

**State of New Hampshire**  
**HEALTHCARE-ASSOCIATED INFECTIONS**  
**2009 REPORT**

**Prepared by**

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

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## 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
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
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).

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<http://www.dhhs.nh.gov/DHHS/CDCS/hai.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 first 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 134 HAIs were reported, representing 110 surgical site infections and 24 central line–associated bloodstream infections. The overall observed number of HAIs in New Hampshire hospitals was 26% fewer than expected based on national data. There were 46% fewer central line–associated bloodstream infections and 19% fewer surgical site infections. Twenty hospitals had robust enough data to provide in the table. Of these 20, four hospitals had an overall number of infections that was lower than expected based on national data. The remaining 16 all observed a similar number of infections as was expected based on national data, and no hospitals observed more infections than were expected.

### **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 22 hospitals to present hospital-specific data in this report. All 22 hospitals experienced rates of central line–associated bloodstream infections that were similar to national rates.

### **Central Line Insertion Practices**

Twenty-four hospitals reported information on central line insertion practices for central lines inserted in ICUs (one hospital did not have an intensive care unit and one hospital 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 93%. Intravenous (IV) Teams more frequently adhered to all four infection-prevention practices during central line insertions (99%) and fellows less frequently adhered (84%). Data were robust enough for 13 hospitals to present hospital-specific data in this report. Eight hospitals reported central line insertion practices adherence rates that were similar to the State average, one hospital reported an adherence rate that was lower than the State average, and four hospitals reported adherence rates that were higher than the State average.

### **Surgical Site Infections**

Twenty-six hospitals reported surgical site infections data for three surgical procedures. Four hospitals performed coronary artery bypass procedures. Two hospitals reported coronary artery bypass procedure–associated surgical site infection rates that were similar to national data, one hospital reported rates that were lower than expected based on national data, and one hospital reported rates that were higher than expected based on national data. For colon procedures, 25 hospitals performed the procedure, and data were robust enough for 15 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, two hospitals reported rates that were lower than expected based on national data, and one hospital reported rates that were higher than expected based on national data. For knee arthroplasty procedures, 26 hospitals performed the procedure and data were robust enough for 11 hospitals to present hospital-specific data in this report. All 11 hospitals reported knee arthroplasty–associated surgical site infection rates that were similar to national data.

### **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 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 96.7% nationally. For SCIP measure 2, 98.6% of patients in New Hampshire received the appropriate prophylactic antibiotic compared with 97.9% nationally. For SCIP measure 3, 96.0% of patients in New Hampshire had his or her prophylactic antibiotic discontinued within 24 hours after surgery compared with 93.5% nationally.

### **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 40.0% to 96.9%, and the overall State rate was 70.6%. This vaccination rate represents a significant increase from the previous year when the statewide vaccination rate was 59.9%. Eleven hospitals had vaccination rates similar to the overall State vaccination rate, 10 hospitals reported vaccination rates that were significantly higher than the overall State vaccination rate, and 10 hospitals reported vaccination rates that were significantly lower than the overall State vaccination rate.

This first report of the HAI Program marks an important milestone in moving toward the goal of eliminating HAIs in New Hampshire. Keeping in mind these data are not validated, this report provides an initial 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<sup>1</sup>. 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.<sup>2</sup> 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.<sup>3</sup>

### 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 as such, mandatory reporting could not be implemented in July 2007 as directed.

In 2007, DHHS engaged partners to consider possible approaches on implementing the law. These partners included the New Hampshire Healthcare Quality Assurance Commission and the New Hampshire Infection Control and Epidemiology Professionals. The workgroup initially decided to conduct a small pilot project in the first half of 2008 to test the use of the Centers for Disease Control and Prevention's (CDC) National Healthcare Safety Network (NHSN) for mandatory HAI reporting. Four acute care hospitals reported SSI in knee arthroplasties and CLABSI in one inpatient unit for the 6-month pilot project. At completion of the pilot project in July 2008, DHHS officially decided to use NHSN for mandatory reporting.

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<sup>1</sup> 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](http://www.cdc.gov/ncidod/dhqp/pdf/hicpac/infections_deaths.pdf)

<sup>2</sup> 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.

<sup>3</sup> 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](http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf)

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)

With the support of CDC staff and the New Hampshire Healthcare Quality Assurance Commission, DHHS coordinated one-day training for hospital quality, infection prevention, and information technology staff in November 2008 to review reporting requirements, NHSN definitions, and the NHSN enrollment and reporting processes. 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.

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.

### **State of New Hampshire Healthcare-Associated Infections Plan**

In response to the 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/DHHS/CDCS/hai.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 will provide funding to enhance this campaign.

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 a 13-member group that includes representation from stakeholders across New Hampshire and includes representatives from various sizes and types of hospitals, infection control

associations, the New Hampshire Hospital Association, and the New Hampshire Healthcare Quality Assurance Commission. The TAW generally meets two times each year.

**New Hampshire Healthcare-Associated Infections Technical Advisory Workgroup, 2009**

<b>Members</b>	<b>Organization Representation</b>
Beth Daly, MPH	DHHS, Communicable Disease Surveillance Section
José Montero, MD	DHHS, State Epidemiologist
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	Franklin Regional Hospital (Critical Access)
Charlie White	Upper Connecticut Valley Hospital (Critical Access)
Barbara Tawney, RN	Northeast Rehabilitation (Rehabilitation)
Terri Kangas-Feller, RN	New Hampshire Hospital (Psychiatric)

## **SURVEILLANCE METHODS**

### **2009 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. At the time of this report, these administrative rules are being drafted and have not yet completed the approval process. Currently since January 1, 2009, reporting of the following measures is required:

- 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 the CLABSI and CLIP, because they do not have ICUs, nor SSI and surgical antimicrobial prophylaxis administration data, because they do not perform surgeries. For 2009, the three rehabilitation and two psychiatric hospitals were required to report influenza vaccination rates for patients and staff. Currently, reporting requirements are communicated with hospitals through HAI reporting contacts in each institution. Once finalized, reporting requirements will be communicated through administrative rules generated at DHHS with stakeholder input and approved by the Joint Legislative Administrative Rules Committee.

### **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).<sup>4</sup> 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

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<sup>4</sup> Linda McKibben, MD,<sup>a</sup> Teresa Horan, MPH,<sup>b</sup> 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>

- Catheter-associated urinary tract infections (CAUTI) and ventilator-associated pneumonia (VAP) were not recommended because of lower morbidity and mortality resulting in less 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.”<sup>5</sup> 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 for 2009, the first year of mandatory reporting. 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. While the data are not validated independently by DHHS, 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

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<sup>5</sup> 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](http://www.cdc.gov/ncidod/dhqp/pdf/ar/06_107498_Essentials_Tool_Kit.pdf)

definitions and reporting methodologies. Second, DHHS analyzed and reviewed all data reported for 2009 from each hospital. This review identified any blatant 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 DHHS was accurate. This reconciliation process was iterative until all hospitals made corrections and agreed to the reported data. Despite these measures, there are many 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.

DHHS plans to conduct a validation study in the coming year to assess the degree of under and over reporting and to provide additional training to address any common or systematic errors or reporting processes.

### **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 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.”<sup>6</sup> This report is available at:

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

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<sup>6</sup> 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](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 2009, 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](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, 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 should occur for a year following the procedure. 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, 17.32, 17.33, 17.34, 17.35, 17.36, 17.39, 45.03, 45.26, 45.41, 45.49, 45.52, 45.71-45.76, 45.79-45.8, 45.81, 45.82, 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. The NHSN risk index assigns surgical patients to categories based on the presence of three major risk factors. The patient's SSI risk category is the number of the following risk factors present at the time of the operation:

- 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

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.
- 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 2009. As such, this report may not account for all SSI that developed as a result of procedures performed in 2009. 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.

### **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:

- Number and percentage of patients who received prophylactic antibiotic within one hour prior to surgery
- Number and percentage of patients who received the appropriate prophylactic antibiotic
- 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 2009–2010 influenza season were reported by hospitals on or before April 30, 2010. 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 2009–2010 survey asked the following seven questions regarding influenza vaccination:

1. How many patients were admitted to your hospital between 10/01/2009 and 03/31/2010?
2. How many of the patients admitted between 10/01/2009 and 03/31/2010 were immunized against seasonal influenza?
3. When did your hospital run out of seasonal influenza vaccine?
4. Of the patients admitted between 10/01/2009 and 03/31/2010, how many received the H1N1 vaccination?
5. How many employees, including nonclinical personnel, work in your hospital?
6. How many employees were immunized against seasonal influenza between 10/01/2009 and 03/31/2010?
7. How many employees were immunized against H1N1 between 10/01/2009 and 03/31/2010?

#### 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 does not assess why unvaccinated staff did not receive the vaccine because not all hospitals can electronically capture and 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, 2009, 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.

## STATEWIDE DATA

HAI data are presented throughout this report as both standardized infection ratios and rates. 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, 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, risk category of the patient, etc. 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 was observed as was expected. 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). An SIR of more than one means that more infections were observed than was 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.

 fewer than expected     similar to expected     more than expected

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.

 higher than state     similar to state     lower than state

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 133 healthcare-associated infections reported across all 26 acute care hospitals in New Hampshire in 2009. These infections represent CLABSI in ICUs and SSI following colon, knee, and coronary artery bypass procedures. Based on national data, we expected to observe 180.81 infections. As such, the overall observed number of healthcare-associated infections was 26% fewer than expected based on national data. More specifically, there were 46% fewer CLASBI and 19% fewer SSI. Looking individually at the specific procedures, there were 23% fewer coronary artery bypass infections, 15% fewer colon infections, and 26% fewer knee arthroplasty infections than expected; however, these differences were not statistically significant and the number of infections observed is considered to be similar to national data.

**TABLE 1: Statewide standardized infection ratios (SIR), January 1–December 31, 2009**

	<b>Observed Infections</b>	<b>Expected Infections</b>	<b>Standardized Infection Ratio (SIR)</b>	<b>95% Confidence Interval</b>	<b>Comparison to Expected Number of Infections</b>
<b>Overall HAI SIR</b>	134	180.81	0.74	0.62, 0.88	Lower
	The overall observed number of HAI in New Hampshire hospitals was 26% 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.				
<b>CLABSI SIR</b>	24	44.36	0.54	0.35 , 0.80	Lower
	The overall observed number of CLABSI in New Hampshire hospitals was 46% 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.				
<b>Overall SSI SIR</b>	110	136.44	0.81	0.66 , 0.97	Lower
	The overall observed number of SSI in New Hampshire hospitals was 19% 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.				
<b>CABG SIR</b>	23	29.99	0.77	0.49 , 1.15	Similar
	The overall observed number of CABG infections in New Hampshire hospitals was 23% 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.				
<b>COLO SIR</b>	64	75.49	0.85	0.65 , 1.08	Similar
	The overall observed number of COLO infections in New Hampshire hospitals was 15% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in the state is SIMILAR to the number seen nationally.				
<b>KPRO SIR</b>	23	30.96	0.74	0.47, 1.11	Similar
	The overall observed number of KPRO infections in New Hampshire hospitals was 26% 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

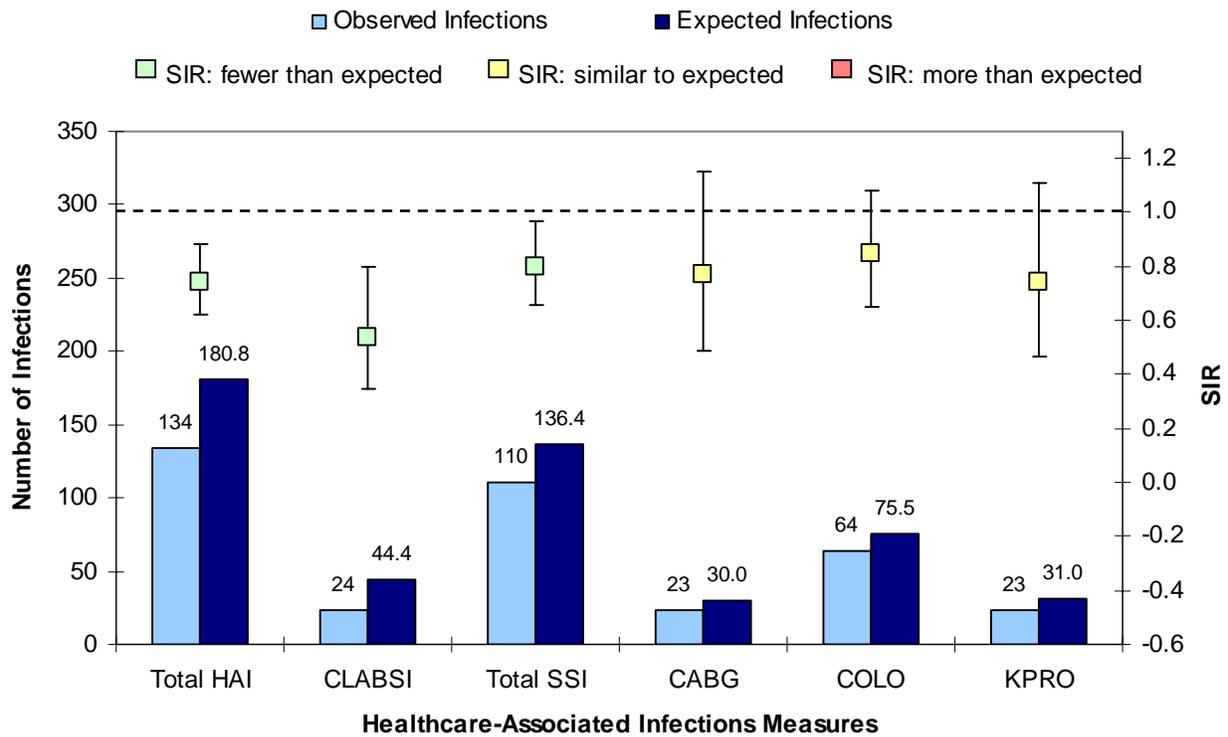
SSI: Surgical site infections

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), January 1–December 31, 2009**



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 hospitals had robust enough data to provide in the table. Of these 20, four hospitals had an overall number of infections that was lower than expected based on national data. The remaining 16 all observed a similar number of infections as was expected based on national data and no hospitals observed more infections than was expected.

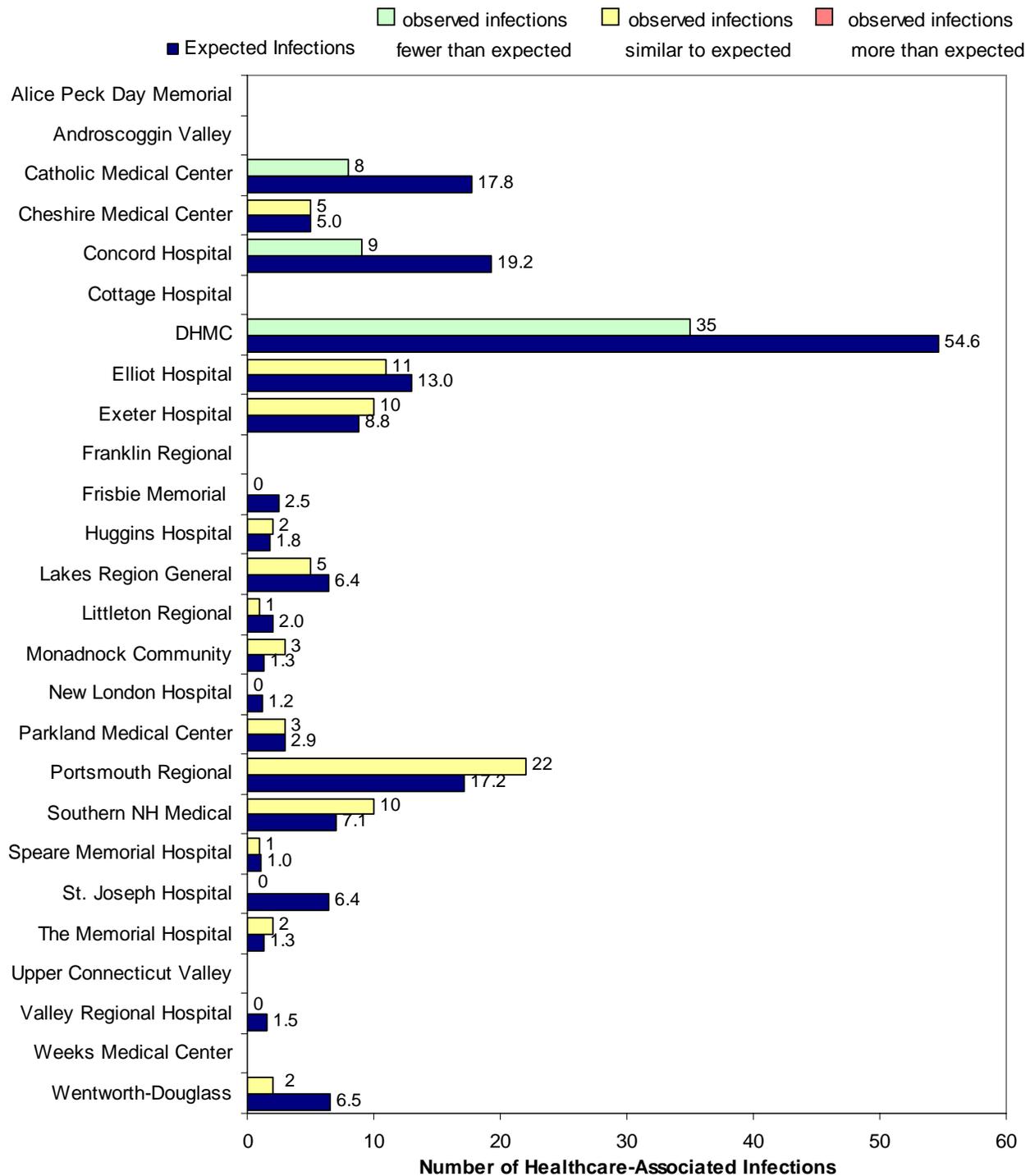
**TABLE 2: Overall healthcare-associated infections standardized infection ratios, January 1–December 31, 2009**

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	8	17.78	0.45	0.19 , 0.89	Lower
Cheshire Medical Center	5	5.00	1.00	0.32 , 2.34	Similar
Concord Hospital	9	19.23	0.47	0.21 , 0.89	Lower
Cottage Hospital	†	†	†	†	†
DHMC	35	54.60	0.64	0.45 , 0.89	Lower
Elliot Hospital	11	13.02	0.84	0.42 , 1.51	Similar
Exeter Hospital	10	8.83	1.13	0.54 , 2.08	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0	2.52	0.00	- , 1.45	Similar
Huggins Hospital	2	1.84	1.09	0.12 , 3.92	Similar
Lakes Region General	5	6.43	0.78	0.25 , 1.82	Similar
Littleton Regional	1	2.00	0.50	0.01 , 2.78	Similar
Monadnock Community	3	1.29	2.33	0.47 , 6.80	Similar
New London Hospital	0	1.21	0.00	- , 3.04	Similar
Parkland Medical Center	3	2.92	1.03	0.21 , 3.00	Similar
Portsmouth Regional	22	17.18	1.28	0.80 , 1.94	Similar
Southern NH Medical	10	7.07	1.41	0.68 , 2.60	Similar
Speare Memorial Hospital	1	1.03	0.97	0.01 , 5.40	Similar
St. Joseph Hospital	0	6.38	0.00	- , 0.57	Lower
The Memorial Hospital	2	1.32	1.52	0.17 , 5.49	Similar
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	0	1.55	0.00	- , 2.37	Similar
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	2	6.54	0.31	0.03 , 1.10	Similar
<b>State Total</b>	134	180.81	0.74	0.62 , 0.88	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, January 1–December 31, 2009**



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).

## Statewide Infection Rates

The statewide rate for CLABSI in medical surgical intensive care units (0.61 infections per 1,000 central line days) was lower than the national rate for CLABSI in medical surgical ICUs (1.5 infections per 1,000 central line days). The statewide rate for CLABSI in all other types of ICUs was similar to the national rate. The statewide rate for infections following a colon procedure for patients in risk category 2 (3.98 infections per 100 procedures) was lower than the national rate (7.1 infections per 100 procedures). Statewide rates for all of other surgical site infections were similar to national rates.

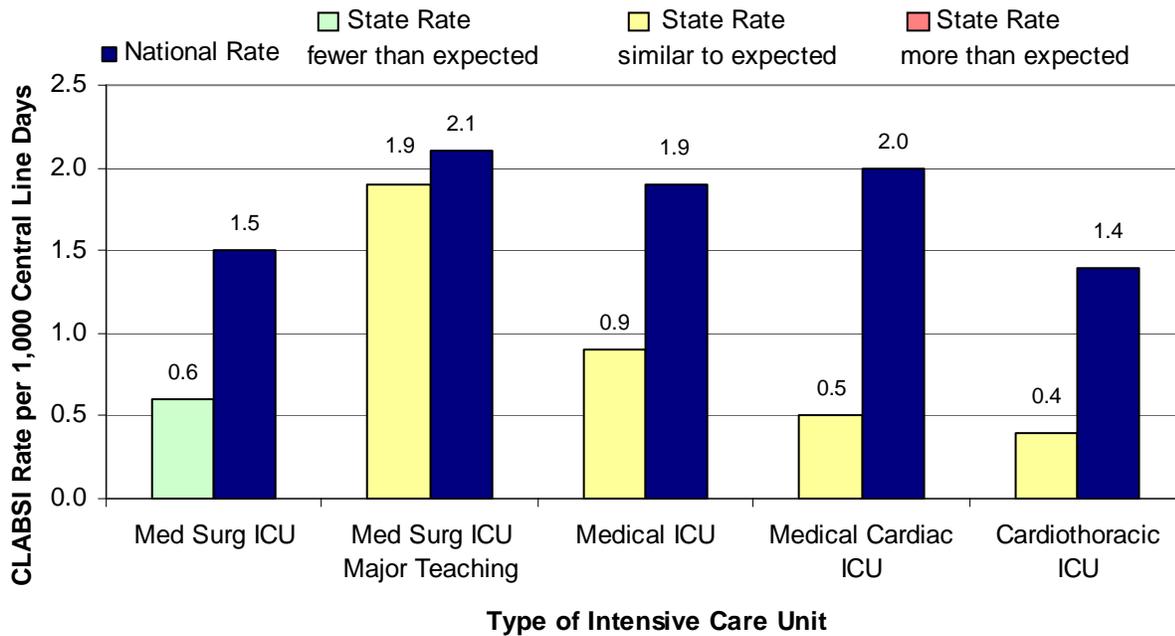
**TABLE 3: Statewide infection rates, January 1–December 31, 2009**

Infection Outcome Measure	Infections	Denominator*	State Rate*	National Rate	p-value	State Rate Compared to National Rate
<b>CLABSI Rates</b>						
Medical/Surgical ICU (n=20)	7	11,435	0.61	1.5	0.009	Lower
Medical/Surgical ICU-Major Teaching Hospital (n=1)	13	6,803	1.91	2.1	0.429	Similar
Medical ICU (n=3)	2	2,122	0.94	1.9	0.326	Similar
Medical Cardiac ICU (n=1)	1	2,070	0.48	2.0	0.081	Similar
Cardiothoracic ICU (n=1)	1	2,433	0.41	1.4	0.149	Similar
<b>CBGC SSI Rate</b>						
Risk Category 0, 1	1	49	2.04	1.4	0.638	Similar
Risk Category 2, 3	0	23	0.00	2.3	0.589	Similar
<b>CBGB SSI Rate</b>						
Risk Category 0	†	†	†	†	†	†
Risk Category 1	8	465	1.72	2.6	0.256	Similar
Risk Category 2	14	395	3.54	4.3	0.496	Similar
Risk Category 3	†	†	†	†	†	†
<b>COLO SSI Rate</b>						
Risk Category 0	18	381	4.72	4.0	0.461	Similar
Risk Category 1	30	596	5.03	5.6	0.571	Similar
Risk Category 2	13	327	3.98	7.1	0.022	Lower
Risk Category 3	3	41	7.32	9.5	0.692	Similar
<b>KPRO SSI Rate</b>						
Risk Category 0	7	1,495	0.47	0.6	0.608	Similar
Risk Category 1	13	1,531	0.85	1.0	0.612	Similar
Risk Category 2, 3	3	446	0.67	1.6	0.103	Similar

\* For CLABSI, denominator is number of central line days. CLABSI rate is the number of infections per 1,000 central line days. For SSI, denominator is number of total procedures performed. SSI rate is the number of infections per 100 procedures.

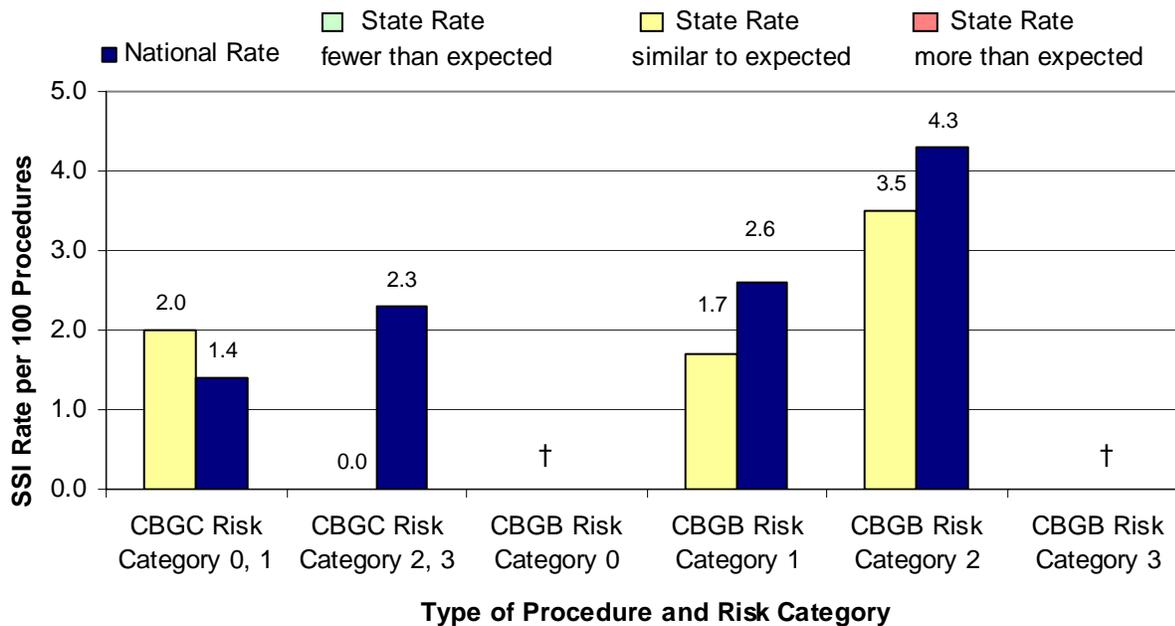
† Data are not shown when fewer than 20 procedures were performed.

**FIGURE 3: Statewide rates for central line–associated bloodstream infections, January 1–December 31, 2009**



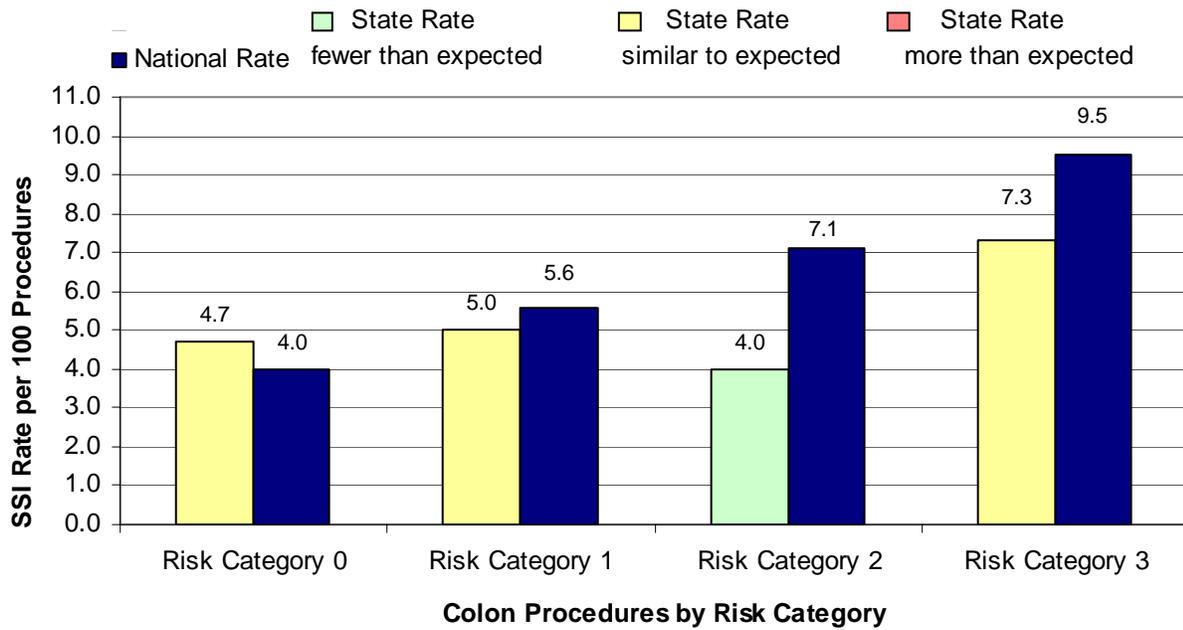
Med Surg = medical surgical  
ICU = intensive care unit

**FIGURE 4: Statewide rates for coronary artery bypass graft procedure–associated surgical site infections, January 1–December 31, 2009**

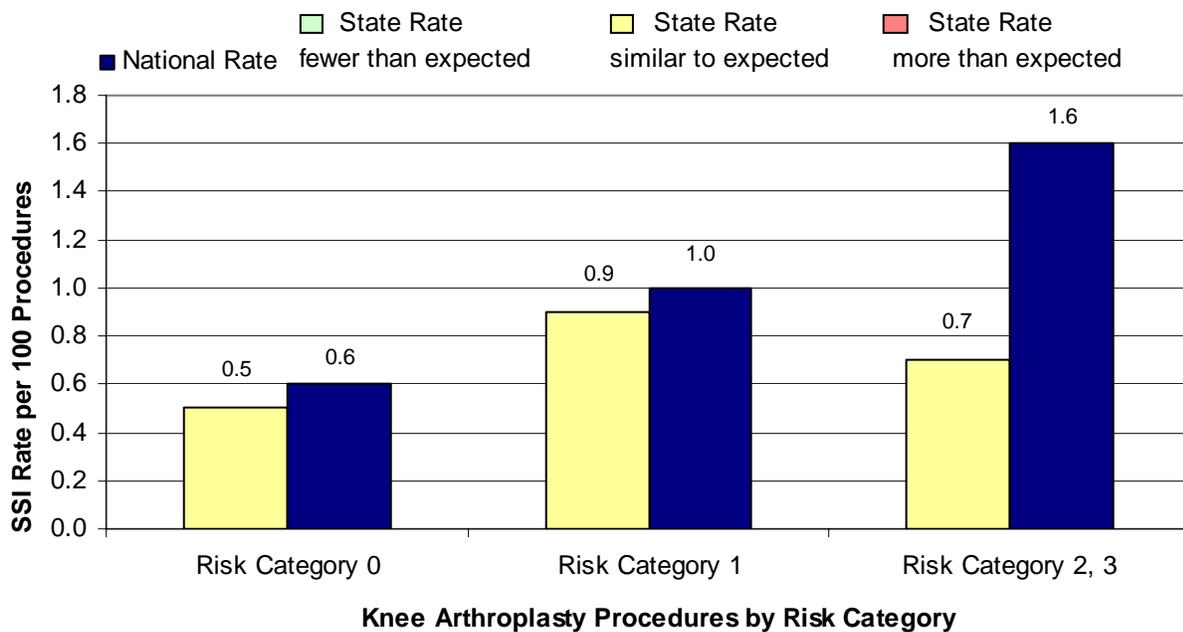


CBGC = coronary artery bypass graft procedures with chest incision site only  
CBGB = coronary artery bypass graft procedures with both a chest and donor site incision  
† Data are not shown when fewer than 20 procedures were performed.

**FIGURE 5: Statewide rates for colon procedure–associated surgical site infections, January 1–December 31, 2009**



**FIGURE 6: Statewide rates for knee arthroplasty procedure–associated surgical site infections, January 1–December 31, 2009**



## Central Line–Associated Bloodstream Infections

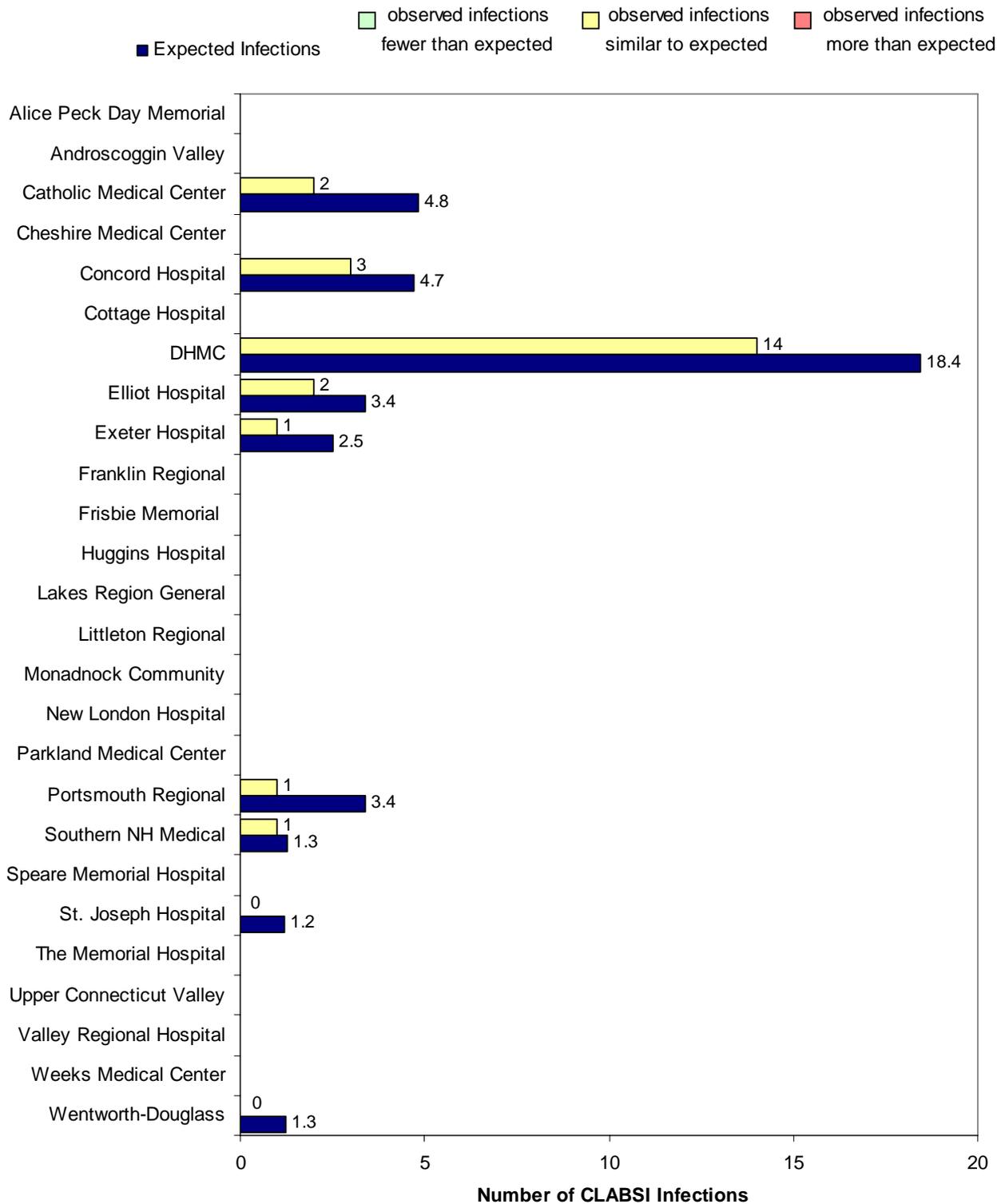
In general terms, CLABSI is a laboratory-confirmed bloodstream infection that develops after insertion of a central line and is not secondary to an infection at another body site. The tables below show the number of infections that were identified in adult intensive care units at each acute care hospital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

**TABLE 4: Central line–associated bloodstream infections standardized infection ratios, January 1–December 31, 2009**

	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	2	4.82	0.41	0.05 , 1.50	Similar
Cheshire Medical Center	†	†	†	†	†
Concord Hospital	3	4.71	0.64	0.13 , 1.86	Similar
Cottage Hospital	†	†	†	†	†
DHMC	14	18.43	0.76	0.42 , 1.27	Similar
Elliot Hospital	2	3.39	0.59	0.07 , 2.13	Similar
Exeter Hospital	1	2.51	0.40	0.01 , 2.21	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†
Huggins Hospital	†	†	†	†	†
Lakes Region General	†	†	†	†	†
Littleton Regional	†	†	†	†	†
Monadnock Community	†	†	†	†	†
New London Hospital	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†
Portsmouth Regional	1	3.41	0.29	0.00 , 1.63	Similar
Southern NH Medical	1	1.28	0.78	0.01 , 4.36	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	0	1.20	0.00	- , 3.05	Similar
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	0	1.25	0.00	- , 2.94	Similar
<b>State Total</b>	24	44.36	0.54	0.35 , 0.80	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 7: Central line-associated bloodstream infections (CLABSI) standardized infection ratios, January 1–December 31, 2009**



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.

**TABLE 5: Central line–associated bloodstream infections rates, January 1–December 31, 2009**

	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	56	0.0	1.5	0.920	Similar
Catholic Medical	Med/Surg ICU	2	3,215	0.6	1.5	0.150	Similar
Cheshire Medical	Medical ICU	0	286	0.0	1.9	0.582	Similar
Concord Hospital	Med/Surg ICU	3	2,243	1.3	1.5	0.582	Similar
Cottage Hospital	Med/Surg ICU	†	†	†	†	†	†
DHMC	Med Cardiac ICU	1	2,070	0.5	2	0.081	Similar
	Med/Surg ICU	13	6,803	1.9	2.1	0.429	Similar
Elliot Hospital	Medical ICU	2	1,785	1.1	1.9	0.343	Similar
Exeter Hospital	Med/Surg ICU	1	1,676	0.6	1.5	0.286	Similar
Franklin Regional	Med/Surg ICU	0	72	0.0	1.5	0.898	Similar
Frisbie Memorial	Med/Surg ICU	0	108	0.0	1.5	0.851	Similar
Huggins Hospital	Med/Surg ICU	0	187	0.0	1.5	0.756	Similar
Lakes Region General	Med/Surg ICU	0	542	0.0	1.5	0.445	Similar
Littleton Regional	Med/Surg ICU	0	112	0.0	1.5	0.846	Similar
Monadnock Hospital	Med/Surg ICU	0	150	0.0	1.5	0.799	Similar
New London Hospital	Med/Surg ICU	0	61	0.0	1.5	0.913	Similar
Parkland Medical	Med/Surg ICU	0	353	0.0	1.5	0.590	Similar
Portsmouth Regional	Cardiothoracic ICU	1	2,433	0.4	1.4	0.149	Similar
Southern NH Medical	Med/Surg ICU	1	851	1.2	1.5	0.636	Similar
Speare Memorial	Med/Surg ICU	0	84	0.0	1.5	0.882	Similar
St. Joseph’s Hospital	Med/Surg ICU	0	803	0.0	1.5	0.301	Similar
The Memorial Hospital	Medical ICU	0	51	0.0	1.9	0.908	Similar
Upper Connecticut Valley	Med/Surg ICU	†	†	†	†	†	†
Valley Regional	Med/Surg ICU	0	69	0.0	1.5	0.902	Similar
Weeks Medical Center	Med/Surg ICU	†	†	†	†	†	†
Wentworth Douglass	Med/Surg ICU	0	833	0.0	1.5	0.288	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

## 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 6 suggests that IV Teams more frequently adhered to all four infection-prevention practices during central line insertions. Alternatively, the analysis shows that fellows less frequently adhered to all four infection-prevention practices during central line insertions. The analysis presented in Table 7 shows that four hospitals had higher adherence compared with the State adherence percentage, eight hospitals had similar adherence as the State adherence percentage, and one hospital had lower adherence compared with the State adherence percentage.

**TABLE 6: Central line insertion practices adherence percentages by occupation of inserter, January 1–December 31, 2009**

Occupation of Inserter	Insertions that Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Occupation % Compared to State %
Attending Physician	620	668	92.8	90.5 , 94.5	Similar
IV Team	539	545	99.0	97.7 , 99.6	Higher
Intern/Resident	320	339	94.4	91.5 , 96.5	Similar
Fellow	178	213	83.6	78.1 , 88.1	Lower
Other Medical Staff	152	169	89.9	84.7 , 93.8	Similar
Other	156	167	93.4	88.8 , 96.5	Similar
Physician Assistant	†	†	†	†	†
Medical Student	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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.

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

**TABLE 7: Central line insertion practices adherence percentages by hospital, January 1–December 31, 2009**

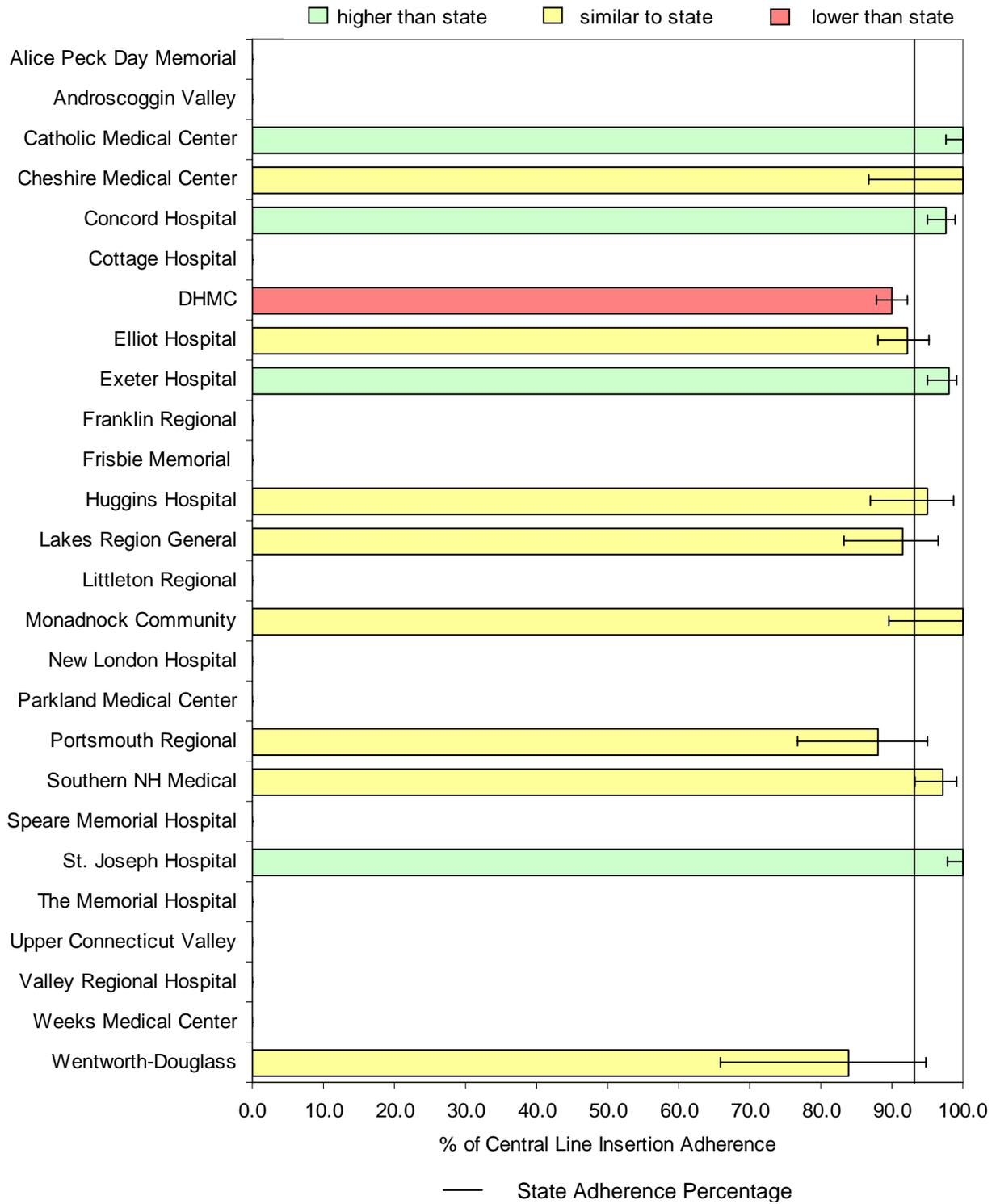
Hospital	Insertions that Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	-	-	-	-	-
Androscoggin Valley	†	†	†	†	†
Catholic Medical Center	125	125	100.0	97.6 , -	Higher
Cheshire Medical Center	21	21	100.0	86.7 , -	Similar
Concord Hospital	240	246	97.6	95.0 , 99.0	Higher
Cottage Hospital	†	†	†	†	†
DHMC	599	665	90.1	87.7 , 92.2	Lower
Elliot Hospital	212	230	92.2	88.1 , 95.2	Similar
Exeter Hospital	211	216	98.0	94.9 , 99.2	Higher
Franklin Regional	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†
Huggins Hospital	57	60	95.0	87.0 , 98.7	Similar
Lakes Region General	65	71	91.5	83.3 , 96.5	Similar
Littleton Regional	†	†	†	†	†
Monadnock Community	27	27	100.0	89.5 , -	Similar
New London Hospital	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†
Portsmouth Regional	44	50	88.0	76.7 , 94.9	Similar
Southern NH Medical	136	140	97.1	93.3 , 99.1	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	135	135	100.0	97.8 , -	Higher
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	21	25	84.0	65.8 , 94.7	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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.

† 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 8: Central line insertion practices adherence percentages by hospital, January 1–December 31, 2009**



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

## **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 19% fewer than expected based on national data. The analysis presented in Table 8 shows that overall three hospitals observed fewer infections than expected, 15 hospitals observed a similar number of infections as expected, and one hospital observed more infections than expected based on national data. For coronary artery bypass graft procedures (Table 9), one hospital observed fewer infections than expected, two hospitals observed a similar number of infections as expected, and one hospital observed more infections than expected based on national data. For colon procedures (Table 10), two hospitals observed fewer infections than expected, 12 hospitals observed a similar number of infections as expected, and one hospital observed more infections than expected based on national data. For knee arthroplasty (Table 11), all 10 hospitals for which data are shown observed fewer infections than expected based on national data.

## **Surgical Site Infection Rates**

Tables 11–18 provide rate of surgical site infections per 100 procedures by hospital. Note that rates are calculated individually for type of procedure and risk category of patient. This ensures that data are risk-adjusted. Because data are sparse when broken down into categories, interpretation of rate data can be unclear. For risk adjustment, surgical patients are assigned into categories based on presence of three major risk factors, although note that there may be other risk factors for infection. The patient's risk category is the number of the following risk factors present at the time of the operation:

- a. Operation lasting more than the duration cut point hours
- b. Contaminated or Dirty/infected wound class
- c. ASA classification of 3, 4, or 5

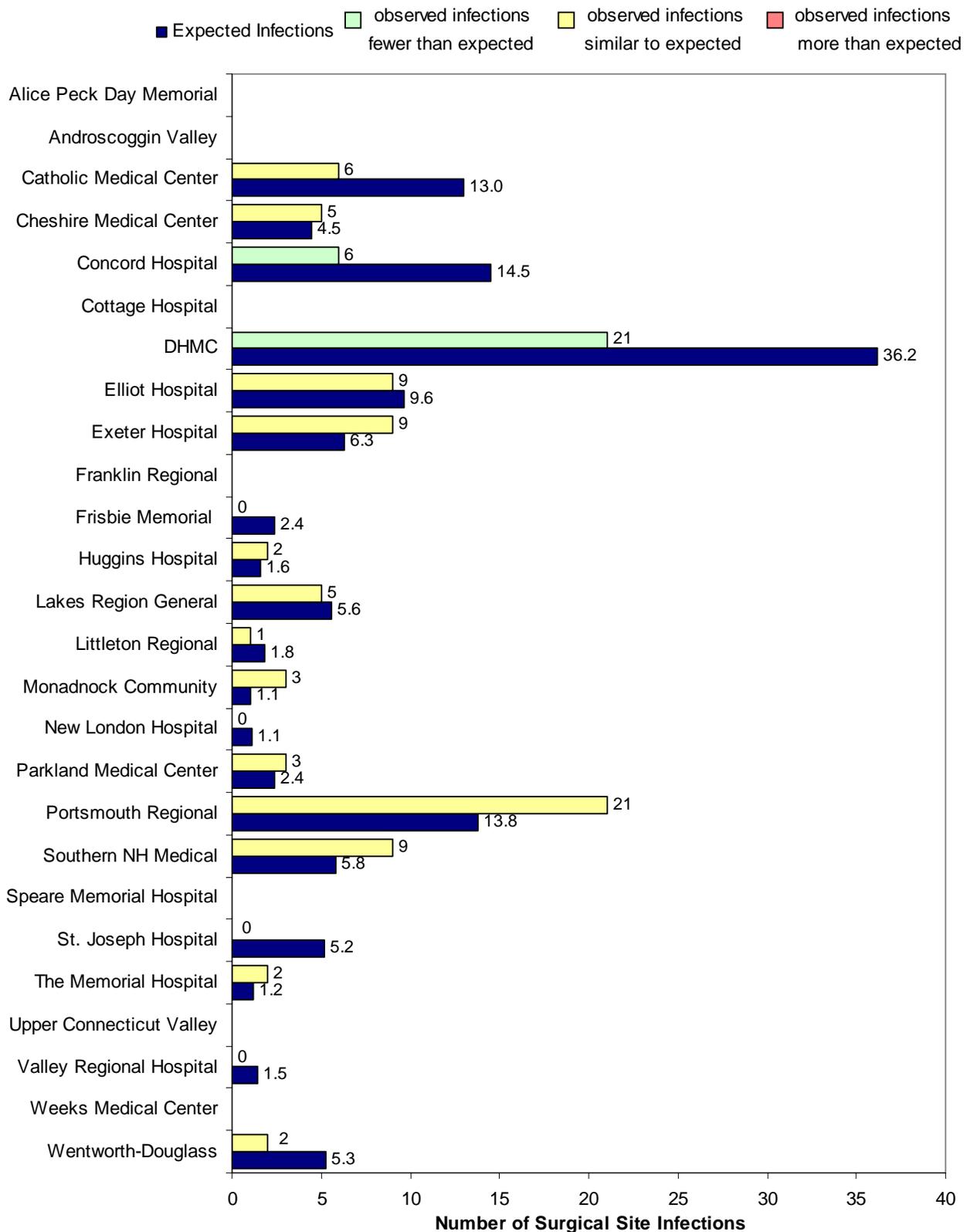
See methods section for more information on SSI risk adjustment.

**TABLE 8: Surgical site infections standardized infection ratios, January 1–December 31, 2009**

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	6	12.96	0.46	0.17 , 1.01	Similar
Cheshire Medical Center	5	4.45	1.12	0.36 , 2.62	Similar
Concord Hospital	6	14.52	0.41	0.15 , 0.90	Lower
Cottage Hospital	†	†	†	†	†
DHMC	21	36.17	0.58	0.36 , 0.89	Lower
Elliot Hospital	9	9.63	0.93	0.43 , 2.70	Similar
Exeter Hospital	9	6.32	1.42	0.65 , 2.70	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0	2.36	0.00	- , 1.55	Similar
Huggins Hospital	2	1.56	1.28	0.14 , 4.62	Similar
Lakes Region General	5	5.61	0.89	0.29 , 2.08	Similar
Littleton Regional	1	1.83	0.55	0.01 , 3.03	Similar
Monadnock Community	3	1.06	2.82	0.57 , 8.24	Similar
New London Hospital	0	1.12	0.00	- , 3.29	Similar
Parkland Medical Center	3	2.39	1.26	0.25 , 3.67	Similar
Portsmouth Regional	21	13.77	1.52	0.94 , 2.33	Similar
Southern NH Medical	9	5.80	1.55	0.71 , 2.95	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	0	5.18	0.00	- , 0.71	Lower
The Memorial Hospital	2	1.22	1.64	0.18 , 5.93	Similar
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	0	1.45	0.00	- , 2.54	Similar
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	2	5.29	0.38	0.04 , 1.37	Similar
<b>State Total</b>	110	136.44	0.81	0.66 , 0.97	Lower

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

**FIGURE 9: Surgical site infections standardized infection ratios, January 1–December 31, 2009**

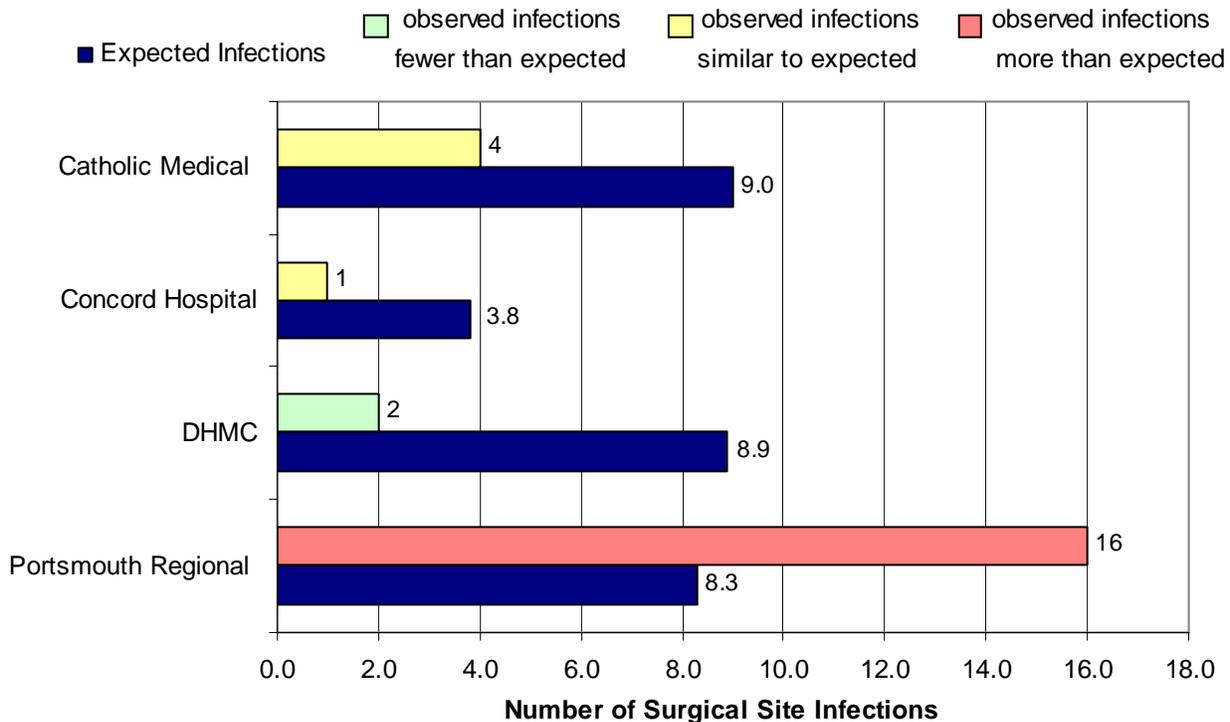


Note: Data are not shown for hospitals with less than one expected infection.

**TABLE 9: Coronary artery bypass graft procedure-associated surgical site infections standardized infection ratios, January 1–December 31, 2009**

Hospital	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval	Comparison to Expected Number of Infections
Catholic Medical	4	8.99	0.44	0.12 , 1.14	Similar
Concord Hospital	1	3.78	0.26	0.00 , 1.47	Similar
DHMC	2	8.88	0.23	0.03 , 0.81	Lower
Portsmouth Regional	16	8.34	1.92	1.10 , 3.12	Higher
<b>State Total</b>	<b>23</b>	<b>29.99</b>	<b>0.77</b>	<b>0.49 , 1.15</b>	<b>Similar</b>

**FIGURE 10: Coronary artery bypass graft procedure-associated surgical site infections standardized infection ratios, January 1–December 31, 2009**

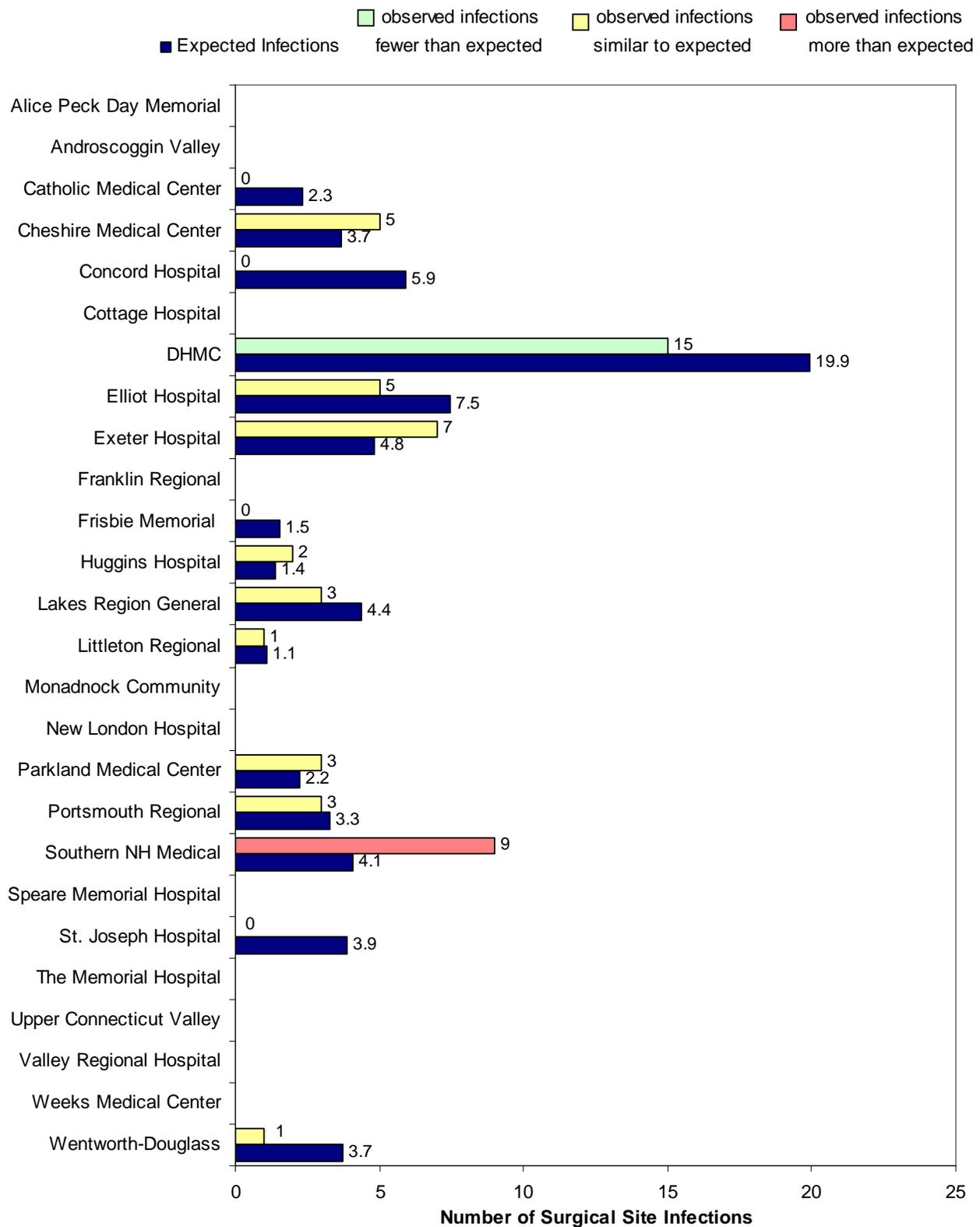


**TABLE 10: Colon procedure-associated surgical site infections standardized infection ratios, January 1–December 31, 2009**

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	0	2.33	0.00	- , 1.57	Similar
Cheshire Medical Center	5	3.68	1.36	0.44 , 3.17	Similar
Concord Hospital	0	5.90	0.00	- , 0.62	Lower
Cottage Hospital	†	†	†	†	†
DHMC	15	19.91	0.75	0.42 , 1.24	Similar
Elliot Hospital	5	7.47	0.67	0.22 , 1.56	Similar
Exeter Hospital	7	4.80	1.46	0.58 , 3.00	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	0	1.54	0.00	- , 2.38	Similar
Huggins Hospital	2	1.41	1.42	0.16 , 5.14	Similar
Lakes Region General	3	4.36	0.69	0.14 , 2.01	Similar
Littleton Regional	1	1.09	0.92	0.01 , 5.10	Similar
Monadnock Community	†	†	†	†	†
New London Hospital	†	†	†	†	†
Parkland Medical Center	3	2.24	1.34	0.27 , 3.91	Similar
Portsmouth Regional	3	3.26	0.92	0.18 , 2.69	Similar
Southern NH Medical	9	4.08	2.20	1.01 , 4.19	Higher
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	0	3.87	0.00	- , 0.95	Lower
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	1	3.72	0.27	0.00 , 1.49	Similar
<b>State Total</b>	<b>64</b>	<b>75.49</b>	<b>0.85</b>	<b>0.65 , 1.08</b>	<b>Similar</b>

Note: Upper Connecticut Valley Hospital did not perform any colon procedures.  
† Data are not shown for hospitals with less than one expected infection.

**FIGURE 11: Colon procedure-associated surgical site infections standardized infection ratios, January 1–December 31, 2009**



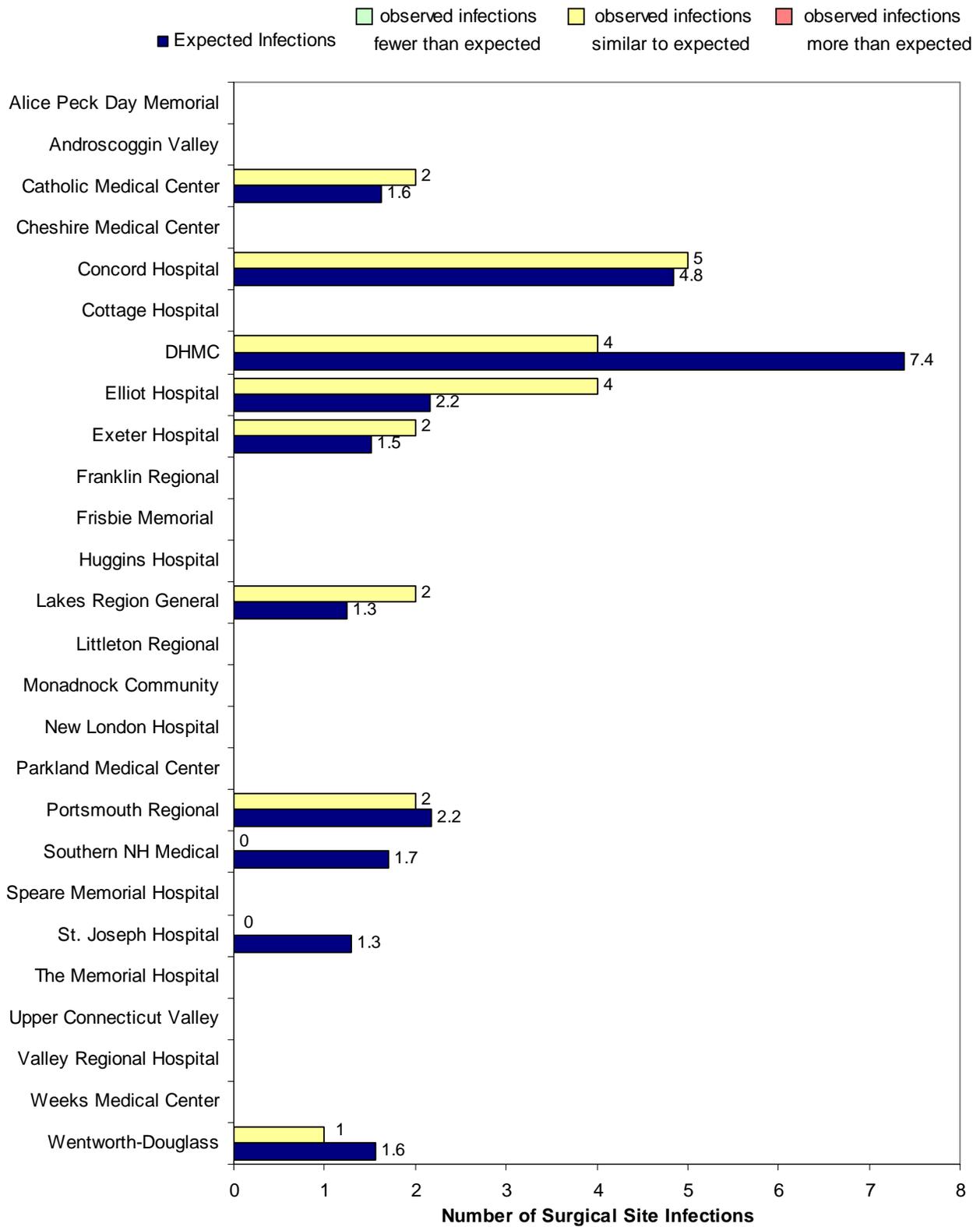
Note: Upper Connecticut Valley Hospital did not perform any colon procedures.  
Data are not shown for hospitals with less than one expected infection.

**TABLE 11: Knee arthroplasty procedure-associated surgical site infections standardized infection ratios, January 1–December 31, 2009**

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	2	1.63	1.22	0.14 , 4.42	Similar
Cheshire Medical Center	†	†	†	†	†
Concord Hospital	5	4.84	1.03	0.33 , 2.41	Similar
Cottage Hospital	†	†	†	†	†
DHMC	4	7.39	0.54	0.15 , 1.39	Similar
Elliot Hospital	4	2.16	1.85	0.50 , 4.74	Similar
Exeter Hospital	2	1.52	1.32	0.15 , 4.76	Similar
Franklin Regional	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†
Huggins Hospital	†	†	†	†	†
Lakes Region General	2	1.25	1.60	0.18 , 5.77	Similar
Littleton Regional	†	†	†	†	†
Monadnock Community	†	†	†	†	†
New London Hospital	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†
Portsmouth Regional	2	2.17	0.92	0.10 , 3.33	Similar
Southern NH Medical	0	1.71	0.00	- , 2.14	Similar
Speare Memorial Hospital	†	†	†	†	†
St. Joseph Hospital	0	1.30	0.00	- , 2.82	Similar
The Memorial Hospital	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†
Valley Regional Hospital	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†
Wentworth-Douglass	1	1.57	0.64	0.01 , 3.55	Similar
<b>State Total</b>	<b>23</b>	<b>30.96</b>	<b>0.74</b>	<b>0.47 , 1.11</b>	<b>Similar</b>

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

**FIGURE 12: Knee arthroplasty procedure-associated surgical site infections standardized infection ratios, January 1–December 31, 2009**



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

**TABLE 12: Coronary artery bypass graft procedure-associated surgical site infections rates by risk category and hospital, January 1–December 31, 2009**

<b>Coronary Artery Bypass Graft Procedures with Chest Incision Site Only</b>												
	<b>Risk Category 0,1</b>						<b>Risk Category 2,3</b>					
<b>Hospital</b>	<b>Infections</b>	<b>Procedures</b>	<b>Rate</b>	<b>National Rate</b>	<b>p-value</b>	<b>Compared to National Rate</b>	<b>Infections</b>	<b>Procedures</b>	<b>Rate</b>	<b>National Rate</b>	<b>p-value</b>	<b>Compared to National Rate</b>
Catholic Medical	1	35	2.86	1.37	0.384	Similar	†	†	†	†	†	†
Concord Hospital	†	†	†	†	†	†	†	†	†	†	†	†
DHMC	†	†	†	†	†	†	†	†	†	†	†	†
Portsmouth Regional	†	†	†	†	†	†	†	†	†	†	†	†
<b>State Total</b>	1	49	2.04	1.37	0.638	Similar	0	23	0.00	2.29	0.589	Similar

<b>Coronary Artery Bypass Graft Procedures with Chest and Donor Site Incisions</b>												
	<b>Risk Category 1</b>						<b>Risk Category 2</b>					
<b>Hospital</b>	<b>Infections</b>	<b>Procedures</b>	<b>Rate</b>	<b>National Rate</b>	<b>p-value</b>	<b>Compared to National Rate</b>	<b>Infections</b>	<b>Procedures</b>	<b>Rate</b>	<b>National Rate</b>	<b>p-value</b>	<b>Compared to National Rate</b>
Catholic Medical	1	224	0.45	2.55	0.037	Lower	2	61	3.28	4.26	0.475	Similar
Concord Hospital	0	26	0.00	2.55	0.511	Similar	1	70	1.43	4.26	0.190	Similar
DHMC	1	57	1.75	2.55	0.500	Similar	1	165	0.61	4.26	0.017	Lower
Portsmouth Regional	6	158	3.80	2.55	0.229	Similar	10	99	10.10	4.26	0.005	Higher
<b>State Total</b>	8	465	1.72	2.55	0.268	Similar	14	395	3.54	4.26	0.515	Similar

Note: Risk categories 0 and 3 are not shown for coronary artery bypass graft procedures with chest and donor site incisions because no hospitals performed enough procedures in these categories ( $\geq 20$  procedures) to present data.

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

**TABLE 13: Colon procedure-associated surgical site infections rates by hospital, risk category 0, January 1–December 31, 2009**

Hospital	Infections	Procedures	Hospital Rate	National Rate	p-value	Hospital Rate Compared to National Rate
Alice Peck Day Memorial	†	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†	†
Catholic Medical Center	†	†	†	†	†	†
Cheshire Medical Center	2	30	6.67	3.99	0.390	Similar
Concord Hospital	0	31	0.00	3.99	0.250	Similar
Cottage Hospital	†	†	†	†	†	†
DHMC	4	44	9.09	3.99	0.090	Similar
Elliot Hospital	2	31	6.45	3.99	0.405	Similar
Exeter Hospital	2	35	5.71	3.99	0.465	Similar
Franklin Regional	†	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†	†
Huggins Hospital	†	†	†	†	†	†
Lakes Region General	2	24	8.33	3.99	0.249	Similar
Littleton Regional	†	†	†	†	†	†
Monadnock Community	-	-	-	-	-	-
New London Hospital	†	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†	†
Portsmouth Regional	0	38	0.00	3.99	0.200	Similar
Southern NH Medical	3	31	9.68	3.99	0.124	Similar
Speare Memorial Hospital	†	†	†	†	†	†
St. Joseph Hospital	0	30	0.00	3.99	0.258	Similar
The Memorial Hospital	†	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-	-
Valley Regional Hospital	†	†	†	†	†	†
Weeks Medical Center	-	-	-	-	-	-
Wentworth-Douglass	†	†	†	†	†	†
<b>State Total</b>	<b>18</b>	<b>381</b>	<b>4.72</b>	<b>3.99</b>	<b>0.461</b>	<b>Similar</b>

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

- Facility did not perform this procedure for patients in the risk group.

**TABLE 14: Colon procedure-associated surgical site infections rates by hospital, risk category 1, January 1–December 31, 2009**

<b>Hospital</b>	<b>Infections</b>	<b>Procedures</b>	<b>Hospital Rate</b>	<b>National Rate</b>	<b>p-value</b>	<b>Hospital Rate Compared to National Rate</b>
Alice Peck Day Memorial	†	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†	†
Catholic Medical Center	†	†	†	†	†	†
Cheshire Medical Center	2	28	7.14	5.59	0.500	Similar
Concord Hospital	0	51	0.00	5.59	0.076	Similar
Cottage Hospital	†	†	†	†	†	†
DHMC	6	154	3.90	5.59	0.230	Similar
Elliot Hospital	3	69	4.35	5.59	0.426	Similar
Exeter Hospital	4	39	10.26	5.59	0.179	Similar
Franklin Regional	†	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†	†
Huggins Hospital	†	†	†	†	†	†
Lakes Region General	0	23	0.00	5.59	0.238	Similar
Littleton Regional	†	†	†	†	†	†
Monadnock Community	†	†	†	†	†	†
New London Hospital	†	†	†	†	†	†
Parkland Medical Center	3	21	14.29	5.59	0.104	Similar
Portsmouth Regional	2	30	6.67	5.59	0.500	Similar
Southern NH Medical	3	37	8.11	5.59	0.379	Similar
Speare Memorial Hospital	†	†	†	†	†	†
St. Joseph Hospital	0	26	0.00	5.59	0.208	Similar
The Memorial Hospital	†	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-	-
Valley Regional Hospital	†	†	†	†	†	†
Weeks Medical Center	†	†	†	†	†	†
Wentworth-Douglass	1	34	2.94	5.59	0.383	Similar
<b>State Total</b>	<b>30</b>	<b>596</b>	<b>5.03</b>	<b>5.59</b>	<b>0.571</b>	<b>Similar</b>

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

- Facility did not perform this procedure for patients in the risk group.

**TABLE 15: Colon procedure-associated surgical site infections rates by hospital, risk category 2, January 1–December 31, 2009**

Hospital	Infections	Procedures	Hospital Rate	National Rate	p-value	Hospital Rate Compared to National Rate
Alice Peck Day Memorial	†	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†	†
Catholic Medical Center	†	†	†	†	†	†
Cheshire Medical Center	†	†	†	†	†	†
Concord Hospital	0	23	0.00	7.06	0.180	Similar
Cottage Hospital	†	†	†	†	†	†
DHMC	4	111	3.60	7.06	0.109	Similar
Elliot Hospital	0	31	0.00	7.06	0.118	Similar
Exeter Hospital	†	†	†	†	†	†
Franklin Regional	†	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†	†
Huggins Hospital	†	†	†	†	†	†
Lakes Region General	1	30	3.33	7.06	0.330	Similar
Littleton Regional	†	†	†	†	†	†
Monadnock Community	†	†	†	†	†	†
New London Hospital	†	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†	†
Portsmouth Regional	†	†	†	†	†	†
Southern NH Medical	†	†	†	†	†	†
Speare Memorial Hospital	†	†	†	†	†	†
St. Joseph Hospital	†	†	†	†	†	†
The Memorial Hospital	†	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-	-
Valley Regional Hospital	†	†	†	†	†	†
Weeks Medical Center	-	-	-	-	-	-
Wentworth-Douglass	†	†	†	†	†	†
<b>State Total</b>	13	327	3.98	7.06	0.022	Lower

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

- Facility did not perform this procedure for patients in the risk group.

**TABLE 16: Colon procedure-associated surgical site infections rates by hospital, risk category 3, January 1–December 31, 2009**

Hospital	Infections	Procedures	Hospital Rate	National Rate	p-value	Hospital Rate Compared to National Rate
Alice Peck Day Memorial	-	-	-	-	-	-
Androscoggin Valley	†	†	†	†	†	†
Catholic Medical Center	-	-	-	-	-	-
Cheshire Medical Center	†	†	†	†	†	†
Concord Hospital	†	†	†	†	†	†
Cottage Hospital	-	-	-	-	-	-
DHMC	†	†	†	†	†	†
Elliot Hospital	†	†	†	†	†	†
Exeter Hospital	†	†	†	†	†	†
Franklin Regional	-	-	-	-	-	-
Frisbie Memorial	†	†	†	†	†	†
Huggins Hospital	†	†	†	†	†	†
Lakes Region General	-	-	-	-	-	-
Littleton Regional	-	-	-	-	-	-
Monadnock Community	†	†	†	†	†	†
New London Hospital	-	-	-	-	-	-
Parkland Medical Center	-	-	-	-	-	-
Portsmouth Regional	-	-	-	-	-	-
Southern NH Medical	-	-	-	-	-	-
Speare Memorial Hospital	†	†	†	†	†	†
St. Joseph Hospital	†	†	†	†	†	†
The Memorial Hospital	†	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-	-
Valley Regional Hospital	-	-	-	-	-	-
Weeks Medical Center	-	-	-	-	-	-
Wentworth-Douglass	†	†	†	†	†	†
<b>State Total</b>	<b>3</b>	<b>41</b>	<b>7.32</b>	<b>9.47</b>	<b>0.692</b>	<b>Similar</b>

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

- Facility did not perform this procedure for patients in the risk group.

**TABLE 17: Knee arthroplasty procedure-associated surgical site infections rates by hospital, risk category 0, January 1–December 31, 2009**

Hospital	Infections	Procedures	Hospital Rate	National Rate	p-value	Hospital Rate Compared to National Rate
Alice Peck Day Memorial	†	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†	†
Catholic Medical Center	2	98	2.04	0.58	0.111	Similar
Cheshire Medical Center	0	40	0.00	0.58	0.793	Similar
Concord Hospital	1	248	0.40	0.58	0.500	Similar
Cottage Hospital	0	26	0.00	0.58	0.860	Similar
DHMC	0	257	0.00	0.58	0.209	Similar
Elliot Hospital	1	97	1.03	0.58	0.431	Similar
Exeter Hospital	2	116	1.72	0.58	0.146	Similar
Franklin Regional	†	†	†	†	†	†
Frisbie Memorial	†	†	†	†	†	†
Huggins Hospital	†	†	†	†	†	†
Lakes Region General	0	85	0.00	0.58	0.611	Similar
Littleton Regional	0	32	0.00	0.58	0.831	Similar
Monadnock Community	†	†	†	†	†	†
New London Hospital	-	-	-	-	-	-
Parkland Medical Center	-	-	-	-	-	-
Portsmouth Regional	1	203	0.49	0.58	0.500	Similar
Southern NH Medical	0	31	0.00	0.58	0.835	Similar
Speare Memorial Hospital	†	†	†	†	†	†
St. Joseph Hospital	0	108	0.00	0.58	0.535	Similar
The Memorial Hospital	†	†	†	†	†	†
Upper Connecticut Valley	-	-	-	-	-	-
Valley Regional Hospital	†	†	†	†	†	†
Weeks Medical Center	-	-	-	-	-	-
Wentworth-Douglass	0	69	0.00	0.58	0.670	Similar
<b>State Total</b>	<b>7</b>	<b>1,495</b>	<b>0.47</b>	<b>0.58</b>	<b>0.608</b>	<b>Similar</b>

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

- Facility did not perform this procedure for patients in the risk group.

**TABLE 18: Knee arthroplasty procedure-associated surgical site infections rates by hospital, risk category 1, January 1–December 31, 2009**

Hospital	Infections	Procedures	Hospital Rate	National Rate	p-value	Hospital Rate Compared to National Rate
Alice Peck Day Memorial	†	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†	†
Catholic Medical Center	0	72	0.00	0.99	0.490	Similar
Cheshire Medical Center	0	35	0.00	0.99	0.707	Similar
Concord Hospital	3	264	1.14	0.99	0.500	Similar
Cottage Hospital	†	†	†	†	†	†
DHMC	2	345	0.58	0.99	0.312	Similar
Elliot Hospital	3	103	2.91	0.99	0.070	Similar
Exeter Hospital	0	74	0.00	0.99	0.480	Similar
Franklin Regional	-	-	-	-	-	-
Frisbie Memorial	0	44	0.00	0.99	0.647	Similar
Huggins Hospital	†	†	†	†	†	†
Lakes Region General	2	67	2.99	0.99	0.142	Similar
Littleton Regional	0	40	0.00	0.99	0.673	Similar
Monadnock Community	1	41	2.44	0.99	0.334	Similar
New London Hospital	†	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†	†
Portsmouth Regional	1	97	1.03	0.99	0.618	Similar
Southern NH Medical	0	92	0.00	0.99	0.402	Similar
Speare Memorial Hospital	†	†	†	†	†	†
St. Joseph Hospital	0	57	0.00	0.99	0.568	Similar
The Memorial Hospital	†	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†	†
Valley Regional Hospital	0	22	0.00	0.99	0.804	Similar
Weeks Medical Center	†	†	†	†	†	†
Wentworth-Douglass	1	108	0.93	0.99	0.500	Similar
<b>State Total</b>	13	1,531	0.85	0.99	0.612	Similar

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

- Facility did not perform this procedure for patients in the risk group.

**TABLE 19: Knee arthroplasty procedure-associated surgical site infections rates by hospital, risk category 2,3, January 1–December 31, 2009**

Hospital	Infections	Procedures	Hospital Rate	National Rate	p-value	Hospital Rate Compared to National Rate
Alice Peck Day Memorial	†	†	†	†	†	†
Androscoggin Valley	†	†	†	†	†	†
Catholic Medical Center	0	22	0.00	1.60	0.702	Similar
Cheshire Medical Center	†	†	†	†	†	†
Concord Hospital	1	49	2.04	1.60	0.546	Similar
Cottage Hospital	†	†	†	†	†	†
DHMC	2	155	1.29	1.60	0.500	Similar
Elliot Hospital	0	36	0.00	1.60	0.561	Similar
Exeter Hospital	†	†	†	†	†	†
Franklin Regional	-	-	-	-	-	-
Frisbie Memorial	†	†	†	†	†	†
Huggins Hospital	†	†	†	†	†	†
Lakes Region General	†	†	†	†	†	†
Littleton Regional	†	†	†	†	†	†
Monadnock Community	†	†	†	†	†	†
New London Hospital	†	†	†	†	†	†
Parkland Medical Center	†	†	†	†	†	†
Portsmouth Regional	†	†	†	†	†	†
Southern NH Medical	0	39	0.00	1.60	0.534	Similar
Speare Memorial Hospital	†	†	†	†	†	†
St. Joseph Hospital	†	†	†	†	†	†
The Memorial Hospital	†	†	†	†	†	†
Upper Connecticut Valley	†	†	†	†	†	†
Valley Regional Hospital	0	28	0.00	1.60	0.637	Similar
Weeks Medical Center	†	†	†	†	†	†
Wentworth-Douglass	†	†	†	†	†	†
<b>State Total</b>	<b>3</b>	<b>446</b>	<b>0.67</b>	<b>1.60</b>	<b>0.103</b>	<b>Similar</b>

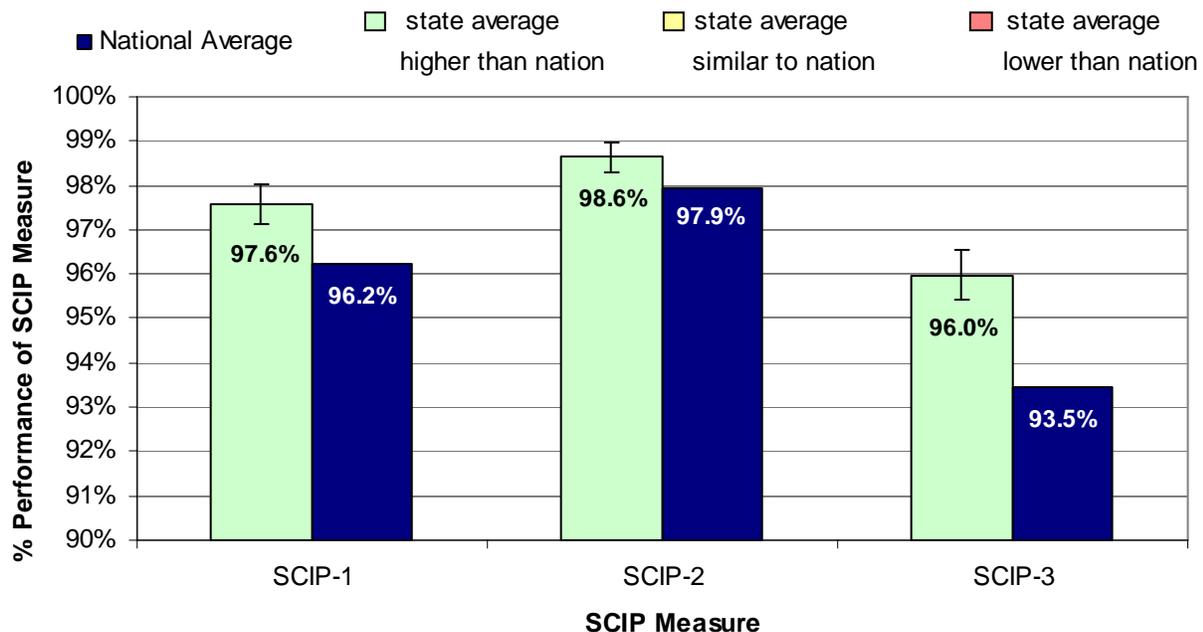
† Data are not shown when fewer than 20 procedures were performed.

- Facility did not perform this procedure for patients in the risk group.

## 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 96.7% nationally. For SCIP measure 2, 98.6% of patients in New Hampshire received the appropriate prophylactic antibiotic compared with 97.9% nationally. For SCIP measure 3, 96.0% of patients in New Hampshire had his or her prophylactic antibiotic discontinued within 24 hours after surgery compared with 93.5% nationally. See methods section for additional information on how this information is collected.

**FIGURE 13: Performance of Surgical Care Improvement Project (SCIP) measures, New Hampshire Hospitals, January 1–December 31, 2009**



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

Surgical antimicrobial prophylaxis data by hospital with state and national comparison data through December 2009 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%.<sup>7</sup> Because healthcare

<sup>7</sup> 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>

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. Vaccination rates in hospital staff have been monitored in New Hampshire for several years. See methods section for additional information on data collection. The overall statewide hospital staff vaccination rate increased significantly from 2008–2009 and 2009–2010, which may in part be explained by overall increased interest in influenza vaccination as a result of the 2009 H1N1 pandemic.

**FIGURE 14: Influenza vaccination rates for hospital staff by hospital, 2008–2009 and 2009–2010 influenza seasons**

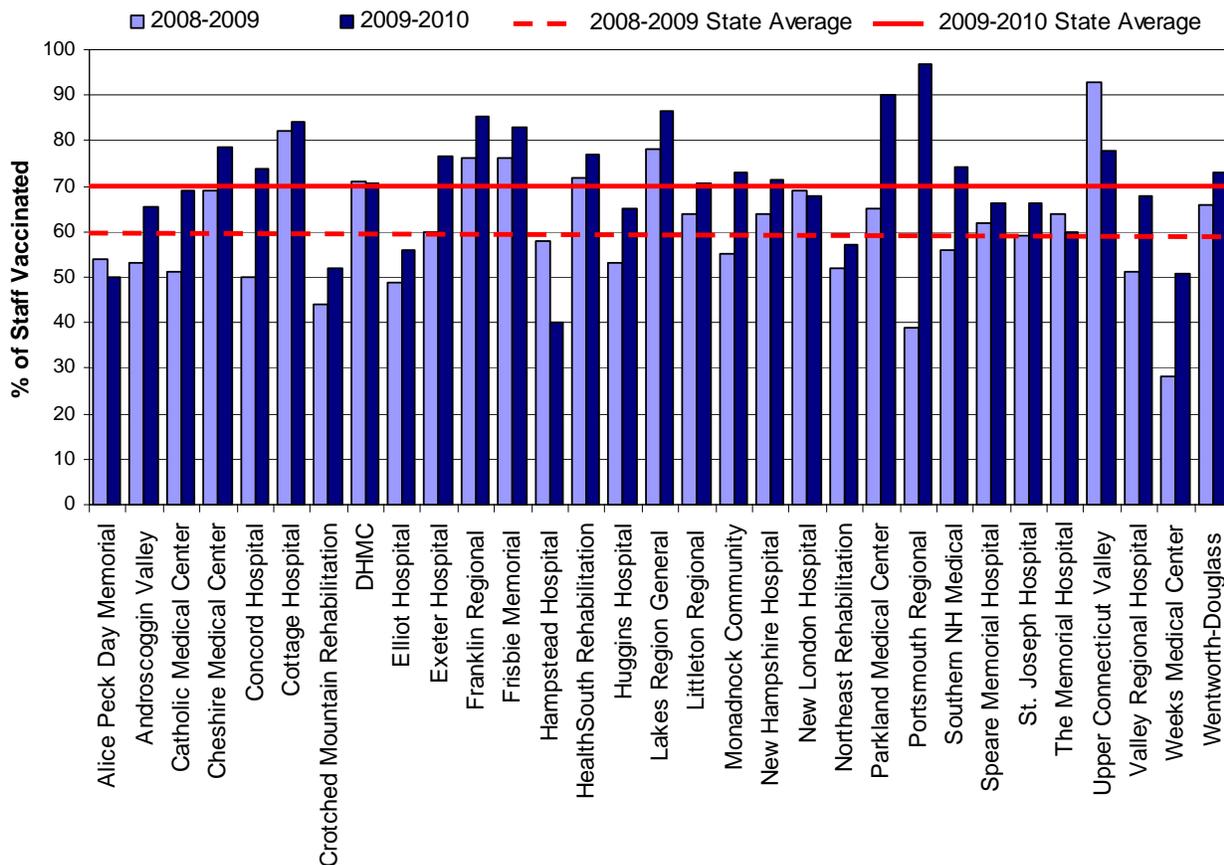
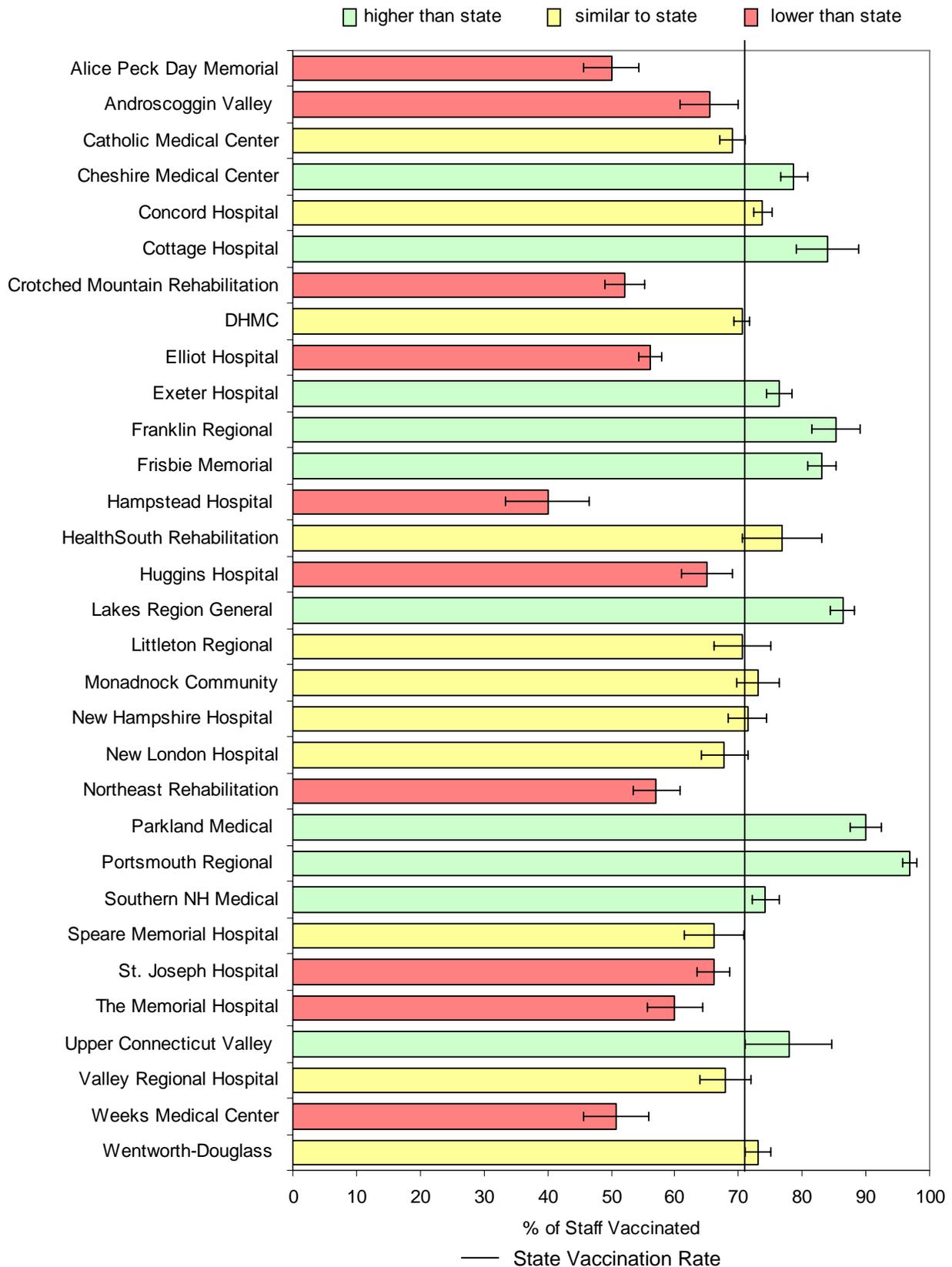


Table 20 below shows the total number of staff and the number of staff vaccinated against seasonal influenza at each hospital during the 2009–2010 influenza season. Vaccination rates by hospital ranged from 40.0% to 96.9%, and the overall State rate was 70.6%. This vaccination rate represents a significant increase from the previous year when the statewide vaccination rate was 59.9%. A confidence interval is provided to assess any statistically significant differences in staff vaccination between hospitals. The analysis presented in Table 20 shows that 11 hospitals had vaccination percentages similar to the overall State vaccination percentage. Ten hospitals reported vaccination percentages that were significantly higher than the overall State vaccination percentage, and 10 hospitals reported vaccination percentages that were significantly lower than the overall State vaccination percentage.

**TABLE 20: Influenza vaccination rates for hospital staff by hospital, 2009–2010 influenza season, October 1–March 31, 2010)**

<b>Hospital</b>	<b>Staff Vaccinated</b>	<b>Total Staff</b>	<b>% Vaccinated</b>	<b>95% Confidence Interval</b>	<b>Hospital % Compared to State %</b>
Alice Peck Day Memorial	253	506	50.0	45.6 , 54.4	Lower
Androscoggin Valley	278	425	65.4	60.9 , 69.9	Lower
Catholic Medical Center	1,464	2,122	69.0	67.0 , 71.0	Similar
Cheshire Medical Center	1,153	1,465	78.7	76.6 , 80.8	Higher
Concord Hospital	2,493	3,379	73.8	72.3 , 75.3	Similar
Cottage Hospital	184	219	84.0	79.1 , 88.9	Higher
DHMC	4,342	6,161	70.5	69.4 , 71.6	Similar
Elliot Hospital	1,820	3246	56.1	54.4 , 57.8	Lower
Exeter Hospital	1,327	1,737	76.4	74.4 , 78.4	Higher
Franklin Regional	297	348	85.3	81.6 , 89.0	Higher
Frisbie Memorial	848	1,020	83.1	80.8 , 85.4	Higher
Huggins Hospital	343	528	65.0	60.9 , 69.1	Lower
Lakes Region General	1,098	1,271	86.4	84.5 , 88.3	Higher
Littleton Regional	293	415	70.6	66.2 , 75.0	Similar
Monadnock Community	501	686	73.0	69.7 , 76.3	Similar
New London Hospital	421	621	67.8	64.1 , 71.5	Similar
Parkland Medical Center	510	567	89.9	87.4 , 92.4	Higher
Portsmouth Regional	1,002	1,034	96.9	95.8 , 98.0	Higher
Southern NH Medical	1,196	1,612	74.2	72.1 , 76.3	Higher
Speare Memorial Hospital	257	389	66.1	61.4 , 70.8	Similar
St. Joseph Hospital	897	1,357	66.1	63.6 , 68.6	Lower
The Memorial Hospital	282	470	60.0	55.6, 64.4	Lower
Upper Connecticut Valley	113	145	77.9	71.1 , 84.7	Higher
Valley Regional Hospital	351	517	67.9	63.9 , 71.9	Similar
Weeks Medical Center	188	370	50.8	45.7 , 55.9	Lower
Wentworth-Douglass	1,431	1,959	73.0	71.0 , 75.0	Similar
Crotched Mountain Rehabilitation	540	1,036	52.1	49.1 , 55.1	Lower
HealthSouth Rehabilitation	133	173	76.9	70.6 , 83.2	Similar
Northeast Rehabilitation	400	700	57.1	53.4 , 60.8	Lower
Hampstead Hospital	84	210	40.0	33.4 , 46.6	Lower
New Hampshire Hospital	607	850	71.4	68.4 , 74.4	Similar
<b>State Total</b>	<b>25,106</b>	<b>35,538</b>	<b>70.6</b>	<b>70.1 , 71.1</b>	

**FIGURE 15: Influenza vaccination rates for hospital staff by hospital, 2009–2010 influenza season, October 1–March 31, 2010)**



## CONCLUSION

This first report of the HAI Program marks an important milestone in moving toward the goal of eliminating HAIs in the State. Keeping in mind these data are not validated, this report provides an initial 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.

Key findings described in this report include the following:

- All 31 licensed hospitals in New Hampshire complied with the HAI mandatory reporting law in 2009.
- Overall, New Hampshire hospitals reported fewer HAIs associated with central lines and selected surgeries than expected based on national data.
- 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.
- Overall statewide adherence to all four infection-prevention practices during central line insertions was 93%. Hospitals can continue to work toward the goal of 100% adherence.
- Overall, New Hampshire hospitals performed surgical antimicrobial prophylaxis correctly more often than the national average.
- Vaccination rates by hospital during the 2009–2010 influenza season ranged from 40.0% to 96.9%. The overall State rate was 70.6%, which represents a significant increase from the 2008–2009 influenza season when the statewide vaccination rate was 59.9%.

While this report only includes information on a subset of HAI, the information provided can be used as an important indicator of healthcare quality and infection prevention efforts in New Hampshire hospitals. 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 HOSPITAL, Lebanon, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CLABSI SIR</b>	-	-	-	-	-	-
	Facility has no intensive care unit.					
<b>Overall SSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Alice Peck Day Memorial Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Alice Peck Day Memorial	None	-	-	-	-	-	-

- Facility does not have an intensive care unit.

**Central line insertion practices adherence percentages, Alice Peck Day Memorial Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	-	-	-	-	-
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

- Facility does not have an intensive care unit.

**Colon procedure-associated surgical site infections rates, Alice Peck Day Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Alice Peck Day Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Alice Peck Day Memorial Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Alice Peck Day Memorial	253	506	50.0	45.6 , 54.4	Lower
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## ANDROSCOGGIN VALLEY HOSPITAL, Berlin, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Androscoggin Valley Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Androscoggin Valley	Med/Surg ICU	0	56	0	1.5	0.920	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Androscoggin Valley Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Androscoggin Valley	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Androscoggin Valley Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Androscoggin Valley Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Androscoggin Valley Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Androscoggin Valley	278	425	65.4	60.9 , 69.9	Lower
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## CATHOLIC MEDICAL CENTER, Manchester, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	8	17.78	0.45	0.19	0.89	Lower
	The overall observed number of HAI in this facility was 55% fewer than expected based on national data. This difference is statistically significant, which means the overall number of HAI in this facility is LOWER than seen nationally.					
<b>CLABSI SIR</b>	2	4.82	0.41	0.05	1.50	Similar
	The overall observed number of CLABSI in this facility was 59% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	6	12.96	0.46	0.17	1.01	Similar
	The overall observed number of SSI in this facility was 54% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	4	8.99	0.44	0.12	1.14	Similar
	The overall observed number of CABG infections in this facility was 56% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CABG infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>COLO SIR</b>	0	2.33	0.00	-	1.57	Similar
	The overall observed number of COLO infections in this facility was 100% fewer than expected based on national data. This difference is/is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	2	1.63	1.22	0.14	4.42	Similar
	The overall observed number of KPRO infections in this facility was 22% more than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, Catholic Medical Center, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Catholic Medical Center	Med/Surg ICU	2	3,215	0.6	1.5	0.150	Similar

ICU = intensive care unit      Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Catholic Medical Center, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Catholic Medical Center	125	125	100.0	97.6 , -	Higher
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Coronary artery bypass graft procedure-associated surgical site infections (chest incision site only), Catholic Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0,1	1	35	2.86	1.37	0.384	Similar
Risk Category 1,2	†	†	†	†	†	†

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

**Coronary artery bypass graft procedure-associated surgical site infections (chest and donor site incisions), Catholic Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	1	224	0.45	2.55	0.037	Lower
Risk Category 2	2	61	3.28	4.26	0.475	Similar
Risk Category 3	†	†	†	†	†	†

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Colon procedure-associated surgical site infections rates, Catholic Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Cheshire Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	2	98	2.04	0.58	0.111	Similar
Risk Category 1	0	72	0.00	0.99	0.490	Similar
Risk Category 2,3	0	22	0.00	1.60	0.702	Similar

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Catholic Medical Center**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Catholic Medical Center	1,464	2,122	69.0	67.0 , 71.0	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## CHESHIRE MEDICAL CENTER, Keene, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	5	5.00	1.00	0.32	2.34	Similar
	The overall observed number of HAI in this facility was the same as expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	5	4.45	1.12	0.36	2.62	Similar
	The overall observed number of SSI in this facility was 12% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	5	3.68	1.36	0.44	3.17	Similar
	The overall observed number of COLO infections in this facility was 36% more than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Cheshire Medical Center, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Cheshire Medical Center	Medical ICU	0	286	0.0	1.9	0.582	Similar

ICU = intensive care unit

**Central line insertion practices adherence percentages, Cheshire Medical Center, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Cheshire Medical Center	21	21	100.0	86.7 , -	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Cheshire Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	2	30	6.67	3.99	0.390	Similar
Risk Category 1	2	28	7.14	5.59	0.500	Similar
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Cheshire Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	40	0.00	0.58	0.793	Similar
Risk Category 1	0	35	0.00	0.99	0.707	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Cheshire Medical Center**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Cheshire Medical Center	1,153	1,465	78.7	76.6 , 80.8	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## CONCORD HOSPITAL, Concord, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	9	19.23	0.47	0.21	0.89	Lower
	The overall observed number of HAI in this facility was 53% fewer than expected based on national data. This difference is statistically significant, which means the overall number of HAI in this facility is LOWER than seen nationally.					
<b>CLABSI SIR</b>	3	4.71	0.64	0.13	1.86	Similar
	The overall observed number of CLABSI in this facility was 36% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number seen nationally.					
<b>Overall SSI SIR</b>	6	14.52	0.41	0.15	0.90	Lower
	The overall observed number of SSI in this facility was 59% fewer than expected based on national data. This difference is statistically significant, which means the overall number of SSI in this facility is LOWER than seen nationally.					
<b>CABG SIR</b>	1	3.78	0.26	0.00	1.47	Similar
	The overall observed number of CABG infections in this facility was 74% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CABG infections in this facility is SIMILAR to the number seen nationally.					
<b>COLO SIR</b>	0	5.90	0.00	-	0.62	Lower
	The overall observed number of COLO infections in this facility was 100% fewer than expected based on national data. This difference is statistically significant, which means the overall number of COLO infections in this facility is LOWER than seen nationally.					
<b>KPRO SIR</b>	5	4.84	1.03	0.33	2.41	Similar
	The overall observed number of KPRO infections in this facility was 3% more than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility 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

### Central line-associated bloodstream infections rates, Concord Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Concord Hospital	Med/Surg ICU	3	2,243	1.3	1.5	0.582	Similar

ICU = intensive care unit      Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Concord Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Concord Hospital	240	246	97.6	95.0 , 99.0	Higher
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Coronary artery bypass graft procedure-associated surgical site infections (chest incision site only), Concord Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0,1	†	†	†	†	†	†
Risk Category 1,2	†	†	†	†	†	†

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

**Coronary artery bypass graft procedure-associated surgical site infections (chest and donor site incisions), Concord Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	0	26	0.00	2.55	0.190	Similar
Risk Category 2	1	70	1.43	4.26	0.190	Similar
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Colon procedure-associated surgical site infections rates, Concord Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	31	0.00	3.99	0.250	Similar
Risk Category 1	0	51	0.00	5.59	0.076	Similar
Risk Category 2	0	23	0.00	7.06	0.180	Similar
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Concord Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	1	248	0.40	0.58	0.500	Similar
Risk Category 1	3	264	1.14	0.99	0.500	Similar
Risk Category 2,3	1	49	2.04	1.60	0.546	Similar

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Concord Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Concord Hospital	2,493	3,379	73.8	72.3 , 75.3	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## COTTAGE HOSPITAL, Woodsville, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Cottage Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Cottage Hospital	Med/Surg ICU	†	†	†	†	†	†

ICU = intensive care unit

Med/Surg = medical surgical

† Data are not shown for hospitals with fewer than 50 central line days.

**Central line insertion practices adherence percentages, Cottage Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Cottage Hospital	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Cottage Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Cottage Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	26	0.00	0.58	0.860	Similar
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Cottage Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Cottage Hospital	184	219	84.0	79.1 , 88.9	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## DARTMOUTH-HITCHCOCK MEDICAL CENTER (Mary Hitchcock Memorial Hospital), Lebanon, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	35	54.60	0.64	0.45	0.89	Lower
	The overall observed number of HAI in this facility was 36% fewer than expected based on national data. This difference is statistically significant, which means the overall number of HAI in this facility is LOWER than seen nationally.					
<b>CLABSI SIR</b>	14	18.43	0.76	0.42	1.27	Similar
	The overall observed number of CLABSI in this facility was 24% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	21	36.17	0.58	0.36	0.89	Lower
	The overall observed number of SSI in this facility was 42% fewer than expected based on national data. This difference is statistically significant, which means the overall number of SSI in this facility is LOWER than seen nationally.					
<b>CABG SIR</b>	2	8.88	0.23	0.03	0.81	Lower
	The overall observed number of CABG infections in this facility was 77% fewer than expected based on national data. This difference is statistically significant, which means the overall number of CABG infections in this facility is LOWER than seen nationally.					
<b>COLO SIR</b>	15	19.91	0.75	0.42	1.24	Similar
	The overall observed number of COLO infections in this facility was 25% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	4	7.39	0.54	0.15	1.39	Similar
	The overall observed number of KPRO infections in this facility was 46% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, DHMC, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
DHMC	Med Cardiac ICU	1	2,070	0.5	2.0	0.081	Similar
DHMC	Med/Surg ICU	13	6,803	1.9	2.1	0.429	Similar

ICU = intensive care unit      Med = medical      Surg = surgical

**Central line insertion practices adherence percentages, DHMC, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
DHMC	599	665	90.1	87.7 , 92.2	Lower
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Coronary artery bypass graft procedure-associated surgical site infections (chest incision site only), DHMC, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0,1	†	†	†	†	†	†
Risk Category 1,2	†	†	†	†	†	†

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

**Coronary artery bypass graft procedure-associated surgical site infections (chest and donor site incisions), DHMC, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	1	57	1.75	2.55	0.500	Similar
Risk Category 2	1	165	0.61	4.26	0.017	Lower
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Colon procedure-associated surgical site infections rates, DHMC, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	4	44	9.09	3.99	0.090	Similar
Risk Category 1	6	154	3.90	5.59	0.230	Similar
Risk Category 2	4	111	3.60	7.06	0.109	Similar
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, DHMC, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	257	0.00	0.58	0.209	Similar
Risk Category 1	2	345	0.58	0.99	0.312	Similar
Risk Category 2,3	2	155	1.29	1.60	0.500	Similar

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

**Number of staff vaccinated against seasonal influenza during the 2009-2010 influenza season (October 1, 2009–March 31, 2010), DHMC**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
DHMC	4,342	6,161	70.5	69.4 , 71.6	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## ELLIOT HOSPITAL, Manchester, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	11	13.02	0.84	0.42	1.51	Similar
	The overall observed number of HAI in this facility was 16% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	2	3.39	0.59	0.07	2.13	Similar
	The overall observed number of CLABSI in this facility was 41% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	9	9.63	0.93	0.43	1.77	Similar
	The overall observed number of SSI in this facility was 7% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	5	7.47	0.67	0.22	1.56	Similar
	The overall observed number of COLO infections in this facility was 33% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	4	2.16	1.85	0.50	4.74	Similar
	The overall observed number of KPRO infections in this facility was 85% more than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, Elliot Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Elliot Hospital	Medical ICU	2	1,785	1.1	1.9	0.343	Similar

ICU = intensive care unit

**Central line insertion practices adherence percentages, Elliot Hospital, January 1–December 31, 2009**

Hospital	Insertions that Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Elliot Hospital	212	230	92.2	88.1 , 95.2	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Elliot Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	2	31	6.45	3.99	0.405	Similar
Risk Category 1	3	69	4.35	5.59	0.426	Similar
Risk Category 2	0	31	0.00	7.06	0.118	Similar
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Elliot Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	1	97	1.03	0.58	0.431	Similar
Risk Category 1	3	103	2.91	0.99	0.070	Similar
Risk Category 2,3	0	36	0.00	1.60	0.561	Similar

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Elliot Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Elliot Hospital	1,820	3246	56.1	54.4 , 57.8	Lower
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## EXETER HOSPITAL, Exeter, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	10	8.83	1.13	0.54	2.08	Similar
	The overall observed number of HAI in this facility was 13% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	1	2.51	0.40	0.01	2.21	Similar
	The overall observed number of CLABSI in this facility was 60% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	9	6.32	1.42	0.65	2.70	Similar
	The overall observed number of SSI in this facility was 42% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	7	4.80	1.46	0.58	3.00	Similar
	The overall observed number of COLO infections in this facility was 46% more than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	2	1.52	1.32	0.15	4.76	Similar
	The overall observed number of KPRO infections in this facility was 32% more than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, Exeter Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Exeter Hospital	Med/Surg ICU	1	1,676	0.6	1.5	0.286	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Exeter Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared with State %
Exeter Hospital	211	216	98.0	94.9 , 99.2	Higher
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Exeter Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	2	35	5.71	3.99	0.465	Similar
Risk Category 1	4	39	10.26	5.59	0.179	Similar
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Exeter Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	2	116	1.72	0.58	0.146	Similar
Risk Category 1	0	74	0.00	0.99	0.480	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Exeter Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Exeter Hospital	1,327	1,737	76.4	74.4 , 78.4	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## FRANKLIN REGIONAL HOSPITAL, Franklin, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Franklin Regional Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Franklin Regional	Med/Surg ICU	0	72	0.00	1.5	0.898	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Franklin Regional Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Franklin Regional	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Franklin Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category

**Knee arthroplasty procedure-associated surgical site infections rates, Franklin Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	-	-	-	-	-	-
Risk Category 2,3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Franklin Regional Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Franklin Regional	297	348	85.3	81.6 , 89.0	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## FRISBIE MEMORIAL HOSPITAL, Rochester, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	0	2.52	0.00	-	1.45	Similar
	The overall observed number of HAI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	0	2.36	0.00	-	1.55	Similar
	The overall observed number of SSI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	0	1.54	0.00	-	2.38	Similar
	The overall observed number of COLO infections in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Frisbie Memorial Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Frisbie Memorial	Med/Surg ICU	0	108	0.0	1.5	0.851	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Frisbie Memorial Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Frisbie Memorial	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Frisbie Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Frisbie Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	0	44	0.00	0.99	0.647	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Frisbie Memorial Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Frisbie Memorial	848	1,020	83.1	80.8 , 85.4	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## HUGGINS HOSPITAL, Wolfeboro, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	2	1.84	1.09	0.12	3.92	Similar
	The overall observed number of HAI in this facility was 9% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	2	1.56	1.28	0.14	4.62	Similar
	The overall observed number of SSI in this facility was 28% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	2	1.41	1.42	0.16	5.14	Similar
	The overall observed number of COLO infections in this facility was 42% more than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Huggins Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Huggins Hospital	Med/Surg ICU	0	187	0.0	1.5	0.756	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Huggins Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Huggins Hospital	57	60	95.0	87.0 , 98.7	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Huggins Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Huggins Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Huggins Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Huggins Hospital	343	528	65.0	60.9 , 69.1	Lower
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## LAKES REGION GENERAL HOSPITAL, Laconia, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	5	6.43	0.78	0.25	1.82	Similar
	The overall observed number of HAI in this facility was 22% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	5	5.61	0.89	0.29	2.08	Similar
	The overall observed number of SSI in this facility was 11% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	3	4.36	0.69	0.14	2.01	Similar
	The overall observed number of COLO infections in this facility was 31% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	2	1.25	1.60	0.18	5.77	Similar
	The overall observed number of KPRO infections in this facility was 60% more than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, Lakes Region General Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Lakes Region General	Med/Surg ICU	0	542	0.0	1.5	0.445	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Lakes Region General Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Lakes Region General	65	71	91.5	83.3 , 96.5	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Lakes Region General Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	2	24	8.33	3.99	0.249	Similar
Risk Category 1	0	23	0.00	5.59	0.238	Similar
Risk Category 2	1	30	3.33	7.06	0.330	Similar
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Lakes Region General Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	85	0.00	0.58	0.611	Similar
Risk Category 1	2	67	2.99	0.99	0.142	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Lakes Region General Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Lakes Region General	1,098	1,271	86.4	84.5 , 88.3	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## LITTLETON REGIONAL HOSPITAL, Littleton, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	1	2.00	0.50	0.01	2.78	Similar
	The overall observed number of HAI in this facility was 50% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	1	1.83	0.55	0.01	3.03	Similar
	The overall observed number of SSI in this facility was 45% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	1	1.09	0.92	0.01	5.10	Similar
	The overall observed number of COLO infections in this facility was 8% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Littleton Regional Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Littleton Regional	Med/Surg ICU	0	112	0.0	1.5	0.846	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Littleton Regional Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Littleton Regional	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

† Data are not shown for hospitals with fewer than 50 central line days.

**Colon procedure-associated surgical site infections rates, Littleton Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Littleton Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	32	0.00	0.58	0.831	Similar
Risk Category 1	0	40	0.00	0.99	0.673	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Littleton Regional Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Littleton Regional	293	415	70.6	66.2 , 75.0	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## MONADNOCK COMMUNITY HOSPITAL, Peterborough, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	3	1.29	2.33	0.47	6.80	Similar
	The overall observed number of HAI in this facility was 133% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	3	1.06	2.82	0.57	8.24	Similar
	The overall observed number of SSI in this facility was 182% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Monadnock Community Hospital, January 1<sup>st</sup> - December 31<sup>st</sup>, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Monadnock Community	Med/Surg ICU	0	150	0.0	1.5	0.799	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Monadnock Community Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Monadnock Community	27	27	100.0	89.5 , -	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Monadnock Community Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Monadnock Community Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	1	41	2.44	0.99	0.334	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010),  
Monadnock Community Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Monadnock Community	501	686	73.0	69.7 , 76.3	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## NEW LONDON HOSPITAL, New London, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	0	1.21	0.00	-	3.04	Similar
	The overall observed number of HAI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	0	1.12	0.00	-	3.29	Similar
	The overall observed number of SSI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, New London Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
New London Hospital	Med/Surg ICU	0	61	0.0	1.5	0.913	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, New London Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
New London Hospital	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, New London Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, New London Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), New London Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
New London Hospital	421	621	67.8	64.1 , 71.5	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## PARKLAND MEDICAL CENTER, Derry, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	3	2.92	1.03	0.21	3.00	Similar
	The overall observed number of HAI in this facility was 3% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	3	2.39	1.26	0.25	3.67	Similar
	The overall observed number of SSI in this facility was 26% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	3	2.24	1.34	0.27	3.91	Similar
	The overall observed number of COLO infections in this facility was 34% more than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Parkland Medical Center, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Parkland Medical Center	Med/Surg ICU	0	353	0.0	1.5	0.590	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Parkland Medical Center, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Parkland Medical Center	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Parkland Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	3	21	14.29	5.59	0.104	Similar
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Parkland Medical Center, January 1– December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010)**

**Parkland Medical Center**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Parkland Medical Center	510	567	89.9	87.4 , 92.4	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## PORTSMOUTH REGIONAL HOSPITAL, Portsmouth, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	21	17.18	1.28	0.80	1.94	Similar
	The overall observed number of HAI in this facility was 28% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	1	3.41	0.29	0.00	1.63	Similar
	The overall observed number of CLABSI in this facility was 71% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	20	13.77	1.45	0.89	2.24	Similar
	The overall observed number of SSI in this facility was 45% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	16	8.34	1.92	1.10	3.12	Higher
	The overall observed number of CABG infections in this facility was 92% more than expected based on national data. This difference is statistically significant, which means the overall number of CABG infections in this facility is HIGHER than seen nationally.					
<b>COLO SIR</b>	3	3.26	0.92	0.18	2.69	Similar
	The overall observed number of COLO infections in this facility was 8% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	2	2.17	0.92	0.10	3.33	Similar
	The overall observed number of KPRO infections in this facility was 8% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

**Central line-associated bloodstream infections rates, Portsmouth Regional Hospital, January 1–December 31, 2009**

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Portsmouth Regional	Cardiothoracic ICU	1	2,433	0.4	1.4	0.149	Similar

ICU = intensive care unit

**Central line insertion practices adherence percentages, Portsmouth Regional Hospital, January 1<sup>st</sup> - December 31<sup>st</sup>, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Portsmouth Regional	44	50	88.0	76.7 , 94.9	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Coronary artery bypass graft procedure-associated surgical site infections (chest incision site only), Portsmouth Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0,1	†	†	†	†	†	†
Risk Category 1,2	†	†	†	†	†	†

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

**Coronary artery bypass graft procedure-associated surgical site infections (chest and donor site incisions), Portsmouth Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	6	158	3.80	2.55	0.229	Similar
Risk Category 2	10	99	10.10	4.26	0.005	Higher
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Colon procedure-associated surgical site infections rates, Portsmouth Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	38	0.00	3.99	0.200	Similar
Risk Category 1	2	30	6.67	5.59	0.500	Similar
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Portsmouth Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	1	203	0.49	0.58	0.500	Similar
Risk Category 1	1	97	1.03	0.99	0.618	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Portsmouth Regional Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Portsmouth Regional	1,002	1,034	96.9	95.8 , 98.0	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## SOUTHERN NEW HAMPSHIRE MEDICAL CENTER, Nashua, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	10	7.07	1.41	0.68	2.60	Similar
	The overall observed number of HAI in this facility was 41% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	1	1.28	0.78	0.01	4.36	Similar
	The overall observed number of CLABSI in this facility was 22% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	9	5.80	1.55	0.71	2.95	Similar
	The overall observed number of SSI in this facility was 55% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	9	4.08	2.20	1.01	4.19	Higher
	The overall observed number of COLO infections in this facility was 120% more than expected based on national data. This difference is statistically significant, which means the overall number of COLO infections in this facility is HIGHER than seen nationally.					
<b>KPRO SIR</b>	0	1.71	0.00	-	2.14	Similar
	The overall observed number of KPRO infections in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, Southern New Hampshire Medical Center, January 1<sup>st</sup> - December 31<sup>st</sup>, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Southern NH Medical	Med/Surg ICU	1	851	1.2	1.5	0.636	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Southern New Hampshire Medical Center, January 1<sup>st</sup> - December 31<sup>st</sup>, 2009**

Hospital	Insertions that Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Southern NH Medical	136	140	97.1	93.3 , 99.1	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Southern New Hampshire Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	3	31	9.68	3.99	0.124	Similar
Risk Category 1	3	37	8.11	5.59	0.379	Similar
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Southern New Hampshire Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National rate	p-value	Rate Compared to National Rate
Risk Category 0	0	31	0.00	0.58	0.835	Similar
Risk Category 1	0	92	0.00	0.99	0.402	Similar
Risk Category 2,3	0	39	0.00	1.60	0.534	Similar

**Number of staff vaccinated against seasonal influenza during the 2009-2010 influenza season (October 1, 2009–March 31, 2010), Southern New Hampshire Medical Center**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Southern NH Medical	1,196	1,612	74.2	72.1 , 76.3	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## SPEARE MEMORIAL HOSPITAL, Plymouth, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	1	1.03	0.97	0.01	5.40	Similar
	The overall observed number of HAI in this facility was 3% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of HAI seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Speare Memorial Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Speare Memorial Hospital	Med/Surg ICU	0	84	0.0	1.5	0.882	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Speare Memorial Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Speare Memorial Hospital	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Speare Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Speare Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Speare Memorial Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Speare Memorial Hospital	257	389	66.1	61.4 , 70.8	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## ST. JOSEPH HOSPITAL, Nashua, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	0	6.38	0.00	-	0.57	Lower
	The overall observed number of HAI in this facility was 100% fewer than expected based on national data. This difference is statistically significant, which means the overall number of HAI in this facility is LOWER than seen nationally.					
<b>CLABSI SIR</b>	0	1.20	0.00	-	3.05	Similar
	The overall observed number of CLABSI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	0	5.18	0.00	-	0.71	Lower
	The overall observed number of SSI in this facility was 100% fewer than expected based on national data. This difference is statistically significant, which means the overall number of SSI in this facility is LOWER than seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	0	3.87	0.00	-	0.95	Lower
	The overall observed number of COLO infections in this facility was 100% fewer than expected based on national data. This difference is statistically significant, which means the overall number of COLO infections in this facility is LOWER than seen nationally.					
<b>KPRO SIR</b>	0	1.30	0.00	-	2.82	Similar
	The overall observed number of KPRO infections in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, St. Joseph Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
St. Joseph Hospital	Med/Surg ICU	0	803	0.0	1.5	0.301	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, St. Joseph Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
St. Joseph Hospital	135	135	100.0	97.8 , -	Higher
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, St. Joseph Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	30	0.00	3.99	0.258	Similar
Risk Category 1	0	26	0.00	5.59	0.208	Similar
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, St. Joseph Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	108	0.00	0.58	0.535	Similar
Risk Category 1	0	57	0.00	0.99	0.568	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), St. Joseph Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
St. Joseph Hospital	897	1,357	66.1	63.6 , 68.6	Lower
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## THE MEMORIAL HOSPITAL, North Conway, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	2	1.32	1.52	0.17	5.49	Similar
	The overall observed number of HAI in this facility was 52% more than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	2	1.22	1.64	0.18	5.93	Similar
	The overall observed number of SSI in this facility was 64% more than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, The Memorial Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
The Memorial Hospital	Medical ICU	0	51	0.0	1.9	0.908	Similar

ICU = intensive care unit

**Central line insertion practices adherence percentages, The Memorial Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
The Memorial Hospital	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, The Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, The Memorial Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), The Memorial Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
The Memorial Hospital	282	470	60.0	55.6, 64.4	Lower
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## UPPER CONNECTICUT VALLEY HOSPITAL, Colebrook, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	-	-	-	-	-	-
	Facility did not perform any COLO procedures.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Upper Connecticut Valley Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Upper Connecticut Valley	Med/Surg ICU	†	†	†	†	†	†

ICU = intensive care unit

Med/Surg = medical surgical

† Data are not shown for hospitals with fewer than 50 central line days.

**Central line insertion practices adherence percentages, Upper Connecticut Valley Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Upper Connecticut Valley	-	-	-	-	-
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

- Facility did not place any central lines in the intensive care unit.

**Colon procedure-associated surgical site infections rates, Upper Connecticut Valley Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	-	-	-	-	-	-
Risk Category 2	-	-	-	-	-	-
Risk Category 3	-	-	-	-	-	-

- Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Upper Connecticut Valley Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Upper Connecticut Valley Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Upper Connecticut Valley	113	145	77.9	71.1 , 84.7	Higher
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## VALLEY REGIONAL HOSPITAL, Claremont, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	0	1.55	0.00	-	2.37	Similar
	The overall observed number of HAI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	0	1.45	0.00	-	2.54	Similar
	The overall observed number of SSI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

### Central line-associated bloodstream infections rates, Valley Regional Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central Line Days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Valley Regional	Med/Surg ICU	0	69	0.0	1.5	0.902	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Valley Regional Hospital, January 1<sup>st</sup> - December 31<sup>st</sup>, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Valley Regional	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Valley Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	†	†	†	†	†	†
Risk Category 2	†	†	†	†	†	†
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Valley Regional Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	0	22	0.00	0.99	0.804	Similar
Risk Category 2,3	0	28	0.00	1.60	0.637	Similar

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Valley Regional Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Valley Regional	351	517	67.9	63.9 , 71.9	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

**WEEKS MEDICAL CENTER, Lancaster, NH**

**Facility Standardized Infection Ratios (SIR)**

	<b>Observed Infections</b>	<b>Expected Infections</b>	<b>Standardized Infection Ratio (SIR)</b>	<b>95% Confidence Interval Lower</b>	<b>95% Confidence Interval Upper</b>	<b>Comparison to Expected Number of Infections</b>
<b>Overall State HAI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CLABSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>Overall SSI SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					
<b>KPRO SIR</b>	†	†	†	†	†	†
	† Data are not shown for hospitals with less than one expected infection.					

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

**Central line-associated bloodstream infections rates, Weeks Medical Center, January 1–December 31, 2009**

<b>Hospital</b>	<b>Unit Type</b>	<b>Infections</b>	<b>Central Line Days</b>	<b>Hospital Rate</b>	<b>National Rate</b>	<b>p-value</b>	<b>State Rate Compared to National Rate</b>
Weeks Medical Center	Med/Surg ICU	†	†	†	†	†	†

ICU = intensive care unit                      Med/Surg = medical surgical  
 † Data are not shown for hospitals with fewer than 50 central line days.

**Central line insertion practices adherence percentages, Weeks Medical Center, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Weeks Medical Center	†	†	†	†	†
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

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

**Colon procedure-associated surgical site infections rates, Weeks Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	†	†	†	†	†	†
Risk Category 2	-	-	-	-	-	-
Risk Category 3	-	-	-	-	-	-

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Knee arthroplasty procedure-associated surgical site infections rates, Weeks Medical Center, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	-	-	-	-	-	-
Risk Category 1	†	†	†	†	†	†
Risk Category 2,3	†	†	†	†	†	†

† Data are not shown when fewer than 20 procedures were performed. - Facility did not perform this procedure on patients in the risk category.

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Weeks Medical Center**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Weeks Medical Center	188	370	50.8	45.7 , 55.9	Lower
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## WENTWORTH-DOUGLASS HOSPITAL, Dover, NH

### Facility Standardized Infection Ratios (SIR)

	Observed Infections	Expected Infections	Standardized Infection Ratio (SIR)	95% Confidence Interval Lower	95% Confidence Interval Upper	Comparison to Expected Number of Infections
<b>Overall State HAI SIR</b>	2	6.54	0.31	0.03	1.10	Similar
	The overall observed number of HAI in this facility was 69% fewer than expected based on national data. This difference is statistically significant, which means the overall number of HAI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CLABSI SIR</b>	0	1.25	0.00	-	2.94	Similar
	The overall observed number of CLABSI in this facility was 100% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of CLABSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>Overall SSI SIR</b>	2	5.29	0.38	0.04	1.37	Similar
	The overall observed number of SSI in this facility was 62% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of SSI in this facility is SIMILAR to the number of infections seen nationally.					
<b>CABG SIR</b>	-	-	-	-	-	-
	Facility does not perform CABG procedures.					
<b>COLO SIR</b>	1	3.72	0.27	0.00	1.49	Similar
	The overall observed number of COLO infections in this facility was 73% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of COLO infections in this facility is SIMILAR to the number of infections seen nationally.					
<b>KPRO SIR</b>	1	1.57	0.64	0.01	3.55	Similar
	The overall observed number of KPRO infections in this facility was 36% fewer than expected based on national data. This difference is not statistically significant, which means the overall number of KPRO infections in this facility is SIMILAR to the number of infections 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

### Central line-associated bloodstream infections rates, Wentworth-Douglass Hospital, January 1–December 31, 2009

Hospital	Unit Type	Infections	Central line days	Hospital Rate	National Rate	p-value	State Rate Compared to National Rate
Wentworth-Douglass	Med/Surg ICU	0	833	0.0	1.5	0.288	Similar

ICU = intensive care unit

Med/Surg = medical surgical

**Central line insertion practices adherence percentages, Wentworth-Douglass Hospital, January 1–December 31, 2009**

Hospital	Insertions That Adhered to Bundle	Total Number of Insertions	% Adherence	95% Confidence Interval	Hospital % Compared to State %
Wentworth-Douglass	21	25	84.0	65.8 , 94.7	Similar
<b>State Total</b>	1,945	2,081	93.5	92.3 , 94.5	

**Colon procedure-associated surgical site infections rates, Wentworth-Douglass Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	†	†	†	†	†	†
Risk Category 1	1	34	2.94	5.59	0.383	Similar
Risk Category 2	†	†	†	†	†	†
Risk Category 3	†	†	†	†	†	†

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

**Knee arthroplasty procedure-associated surgical site infections rates, Wentworth-Douglass Hospital, January 1–December 31, 2009**

Risk Category	Infections	Procedures	Hospital Rate	National Rate	p-value	Rate Compared to National Rate
Risk Category 0	0	69	0.00	0.58	0.670	Similar
Risk Category 1	1	108	0.93	0.99	0.500	Similar
Risk Category 2,3	†	†	†	†	†	†

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

**Number of staff vaccinated against seasonal influenza during the 2009–2010 influenza season (October 1, 2009–March 31, 2010), Wentworth-Douglass Hospital**

Hospital	Staff Vaccinated	Total Staff	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Wentworth-Douglass	1,431	1,959	73.0	71.0 , 75.0	Similar
<b>State Total</b>	25,106	35,538	70.6	70.1 , 71.1	

## APPENDIX 1: Technical Notes

1. Data in this report were extracted from NHSN on 07/26/2010. Changes or new infections reported by hospitals after this date are not reflected in this report.
2. All “national rate” data used in this report come from the 2009 NHSN Report, which is the most recent published NHSN data and is a summary of data reported to NHSN from 2006–2008.
3. Rate data were appropriately risk-adjusted according to standard NHSN recommendations. Rates were only presented if appropriately risk-adjusted
  - 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: rate data must be broken down by both type of procedure and risk category. Data can be aggregated only if the procedure and risk category are the same.
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: there must be at least 20 procedures in the denominator to present a rate.
5. 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.
6. 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

7. 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.
8. 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).
9. Calculating a corresponding confidence interval for a standardized infection ratio: The calculations for determining the 95% confidence interval for SIRs in this report are taken from: Liddell FD. Simple exact analysis of the standardised mortality ratio. *Journal of Epidemiology and Community Health*, 1984; 38:85-88.<sup>8</sup>
10. 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

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

$$\text{CLABSI rate} = (\text{number of infections} / \text{number of central line days}) \times 1,000$$

12. Calculating a surgical site infection rate and associated p-value: SSI rates are presented as the number of infections per 100 procedures.

$$\text{SSI rate} = (\text{number of infections} / \text{number of procedures}) \times 100$$

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.

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<sup>8</sup> 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  $\geq 0.05$ , 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 =  $\pm 1.96[(p \times 1-p)/n]^{0.5}$  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 compliance.
- b. CIs that are lower than and do not overlap the state confidence interval are considered "Lower" than the overall state compliance.
- c. CIs that are higher than and do not overlap the state confidence interval are considered "Higher" than the overall state compliance.

## 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:

<b>Risk Group Stratifier</b>	<b>Observed CLABSI Rates</b>			<b>NHSN CLABSI Rates for 2008 (Standard Population)</b>		
<b>Location Type</b>	<b>#CLABSI</b>	<b>#Central line-days</b>	<b>CLABSI rate*</b>	<b>#CLABSI</b>	<b>#Central line-days</b>	<b>CLABSI rate*</b>
ICU	170	100,000	1.7	1200	600,000	2.0
WARD	58	58,000	1.0	600	400,000	1.5
$\text{SIR} = \frac{\text{observed}}{\text{expected}} = \frac{170 + 58}{100,000 \times \left(\frac{2}{1000}\right) + 58,000 \times \left(\frac{1.5}{1000}\right)} = \frac{228}{200 + 87} = \frac{228}{287} = 0.79 \quad 95\% \text{CI} = (0.628, 0.989)$						

\*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. See the following example data and SIR calculation.

Risk Group Stratifiers		Observed SSI Rates			NHSN SSI Rates for 2008 (Standard Population)		
Procedure Code	Risk Index Category	#SSI <sup>†</sup>	#procedures	SSI rate <sup>*</sup>	#SSI <sup>†</sup>	#procedures	SSI rate <sup>*</sup>
CBGB	1	315	12,600	2.5	2100	70,000	3.0
CBGB	2,3	210	7000	3.0	1000	20,000	5.0
HPRO	1	111	7400	1.5	1020	60,000	1.7
		$\text{SIR} = \frac{\text{observed}}{\text{expected}} = \frac{315 + 210 + 111}{12600 \times \left(\frac{3.0}{100}\right) + 7000 \times \left(\frac{5.0}{100}\right) + 7400 \times \left(\frac{1.7}{100}\right)} = \frac{636}{378 + 350 + 125.8} = \frac{636}{853.8} = 0.74$			95%CI = (0.649,0.851)		

<sup>†</sup> SSI, surgical site infection

<sup>\*</sup> Defined as the number of deep incision or organ space SSIs per 100 procedures

This example uses SSI rate data stratified by procedure and risk index category. Nevertheless, an SIR can be calculated using the same calculation process as for CLABSI data except using different risk group stratifiers for these example data. The SIR for this set of observed data is 0.74, which indicates there is a 26% reduction in the number of SSI events based on the baseline NHSN SSI rates as representing the standard population.

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.

HAI Metric	Observed HAIs			Expected HAIs		
	#CLABSI	#SSI <sup>†</sup>	#Combined HAI	#CLABSI	#SSI <sup>†</sup>	#Combined HAI
CLABSI 1	228			287		
SSI 1		636			853.8	
Combined HAI			228 + 636 = 864			287+853.8 = 1140.8
		$\text{SIR} = \frac{\text{observed}}{\text{expected}} = \frac{228 + 636}{287 + 853.8} = \frac{864}{1140.8} = 0.76$			95%CI = (0.673,0.849)	

<sup>†</sup> 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 or wear gloves.
  - 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, 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 their 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 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.
- 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.
- 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, and the Joint Commission. This information can be accessed at the following websites:

[http://www.cdc.gov/ncidod/dhqp/HAI\\_shea\\_idsa.html](http://www.cdc.gov/ncidod/dhqp/HAI_shea_idsa.html)

[http://www.jointcommission.org/PatientSafety/SpeakUp/speak\\_up\\_ic.htm](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.apic.org/AM/Template.cfm?Section=Education_Resources&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=91&ContentID=8738)