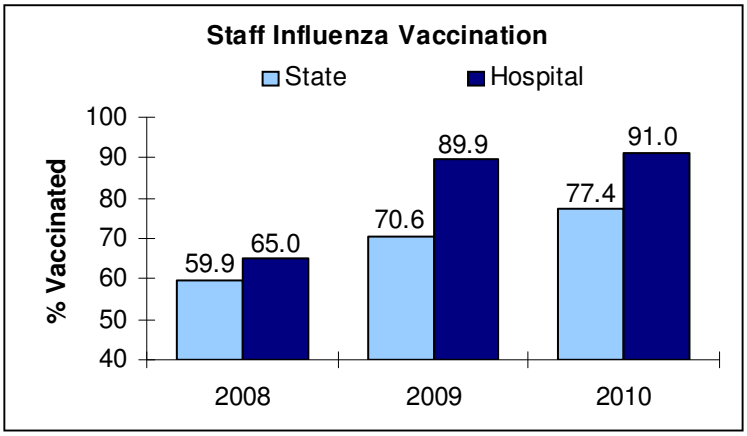
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	400	0.0	1.5	Similar

PROCESS MEASURES

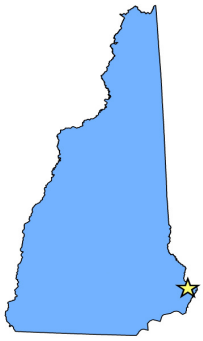
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	100.0	96.8	Similar
SCIP-1	100.0	97.6	Similar
SCIP-2	98.4	98.2	Similar
SCIP-3	100.0	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	91.0	77.4	Higher







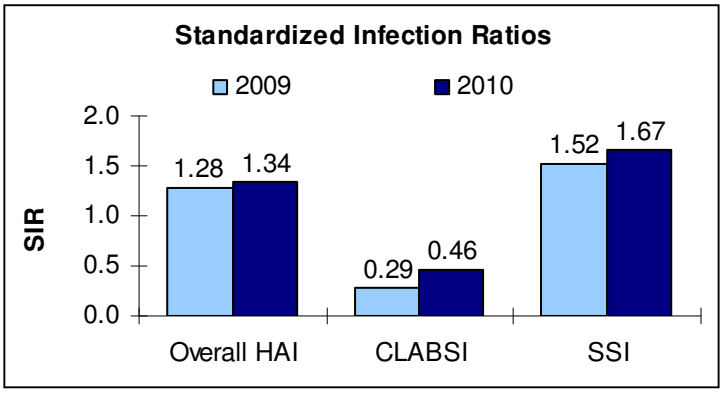
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



PORTSMOUTH REGIONAL

Portsmouth, New Hampshire
For-profit
# of Admissions: 6,971
# of Beds: 164
# of ICU Beds: 14
# of Patient-days: 34,460

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

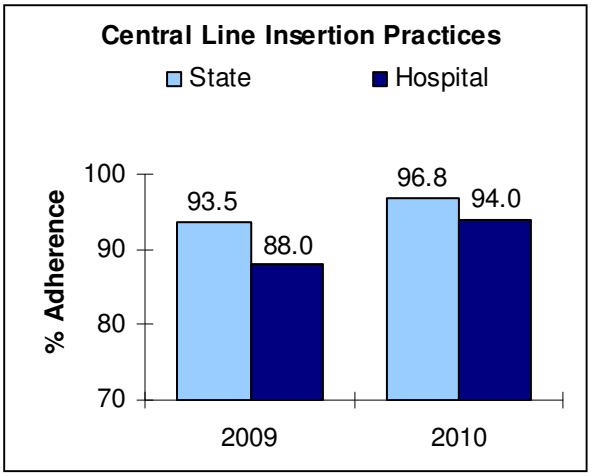
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	21	15.72	1.34	0.83 , 2.04	Similar
CLABSI	2	4.35	0.46	0.08 , 1.45	Similar
SSI	19	11.37	1.67	1.01 , 2.61	Higher
CABG	10	5.37	1.86	0.89 , 3.43	Similar
COLO	7	3.47	2.02	0.81 , 4.16	Similar
KPRO	2	2.54	0.79	0.09 , 2.85	Similar

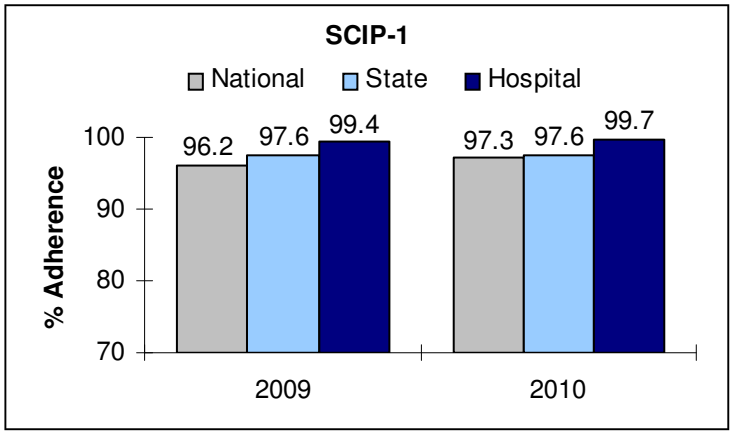
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

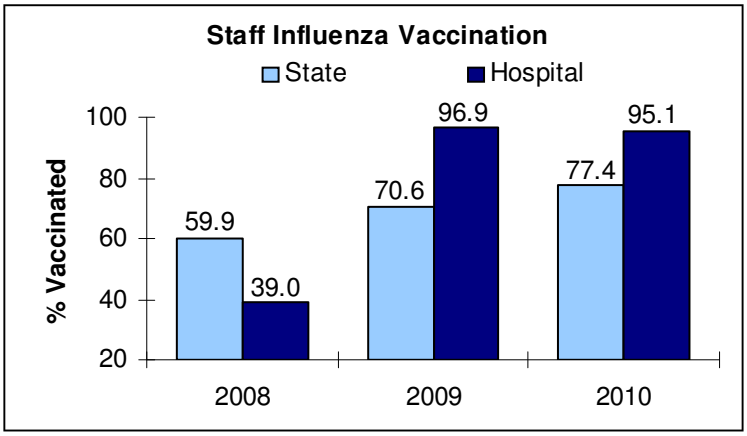
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Cardiothoracic ICU	2	3108	0.6	1.4	Similar

PROCESS MEASURES

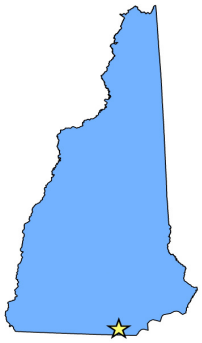
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	94.0	96.8	Similar
SCIP-1	99.7	97.6	Higher
SCIP-2	99.8	98.2	Higher
SCIP-3	100.0	97.2	Higher
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	95.1	77.4	Higher







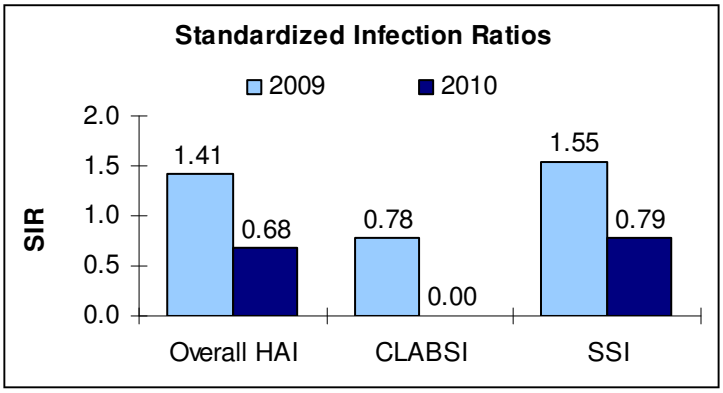
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



SOUTHERN NH MEDICAL

Nashua, New Hampshire
Not-for-profit
# of Admissions: 9,812
# of Beds: 149
# of ICU Beds: 20
# of Patient-days: 38,595

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

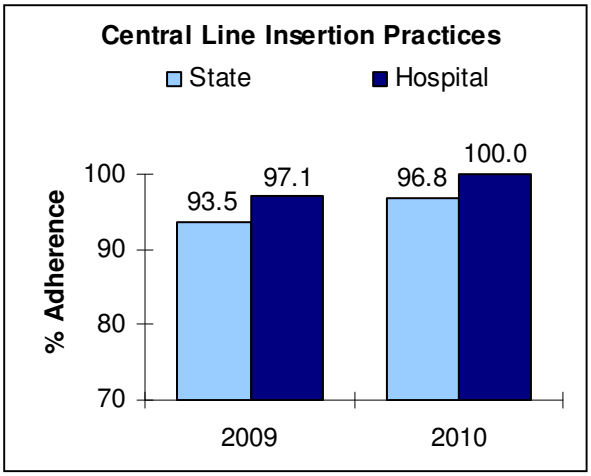
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	6	8.76	0.68	0.25 , 1.49	Similar
CLABSI	0	1.15	0.00	0.00 , 2.60	Similar
SSI	6	7.61	0.79	0.29 , 1.72	Similar
CABG					
COLO	5	5.26	0.95	0.31 , 2.22	Similar
KPRO	1	2.35	0.42	0.01 , 2.36	Similar

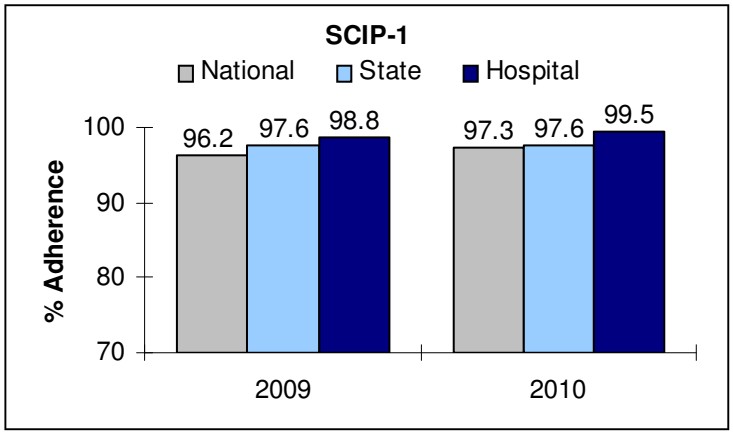
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

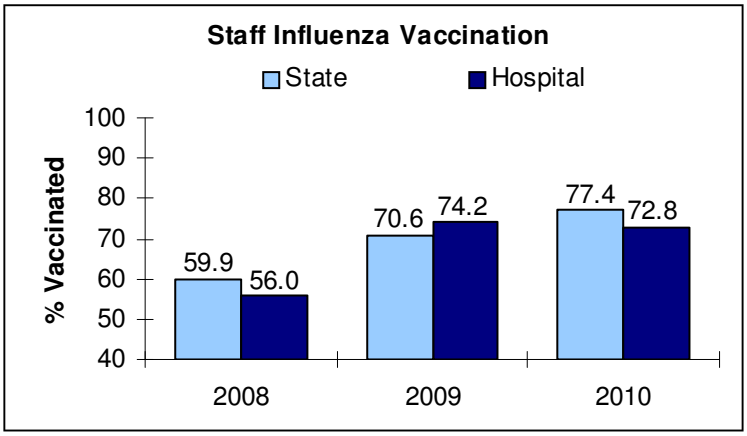
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	767	0.0	1.5	Similar

PROCESS MEASURES

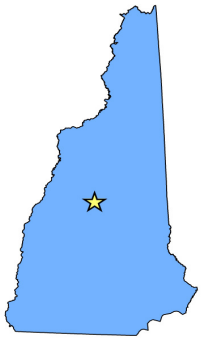
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	100.0	96.8	Higher
SCIP-1	99.5	97.6	Higher
SCIP-2	99.8	98.2	Higher
SCIP-3	98.6	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	72.8	77.4	Lower







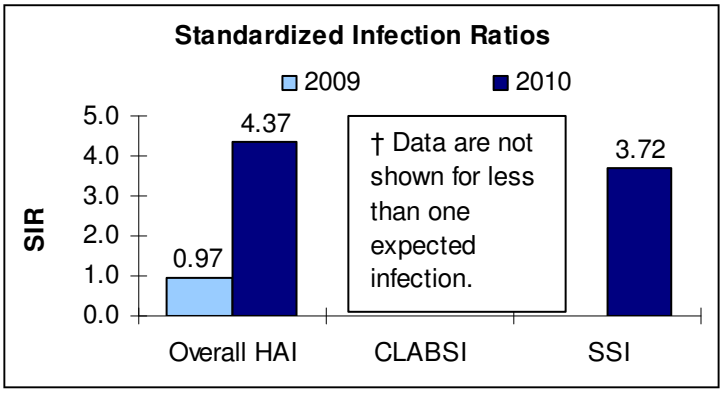
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



SPEARE MEMORIAL HOSPITAL

Plymouth, New Hampshire
Not-for-profit
# of Admissions: 1,396
# of Beds: 25
# of ICU Beds: 4
# of Patient-days: 4,549

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

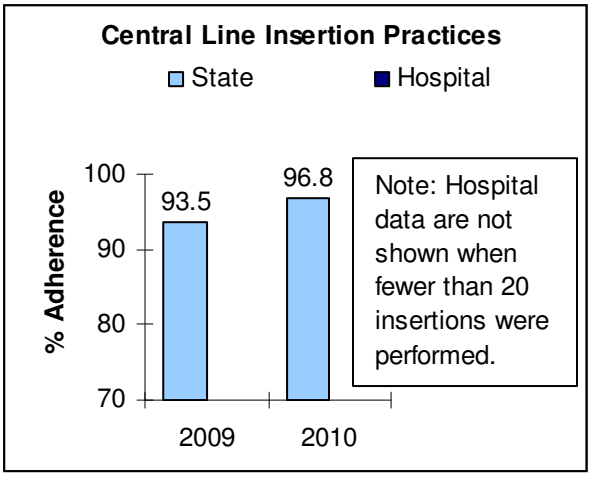
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	5	1.14	4.37	1.41 , 10.21	Higher
CLABSI	†	†	†	†	†
SSI	4	1.07	3.72	1.00 , 9.53	Higher
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

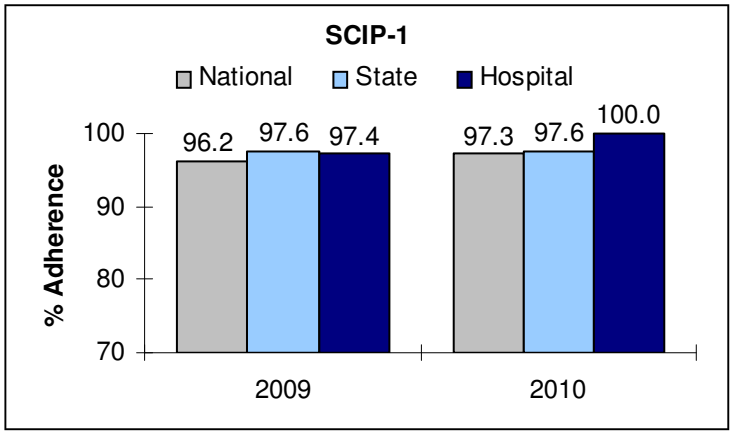
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

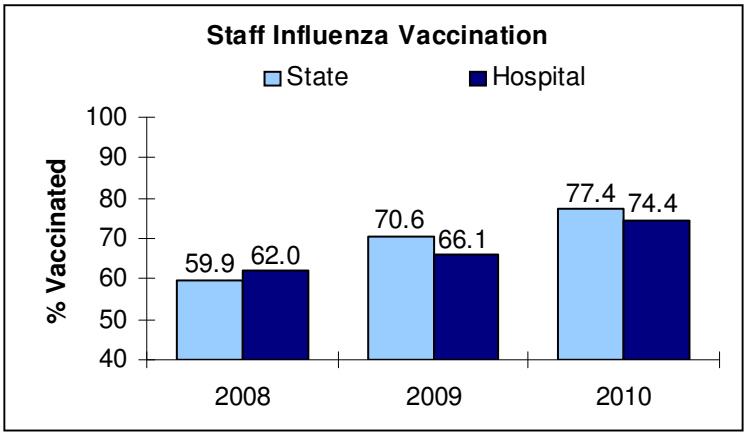
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	†	†	†	1.5	†

PROCESS MEASURES

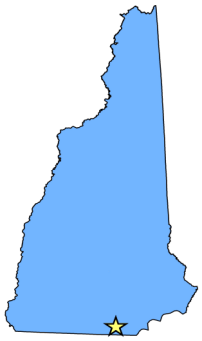
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	100.0	97.6	Similar
SCIP-2	100.0	98.2	Similar
SCIP-3	98.4	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	74.4	77.4	Similar







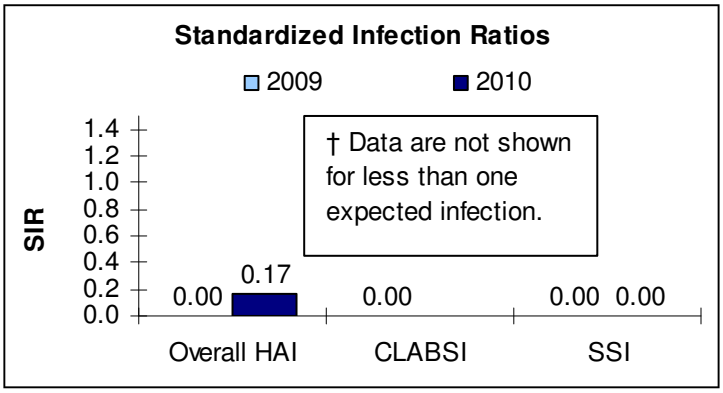
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



ST. JOSEPH HOSPITAL

Nashua, New Hampshire
Not-for-profit
# of Admissions: 5,060
# of Beds: 208
# of ICU Beds: 11
# of Patient-days: 21,833

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

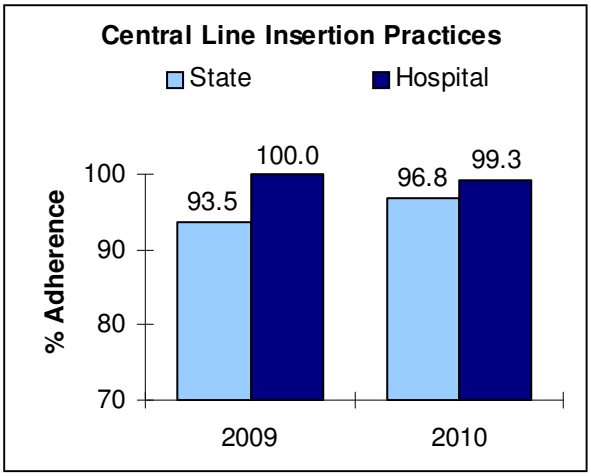
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	1	5.92	0.17	0.00 , 0.94	Lower
CLABSI	†	†	†	†	†
SSI	0	5.11	0.00	- , 0.72	Lower
CABG					
COLO	0	3.77	0.00	- , 0.97	Lower
KPRO	0	1.35	0.00	- , 2.72	Similar

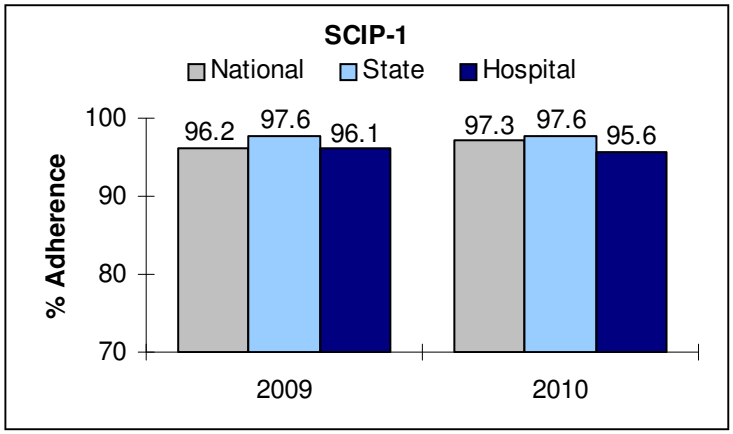
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

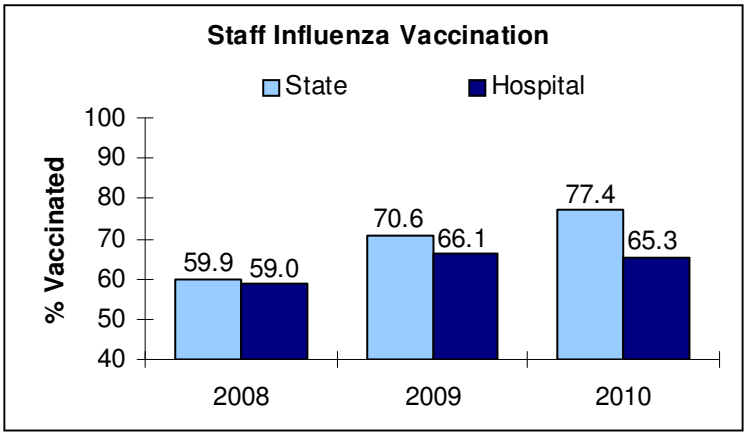
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	1	538	1.9	1.5	Similar

PROCESS MEASURES

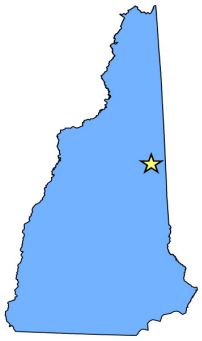
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	99.3	96.8	Similar
SCIP-1	95.6	97.6	Similar
SCIP-2	98.9	98.2	Similar
SCIP-3	97.8	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	65.3	77.4	Lower







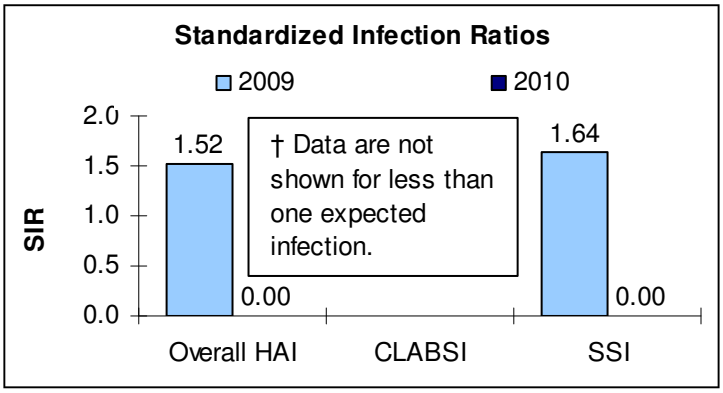
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



THE MEMORIAL HOSPITAL

Conway, New Hampshire
Not-for-profit
# of Admissions: 1,467
# of Beds: 25
# of ICU Beds: 3
# of Patient-days: 4,923

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

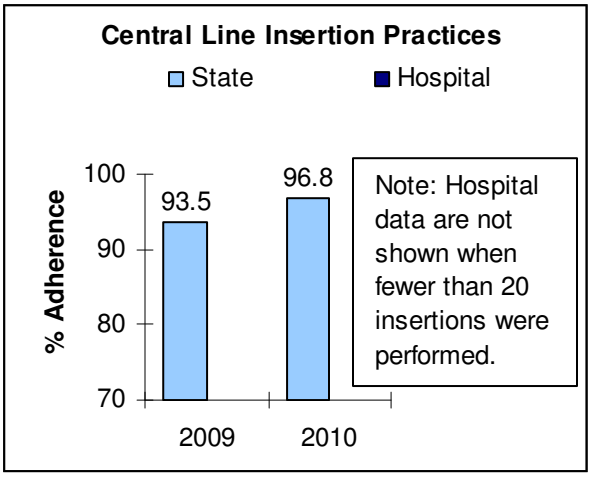
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	0	1.29	0.00	- , 2.84	Similar
CLABSI	†	†	†	†	†
SSI	0	1.18	0.00	- , 3.10	Similar
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

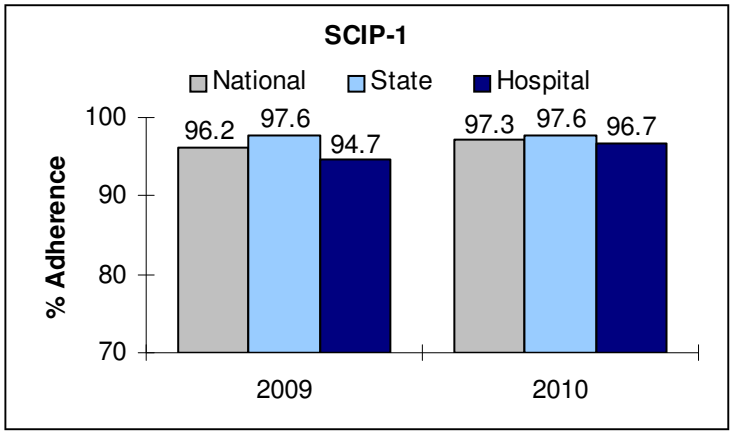
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

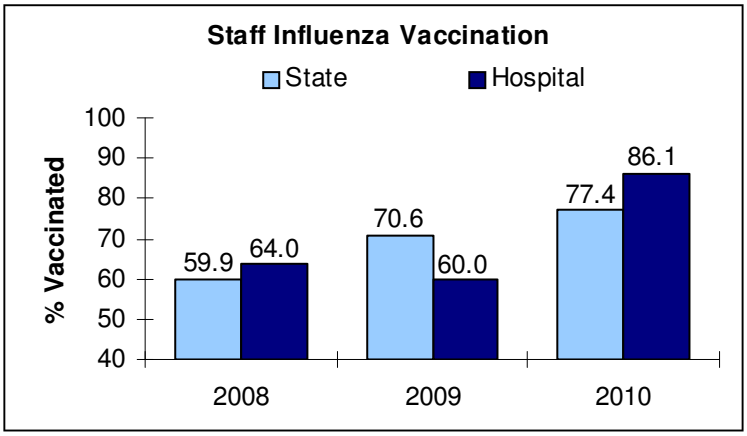
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical ICU	0	58	0.0	1.9	Similar

PROCESS MEASURES

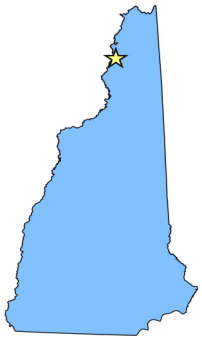
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	96.7	97.6	Similar
SCIP-2	98.3	98.2	Similar
SCIP-3	87.9	97.2	Lower
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	86.1	77.4	Higher







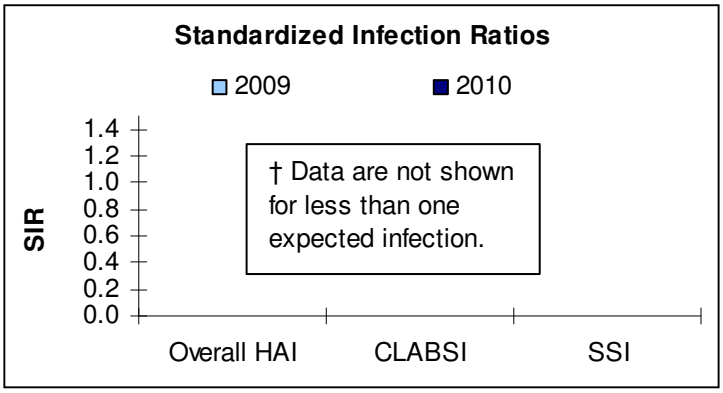
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



UPPER CONNECTICUT VALLEY

Colebrook, New Hampshire
Not-for-profit
# of Admissions: 459
# of Beds: 16
# of ICU Beds: 0
# of Patient-days: 1,923

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

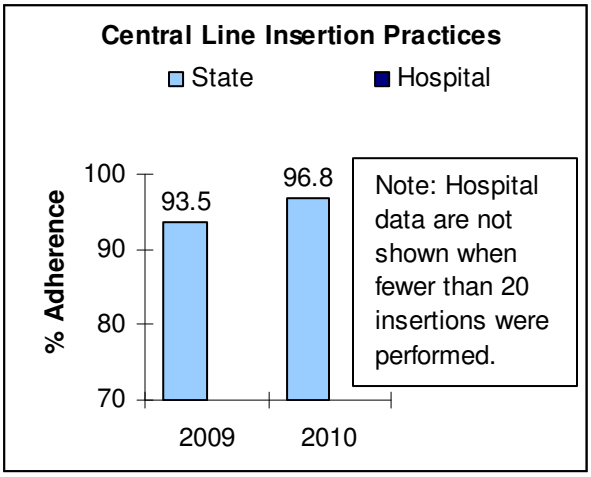
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	†	†	†	†	†
CLABSI	†	†	†	†	†
SSI	†	†	†	†	†
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

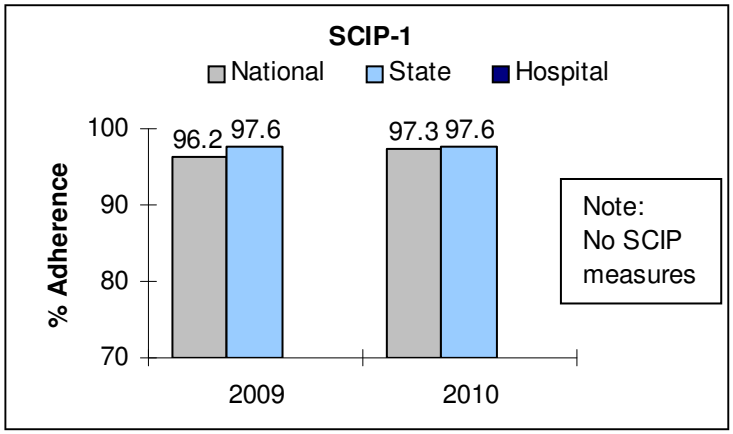
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

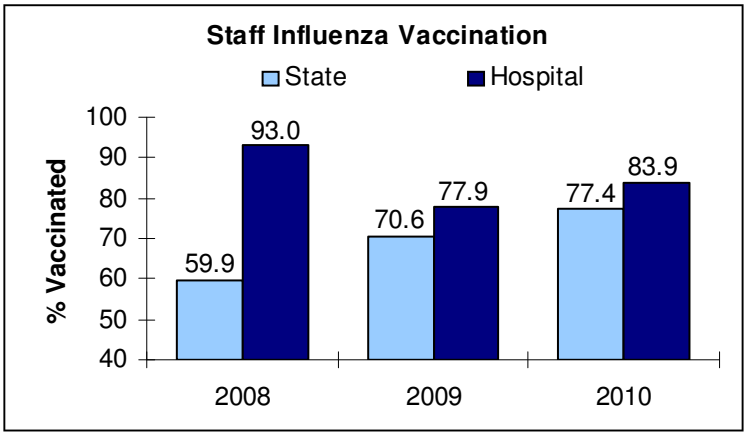
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	†	†	†	†	†

PROCESS MEASURES

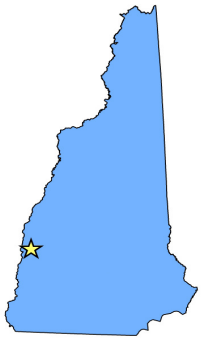
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1		97.6	
SCIP-2		98.2	
SCIP-3		97.2	
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	83.9	77.4	Higher







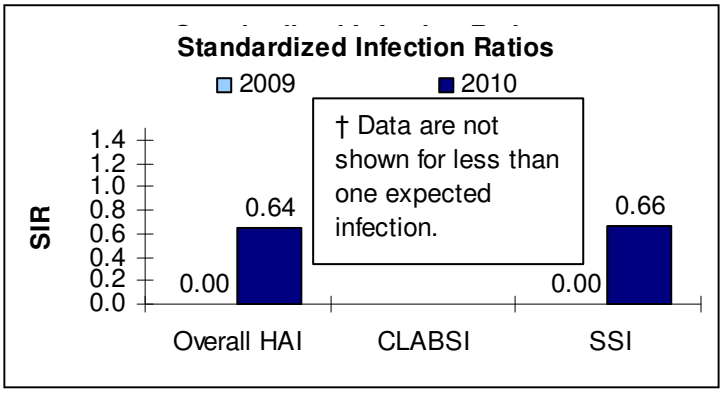
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



VALLEY REGIONAL

Claremont, New Hampshire
Not-for-profit
# of Admissions: 1,405
# of Beds: 25
# of ICU Beds: 5
# of Patient-days: 4,738

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

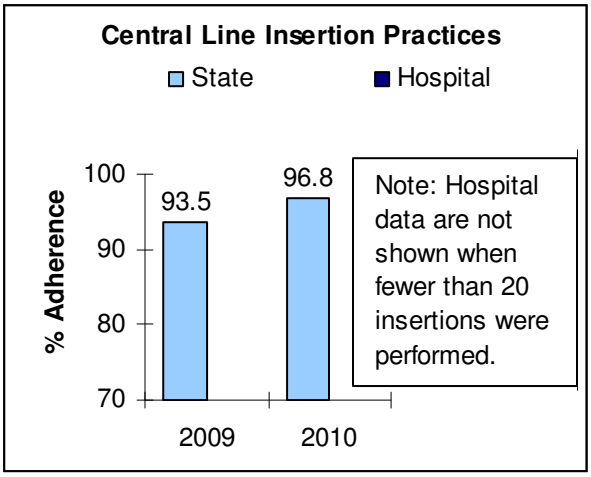
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	1	1.55	0.64	0.01 , 3.58	Similar
CLABSI	†	†	†	†	†
SSI	1	1.51	0.66	0.01 , 3.67	Similar
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

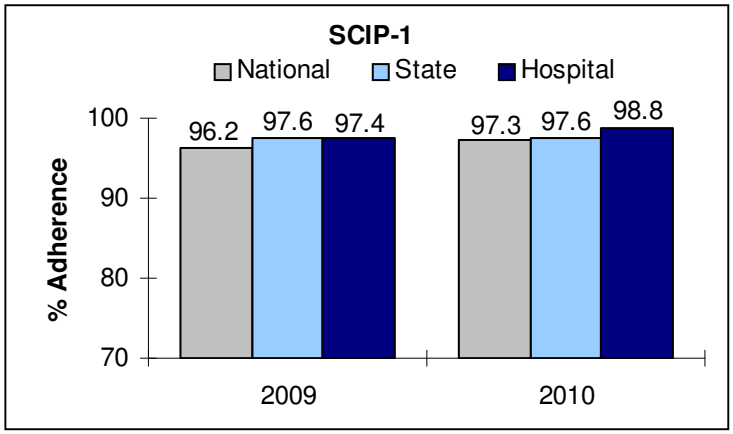
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

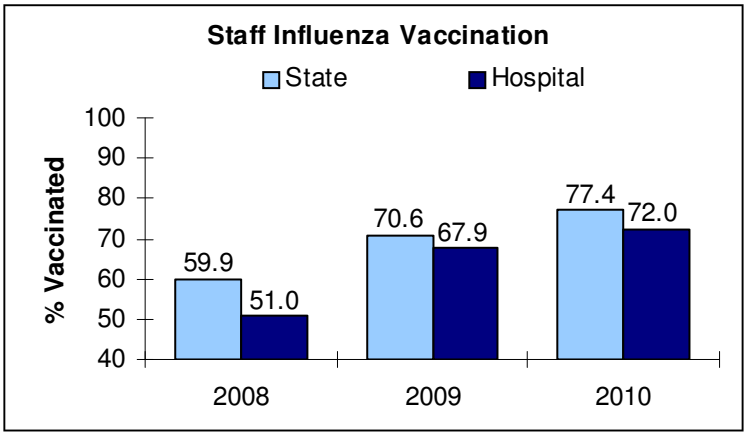
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	†	†	†	1.5	†

PROCESS MEASURES

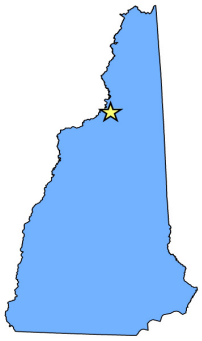
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	98.8	97.6	Similar
SCIP-2	97.6	98.2	Similar
SCIP-3	96.4	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	72.0	77.4	Lower







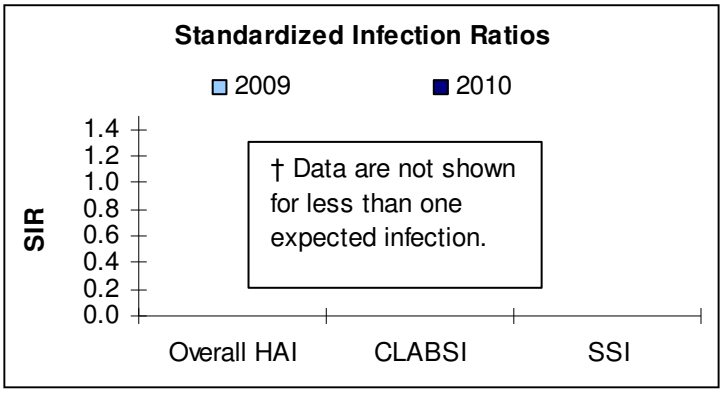
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



WEEKS MEDICAL CENTER

Lancaster, New Hampshire
Not-for-profit
# of Admissions: 721
# of Beds: 25
# of ICU Beds: 3
# of Patient-days: 2,092

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

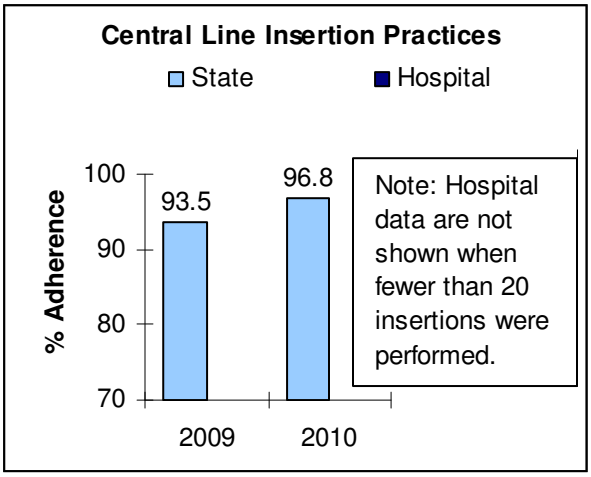
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	†	†	†	†	†
CLABSI	†	†	†	†	†
SSI	†	†	†	†	†
CABG					
COLO	†	†	†	†	†
KPRO	†	†	†	†	†

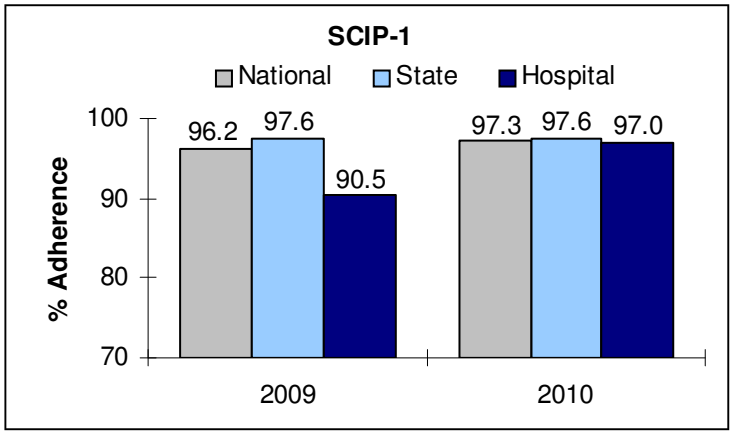
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

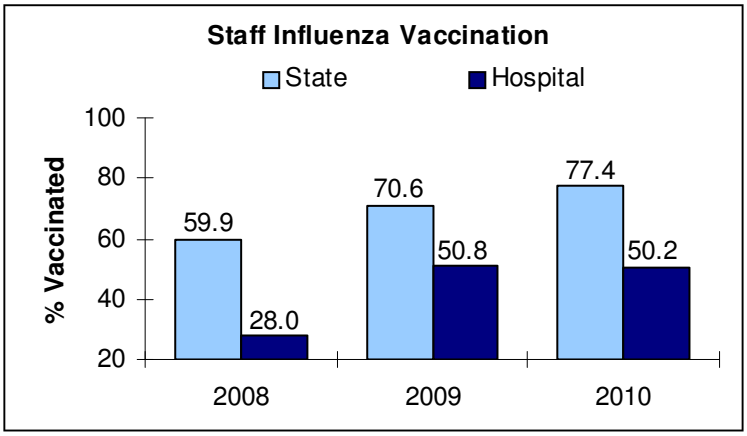
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	†	†	†	†	†

PROCESS MEASURES

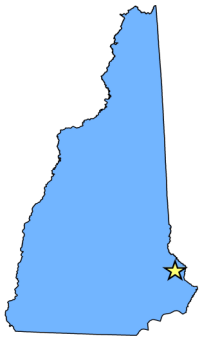
Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	97.0	97.6	Similar
SCIP-2	100.0	98.2	Similar
SCIP-3	97.0	97.2	Similar
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	50.2	77.4	Lower







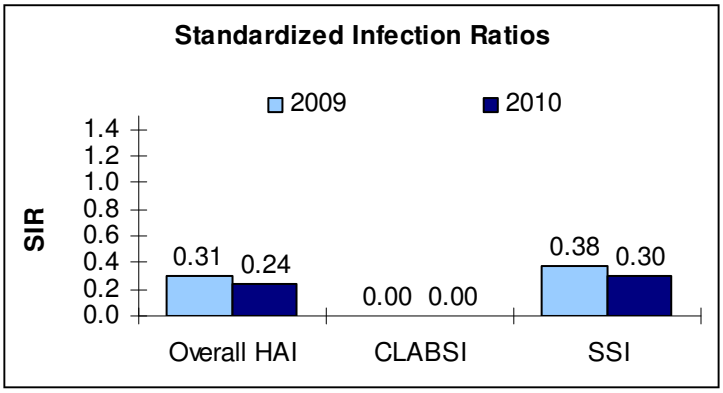
HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices



WENTWORTH-DOUGLASS

Dover, New Hampshire
Not-for-profit
# of Admissions: 8,029
# of Beds: 119
# of ICU Beds: 11
# of Patient-days: 30,207

2010 HAI DATA REPORT



STANDARDIZED INFECTION RATIOS (SIR)

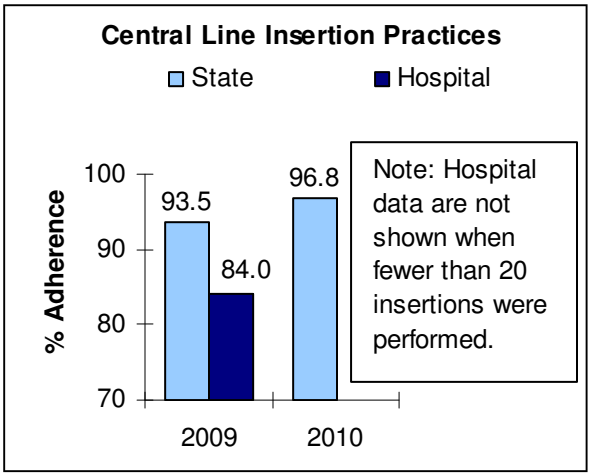
Measure	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Infections
Overall HAI	2	8.19	0.24	0.03 , 0.88	Lower
CLABSI	0	1.58	0.00	0.00 , 1.90	Similar
SSI	2	6.61	0.30	0.03 , 1.09	Similar
CABG					
COLO	0	4.95	0.00	- , 0.74	Lower
KPRO	2	1.66	1.20	0.14 , 4.34	Similar

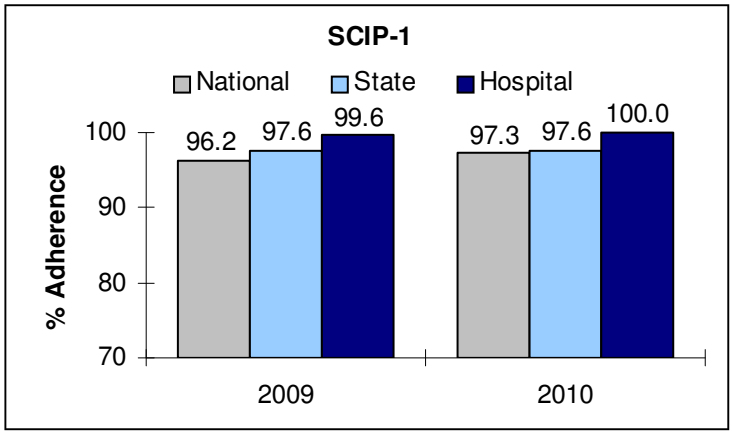
CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS RATES

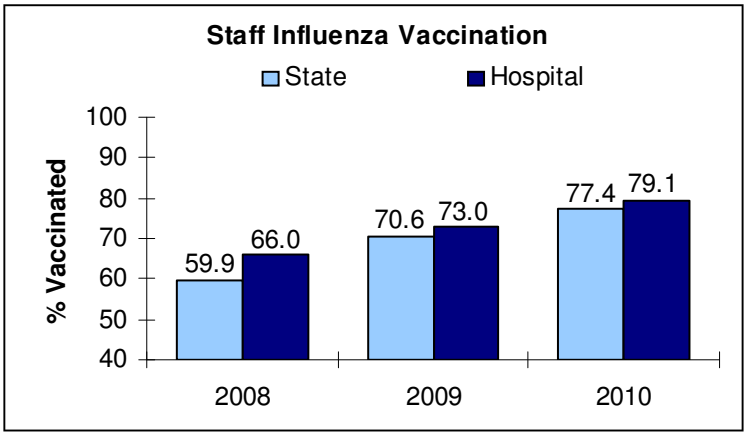
Type of Unit	Number of Infections	Number of Central-line Days	Rate per 100,000 Central-line Days	National Rate	Comparison to National Rate
Medical/Surgical ICU	0	1053	0.0	1.5	Similar

PROCESS MEASURES

Measure	Percent Adherence	State Average	Comparison to State Average
CLIP	†	96.8	†
SCIP-1	100.0	97.6	Higher
SCIP-2	99.7	98.2	Similar
SCIP-3	99.3	97.2	Higher
Measure	**Percent Vaccinated**	**State Average**	**Comparison to State Average**
Staff Influenza Vaccination	79.1	77.4	Similar







HAI: Healthcare-Associated Infections CLABSI: Central line-associated bloodstream infection SSI: Surgical site infection COLO: Colon procedures CABG: Coronary artery bypass procedures KPRO: Knee arthroplasty SCIP: Surgical Care Improvement Project CLIP: Central line insertion practices

APPENDIX 1: Technical Notes

1. Data in this report were extracted from NHSN on 06/30/2011. Changes or new infections reported by hospitals after this date are not reflected in this report.
2. The CLABSI and SSI national comparison data used in this report come from the 2009 NHSN Report, which is a summary of data reported to NHSN from 2006–2008. This report is available at: http://www.cdc.gov/nhsn/PDFs/dataStat/2009NHSNReport.pdf.
3. Rate data were appropriately risk-adjusted according to standard NHSN recommendations. Rates were only presented if appropriately risk-adjusted as follows:
    a. CLABSI: rate data must be broken down by type of unit. Data can be aggregated only by the same type of unit.
    b. CLIP: currently there are no CDC recommendations for risk-adjusting CLIP data.
    c. SSI: beginning in 2010, rates are no longer presented in accordance with CDC recommendations and changes to NHSN methodology.
4. Rates for any grouping were not presented if data were insufficient to generate a stable rate.
    a. CLABSI: there must be at least 50 central line days in the denominator to present a rate.
    b. CLIP: there must be at least 20 insertions in the denominator to present a rate.
    c. SSI: beginning in 2010, rates are no longer presented in accordance with CDC recommendations and changes to NHSN methodology.
5. Standardized Infection Ratios for any grouping were not presented if less than one infection was expected.
6. All confidence intervals presented in this report are 95% confidence intervals. A confidence interval is a measure of certainty (usually with 95% confidence) of an estimate (such as a percentage). Because we can never obtain a hospital's true "population" data (e.g., all patients for all time), we use statistical procedures to "estimate" various measurements using "sample" data. Since estimates have "variability" we use 95% confidence limits to describe the variability around the estimate. The confidence interval (CI) gives us the range within which the TRUE value will fall 95% of the time, assuming that the sample data are reflective of the true population. If the confidence intervals for the two rates overlap, then it is reasonably possible that the REAL rates are not different from one another.
7. Statistical significance is affected by sample size. If a value is almost or just barely significant, just a few additional observations can push significance one way or the other (i.e., not significant or significant).

Standardized Infection Ratios

8. Calculating a standardized infection ratio (SIR): The standardized infection ratio is the number of observed infections divided by the number of expected infections based on most recent national data. In order to calculate an SIR, it is recommended that there be at least one expected number of infections. See Appendix 2 for more information on the SIR.
9. Interpreting a standardized infection ratio (SIR): The resulting SIR is a comparison between the number of observed infections and the number expected.

a. An SIR of 1.0 means that exactly the same number of infections was observed as was expected.

b. An SIR of less than one means that fewer infections were observed than was expected (for example, SIR = 0.70 would be interpreted as 30% fewer infections observed than expected).

c. An SIR of more than one means that fewer infections were observed than was expected (for example, SIR = 1.30 would be interpreted as 30% more infections observed than expected).

10. Calculating a corresponding confidence interval for a standardized infection ratio: All hospital-specific SIRs and corresponding confidence intervals in this report were generated directly by NHSN using statistical methods similar to those described in Liddell FD. Simple exact analysis of the standardised mortality ratio. *Journal of Epidemiology and Community Health*, 1984; 38:85-88.[8]

11. Interpreting a standardized infection ratio confidence interval (CI): A confidence interval is a measure of certainty (usually with 95% confidence) of an estimate (such as a Standardized Infection Ratio). Confidence intervals can be used to assess whether differences in the number of observed and expected infections is statistically significant (or significantly different).
    a. For CIs that contain the value 1.0, the observed number of infections will be considered "Similar" to the expected number of infections based on national data (e.g., 0.27–1.49).

    b. For CIs that are lower than and do not contain the value 1.0, the observed number of infections will be considered "Lower" than the expected number of infections based on national data (e.g., 0.13–0.74).

    c. For CIs that are higher than and do not contain the value 1.0, the observed number of infections will be considered "Higher" than the expected number of infections based on national data (e.g., 1.09–2.63).

Infection Rates

12. Calculating a central line-associated bloodstream infection rate: CLABSI rates are presented as the number of infections per 1,000 central line days.

    CLABSI rate = (number of infections / number of central line days) x 1,000

13. Interpreting a p-value: All hospital-specific rates and corresponding p-values in this report were generated directly by NHSN using Poisson statistical methods. State level rates and corresponding p-values were calculated by DHHS using exact methods. A p-value provides a statistical comparison of two values in order to determine whether those values are statistically different or similar. In this report, p-values are used to assess whether hospital infection rates are similar or different to national infection rates. A p-value of <0.05 would indicate the hospital rate is significantly different than the national rate.

[8] Liddell FD. Simple exact analysis of the standardised mortality ratio. *Journal of Epidemiology and Community Health*, 1984; 38:85-88.

a. If the p-value is ≥0.05, then the hospital rate would be considered statistically "Similar" to the national rate.

b. If the hospital rate is lower than the national rate and the p-value is <0.05, then the hospital rate would be considered significantly "Lower" than the national rate.

c. If the hospital rate is higher than the national rate and the p-value is <0.05, then the hospital rate would be considered significantly "Higher" than the national rate.

Process Measure Percentages

14. Calculating a central line insertion practices adherence percentage: CLIP adherence percentages are presented as the number of insertions that met the adherence criteria divided by the total number of insertions expressed as a percent.

    CLIP Adherence (%) = (number of insertions that met adherence criteria / total number of insertions) x 100

15. Calculating an influenza vaccination percentage: Influenza vaccination percentages are presented as the number of persons vaccinated divided by the total number of persons expressed as a percent.

    Influenza Vaccination (%) = (number of persons vaccinated / total number of persons) x 100

16. Calculating a corresponding confidence interval (CI) for a central line insertion practices adherence percentage: Confidence intervals calculated for central line insertion practices data presented in this report are mid-p exact 95% confidence intervals, which were calculated using a statistical software program.

17. Calculating a corresponding confidence interval (CI) for an influenza vaccination percentage: Confidence intervals calculated for influenza vaccination data presented in this report are Wald normal approximation 95% confidence intervals, which were calculated using the following equation:

    95% CI = ± 1.96[(p x 1-p)/n ^0.5] where p = the percentage and n = the total number of staff

18. Interpreting a proportion confidence interval (CI) for central line insertion and vaccination data: A confidence interval is a measure of certainty (usually with 95% confidence) of an estimate (such as a percentage). Confidence intervals can be used to assess whether differences in the percentages observed for each group (for example, hospital vs. state) is statistically significant (or significantly different).

    a. CIs that overlap the state confidence interval are considered "Similar" to the overall state percentage.

    b. CIs that are lower than and do not overlap the state confidence interval are considered "Lower" than the overall state percentage.

    c. CIs that are higher than and do not overlap the state confidence interval are considered "Higher" than the overall state percentage.

APPENDIX 2: Understanding the Relationship between Healthcare-Associated Infection Rates and Standardized Infection Ratio Comparison Metrics

HAI Elimination Metrics are very useful for performing evaluations. Several metrics are based on the science employed in the NHSN. While national aggregate CLABSI data are published in the annual NHSN Reports, these rates must be stratified by types of locations to be risk-adjusted. This scientifically sound risk-adjustment strategy creates a practical challenge to summarizing this information nationally, regionally, or even for an individual healthcare facility. For instance, when comparing CLABSI rates, there may be quite a number of different types of locations for which a CLABSI rate could be reported. This raises the need for a way to combine CLABSI rate data across locations.

A standardized infection ratio (SIR) can be used as an indirect standardization method for summarizing HAI experience across any number of stratified groups of data. To illustrate the method for using an SIR as an HAI comparison metric, the following example data are displayed below:

Risk Group Stratifier	**Observed CLABSI Rates**			**NHSN CLABSI Rates for 2008 (Standard Population)**		
Location Type	**#CLABSI**	**#Central line-days**	**CLABSI rate***	**#CLABSI**	**#Central line-days**	**CLABSI rate***
ICU	170	100,000	1.7	1200	600,000	2.0
WARD	58	58,000	1.0	600	400,000	1.5

$$SIR = \frac{\text{observed}}{\text{expected}} = \frac{170+58}{100000\times\left(\frac{2}{1000}\right)+58{,}000\times\left(\frac{1.5}{1000}\right)} = \frac{228}{200+87} = \frac{228}{287} = 0.79 \qquad 95\%CI = (0.628, 0.989)$$

*Defined as the number of CLABSIs per 1000 central line-days

In the table above, there are two strata to illustrate risk-adjustment by location type for which national data exist from NHSN. The SIR calculation is based on dividing the total number of observed CLABSI events by an "expected" number using the CLABSI rates from the standard population. This "expected" number is calculated by multiplying the national CLABSI rate from the standard population by the observed number of central line-days for each stratum, which can also be understood as a prediction or projection. If the observed data represented a follow-up period, such as 2009, one would state that an SIR of 0.79 implies that there was a 21% reduction in CLABSIs overall for the nation, region, or facility.

The SIR concept and calculation is completely based on the underlying CLABSI rate data that exist across a potentially large group of strata. Thus, the SIR provides a single metric for performing comparisons rather than attempting to perform multiple comparisons across many strata which makes the task cumbersome.

The SIR concept and calculation can be applied equitably to other HAI metrics. This is especially true for HAI metrics for which national data are available and reasonably precise using a measurement system such as the NHSN. The SIR calculation methods differ in the risk group stratification only.

The SSI SIR uses improved risk adjustment calculated through logistic modeling. This allows for all available risk factors to be procedure specific. See the following logistic equation and SSI predictive risk factors that are used for calculating SSI SIRs, respectively.

logit (p) = $\alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4$ = -5.448 + 0.520 (Age ≤ 44*)+ 0.425 (ASA 3/4/5*) +0.501 (Duration >100*)+ 1.069 (Med school affiliation*) **For these risk factors, if present = 1; if not = 0*

Procedure Code	SSI Predictive Risk Factors From SSI Logistic Models
CABG and CBGC	Age, ASA, Duration, Gender, Hospital Bed Size
COLO	Age, Anesthesia, ASA, Duration, Endoscope, Medical School Affiliation, Hospital Bed Size, Wound Class
KPRO	Age, Anesthesia, ASA, Duration, Gender, Revision, Hospital Bed Size, Trauma

Detailed descriptions of the new SIR in NHSN are available at: http://www.cdc.gov/nhsn/PDFs/Newsletters/NHSN_NL_OCT_2010SE_final.pdf

There are clear advantages to reporting and comparing a single number for prevention assessment. In addition to the simplicity of the SIR concept and the advantages listed above, it is important to note another benefit of using an SIR comparison metric for HAI data. If there was need at any level of aggregation (national, regional, facility-wide, etc.) to combine the SIR values across mutually exclusive data one could do so. The below table demonstrates how the example data from the previous two metric settings could be summarized.

	Observed HAIs			Expected HAIs		
HAI Metric	**#CLABSI**	**#SSI†**	**#Combined HAI**	**#CLABSI**	**#SSI†**	**#Combined HAI**
CLABSI 1	228			287		
SSI 1		636			853.8	
Combined HAI			228 + 636 = 864			287+853.8 = 1140.8

$$SIR = \frac{observed}{expected} = \frac{228+636}{287+853.8} = \frac{864}{1140.8} = 0.76 \qquad 95\%CI = (0.673, 0.849)$$

† SSI, surgical site infection

APPENDIX 3: Preventing Healthcare-Associated Infections

What You Can Do to Prevent Healthcare-Associated Infections

There are several prevention tips you can follow all the time to reduce your chance of getting an infection or spreading your infection to others.

1. Clean your hands.
    - Use soap and warm water. Rub your hands really well for at least 15 seconds. Rub your palms, fingernails, in between your fingers, and the backs of your hands.
    - If your hands do not look dirty, you can clean them with alcohol-based hand sanitizers. Rub the sanitizer all over your hands, especially under your nails and between your fingers, until your hands are dry.
    - Clean your hands before touching or eating food. Clean them after you use the bathroom, take out the trash, change a diaper, visit someone who is ill, or play with a pet.

2. Make sure healthcare providers clean their hands first, even if they wear gloves for a procedure.
    - Doctors, nurses, dentists, and other healthcare providers come into contact with many bacteria and viruses. So if you do not see your healthcare provider wash their hands or use an alcohol-based hand sanitizer before they treat you, ask them if they have cleaned their hands.
    - Healthcare providers should wear clean gloves when they perform tasks such as taking throat cultures, pulling teeth, taking blood, touching wounds or body fluids, while suctioning tubes, and examining your mouth or private parts. Don't be afraid to ask if they should wear gloves.

3. Cover your mouth and nose.
    - Many diseases are spread through sneezes and coughs. When you sneeze or cough, the germs can travel 3 feet or more. Cover your mouth and nose to prevent the spread of infection to others.
    - Use a tissue. Keep tissues handy at home, at work, and in your pocket. Be sure to throw away used tissues and clean your hands after coughing or sneezing.
    - If you don't have a tissue, cover your mouth and nose with the bend of your elbow or hands. If you use your hands, clean them right away.

4. If you are sick, avoid close contact with others.
    - If you are sick, stay away from other people or stay home. Don't shake hands or touch others.
    - When you go for medical treatment, call ahead and ask if there is anything you can do to avoid infecting people in the waiting room.

5. Get shots to avoid disease and fight the spread of infection.
    - Make sure that your vaccinations are current—even for adults. Check with your doctor about shots you may need.

6. If you are prescribed an antibiotic for an illness, take them exactly as directed by your doctor.
    - Don't take half-doses or stop before you complete your prescribed course even if you feel better. Not taking them as directed can lead to infections that become resistant to antibiotics, making them more difficult to treat.

What You Can Do to Help Prevent a Catheter-Associated Bloodstream Infection

- Ask your doctors and nurses to explain why you need the catheter and how long you will have it.
- Ask your doctors and nurses what infection prevention methods they will use during the catheter insertion.
- Make sure that all doctors and nurses caring for you clean their hands with soap and water or an alcohol-based hand rub before and after caring for you. If you do not see your providers clean their hands, please ask them to do so.
- If the bandage comes off or becomes wet or dirty, tell your nurse or doctor immediately.
- Inform your nurse or doctor if the area around your catheter is sore or red.
- Do not let family and friends who visit touch the catheter or the tubing.
- Make sure family and friends clean their hands with soap and water or an alcohol-based hand rub before and after visiting you.
- Some patients are sent home from the hospital with a catheter in order to continue their treatment. If you go home with a catheter, your doctors and nurses will explain everything you need to know about taking care of your catheter.
    - Make sure you understand how to care for the catheter before leaving the hospital. For example, ask for instructions on showering or bathing with the catheter and how to change the catheter dressing.
    - Make sure you know who to contact if you have questions after you get home.
    - Make sure you wash your hands with soap and water or an alcohol-based hand rub before handling your catheter.
    - Watch for the signs and symptoms of catheter-associated bloodstream infection, such as soreness or redness at the catheter site or fever, and call your healthcare provider immediately if any occur.

What Hospitals Do to Prevent Catheter-Associated Bloodstream Infections

To prevent catheter-associated bloodstream infections doctors and nurses will:

- Choose a vein where the catheter can be safely inserted and where risk for infection is small.
- Clean hands with soap and water or alcohol-based hand rub before putting in the catheter.
- Wear a mask, cap, sterile gown, and sterile gloves when putting in the catheter to keep it sterile. The patient will be covered with a sterile sheet.
- Clean the patient's skin with an antiseptic cleanser before putting in the catheter.
- Clean hands, wear gloves, and clean the catheter opening with an antiseptic solution before using the catheter to draw blood or give medications. Healthcare providers also clean their hands and wear gloves when changing the bandage that covers the area where the catheter enters the skin.
- Decide every day if the patient still needs to have the catheter. The catheter will be removed as soon as it is no longer needed.

What You Can Do to Help Prevent Catheter-Associated Urinary Track Infections

- Ask doctors to explain why you need the catheter and how long you will have it.
- Make sure that your doctors and nurses caring for you clean their hands and use sterile gloves for catheter insertion.
- Make sure the tubing or bag is not on the floor. If it drops or is on the floor, ask for new tubing or a bag.
- Ask doctors and nurses what infection prevention methods they will use during the catheter insertion.
- Ask your doctors and nurses if you still need the catheter each day.
- Always clean your hands before and after doing catheter care.
- Always keep your urine bag below the level of your bladder.
- Do not tug or pull on the tubing.

What Hospitals Do to Prevent Catheter-Associated Urinary Tract Infections

To prevent catheter-associated urinary tract infections doctors and nurses will:

- Put in catheters only when necessary and are removed as soon as possible.
- Clean hands with soap and water or alcohol-based hand rub and put on sterile gloves before putting in the catheter.
- Clean the skin where the catheter will be inserted.
- Clean their hands before and after touching your catheter. If you do not see your providers clean their hands, please ask them to do so.
- Avoid disconnecting the catheter and drain tube.
- The catheter is secured to the leg to prevent pulling on the catheter.
- Avoid twisting or kinking the catheter.
- Keep the bag lower than the bladder.
- Empty the bag regularly.

What You Can Do to Help Prevent Surgical Site Infections

- Tell your doctor about other medical problems you may have. Health problems such as allergies, diabetes, and obesity could affect your surgery and your treatment.
- Quit smoking. Patients who smoke get more infections. Talk to your doctor about how you can quit before your surgery.
- Do not shave near where you will have surgery. Shaving with a razor can irritate your skin and make it easier to develop an infection.
- You may have some of your hair removed immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur, however you should not be shaved with a razor. Speak up if someone tries to shave you with a razor before surgery. Ask why you need to be shaved and talk with your surgeon if you have any concerns.

- Ask if you will get antibiotics before surgery.
- After your surgery, make sure that your healthcare providers clean their hands before examining you, either with soap and water or an alcohol-based hand rub. If you do not see your providers clean their hands, please ask them to do so.
- Family and friends who visit you should not touch the surgical wound or dressings and prevent pets from coming into contact with your wound.
- Family and friends should clean their hands with soap and water or an alcohol-based hand rub before and after visiting you. If you do not see them clean their hands, ask them to do so.
- Before you go home, your doctor or nurse should explain everything you need to know about taking care of your wound. Make sure you understand how to care for your wound before you leave the hospital. If you do develop an infection at the hospital, be sure to ask what type of bacteria you have, whether you need antibiotics for it, what steps you should take to prevent it from spreading, and make plans for follow up care for the infection.
- Always clean your hands before and after caring for your wound.
- Before you go home, make sure you know who to contact if you have questions or problems after you get home.
- If you have any symptoms of an infection, such as redness and pain at the surgery site, drainage, or fever, call your doctor immediately.

What Hospitals Do to Prevent Surgical Site Infections

To prevent surgical site infections, doctors, nurses, and other healthcare providers:

- Clean their hands and arms up to their elbows with an antiseptic agent before the surgery.
- Clean their hands with soap and water or an alcohol-based hand rub before and after caring for each patient.
- May remove some of your hair immediately before your surgery using electric clippers if the hair is in the same area where the procedure will occur. They should not shave you with a razor.
- Wear special hair covers, masks, gowns, and gloves during surgery to keep the surgery area clean.
- Give you antibiotics before your surgery starts. In most cases, you should get antibiotics within 60 minutes before the surgery starts and the antibiotics should be stopped within 24 hours after surgery.
- Clean the skin at the site of your surgery with a special soap that kills germs.

This prevention information was adapted from materials developed by the Centers for Disease Control and Prevention, the Association for Professionals in Infection Control and Epidemiology, the Joint Commission, and Society of Healthcare Epidemiology of America. This information can be accessed at the following websites:

http://www.cdc.gov/ncidod/dhqp/HAI_shea_idsa.html

http://www.jointcommission.org/PatientSafety/SpeakUp/speak_up_ic.htm
http://www.apic.org/AM/Template.cfm?Section=Education_Resources&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=91&ContentID=8738

http://www.shea-online.org/ForPatients.aspx

Other useful resources:

http://www.dhhs.nh.gov/dphs/cdcs/hai/index.htm

http://www.nhqualitycare.org/index.php

http://www.cdc.gov/HAI/

http://www.cdc.gov/HAI/patientSafety/patient-safety.html

http://www.qualityforum.org/Home.aspx

http://www.ahrq.gov/

http://www.shea-online.org/about/patientguides.cfm

http://www.jointcommission.org/