

Healthcare-Associated Infections in Pennsylvania

2011 Report



August 2012

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Executive Summary

Overview

The 2011 report on the occurrence and patterns of health care-associated infections (HAIs) is the fourth to be released by the Pennsylvania Department of Health (PADOH) since the passage of Act 52 in 2007. The overall findings for 2011 show a continued pattern of steady decline in the incidence of HAIs in Pennsylvania. Declines were also seen in the incidence of each of the three categories of HAIs used by PADOH for hospital benchmarking. These categories are: catheter-associated urinary tract infections (CAUTIs), central line-associated bloodstream infections (CLABSIs), and selected types of surgical site infections (SSIs). The declining numbers are likely the result of ongoing efforts undertaken by infection preventionists, health care providers and systems, professional societies and governmental agencies to control and prevent HAIs. The impact of these efforts should be improved health status and outcomes of patients cared for in Pennsylvania hospitals, which are the primary motivation for HAI prevention and control, along with reduced health care expenditures.

Background

All hospitals in Pennsylvania are required to report any HAI that occurs in an in-patient location. These infections are reported by the hospitals to the Centers for Disease Control and Prevention's (CDC's) National Healthcare Safety Network (NHSN), which is now the primary data collection tool used for HAI reporting by more than 5,000 hospitals across the country. The information submitted to NHSN from Pennsylvania hospitals is provided to PADOH in order to be compiled, analyzed and published on an annual basis.

As in previous reports, the 2011 report contains a summary of the overall and hospital-specific number and type of HAIs. This is followed by separate sections on each of the three HAI categories that PADOH uses for benchmarking hospital performance. Hospital comparisons in these sections are done using the risk-adjusted standardized infection ratio (SIR) approach. The SIR is a value based on the ratio of infections reported by each hospital to NHSN (referred to as observed infections) to the number of infections predicted to occur at that hospital (referred to as predicted infections). The number of predicted infections is a calculated value that PADOH assigns to the hospital based on the overall statewide rate for each type of infection.

The 2011 report includes a new section on hospital-specific healthcare worker (HCW) influenza vaccination coverage rates. This is the first time PADOH is including a measure in the annual report that is not an HAI. It is a measure of vaccination coverage, not a measure of infection. Hospitals are not mandated by Act 52 to report this information. Rather, it is being voluntarily provided to PADOH by the hospital as a valuable yard stick in measuring the hospital's commitment to patient safety. Influenza is unquestionably a serious problem for both patients and HCWs and is known to be transmitted in healthcare settings. Therefore, annual influenza vaccination of healthcare workers is strongly encouraged; attaining a vaccination coverage level of 90 percent of a facility's HCWs is a U.S. Department of Health and Human Services Healthy People 2020 goal. Beginning in 2013, the federal Centers of Medicare and Medicaid Services (CMS) requires that all hospitals receiving in-patient prospective payment from CMS report HCW influenza vaccination coverage through NHSN.

The 2011 report for the first time includes an appendix showing longitudinal annual data for each Pennsylvania hospital since reporting was initiated under Act 52. This allows users of the report to more easily view trends for a particular hospital of interest. This information is now being included because there are enough annual data points to demonstrate time trends by hospital. Since only two full years

of data on SSIs are available (SSI data lags other HAIs by 12 months), longitudinal data on SSIs will not be displayed until next year's report.

In 2011, there were 254 hospitals in Pennsylvania that submitted data to NHSN and were in continuous operation over the 12-month time period. Cumulatively, these hospitals reported a total of 22,713 HAIs occurring over 10,212,208 patient-days of hospital care. Patient-days are the number of hospitalizations multiplied by the length of stay of each hospitalization (i.e., one patient hospitalized for 5 days equals 5 patient-days). This results in an overall statewide rate of 2.22 HAIs per 1,000 patient-days. This is a 3.1 percent decline from the overall HAI rate in 2010 and a 6.3 percent decrease from 2009, which is considered the baseline year of measurement for Act 52. This represents 2,274 fewer HAIs than would have occurred if the 2009 HAI rate had persisted into 2011. In this report (as in 2010) the most commonly reported categories of HAIs are surgical site infections (26.9 percent of all HAIs) followed by urinary tract infections (22.3 percent) and gastrointestinal infections (17.4 percent).

Catheter-Associated Urinary Tract Infections (CAUTIs)

Among the 254 hospitals, there were 234 (92.1 percent) that reported using urinary catheters and 191 (81.6 percent of those using urinary catheters) that reported at least one CAUTI. There were a total of 2,819 CAUTIs reported in 2011 over more than 1.82 million days of urinary catheter use, for a rate of 1.55 CAUTIs per 1,000 urinary catheter days. Compared to 2010, this represents a decrease in the CAUTI rate of 9.4 percent, and a 21.3 percent decline when compared to the baseline year of 2009. This translates to 1,256 fewer CAUTIs in Pennsylvania since 2009. Among the 234 hospitals reporting use of urinary catheters in 2011, there were 28 (12.0 percent) that reported significantly fewer CAUTIs than PADOH predicted would occur and 28 (12.0 percent) that reported significantly more CAUTIs than predicted by PADOH. These hospitals are found in Tables 7 and 8.

Central Line-Associated Bloodstream Infections (CLABSIs)

Among the 254 hospitals, there were 222 (87.4 percent) that used central lines (catheters inserted into the large arteries near the heart) and 147 (66.2 percent of those using central lines) that reported at least one CLABSI. There were a total of 1,540 CLABSIs reported in 2011 in more than 1.7 million days of central line use, giving an overall rate of 0.89 CLABSIs per 1,000 central line days. Compared to 2010, this represents a 4.3 percent decline in CLABSIs and a 27.6 percent decline compared to the baseline year of 2009. This translates to 1,113 fewer CLABSIs in Pennsylvania since 2009. CLABSIs are subdivided by hospital location type. In neonatal intensive care units (NICUs), the CLABSI rate in 2011 was 1.53 per 1,000 central line days (a 24.6 percent decline from 2010); in specialty care areas, the CLABSI rate in 2011 was 1.23 per 1,000 central line days (a 6.8 percent decline from 2010); in long term acute care units, the CLABSI rate in 2011 was 1.30 per 1,000 central line days (a 7.8 percent decline from 2010). In all other parts of the hospital (hospital wards and non-NICU intensive care units) the CLABSI rate was 0.78 per 1,000 central line days (a decline of 1.3 percent). For the ward/ICU locations, there were 13 hospitals (6.7 percent) that had a significantly lower number of CLABSIs than PADOH predicted and 14 hospitals (7.3 percent) that had a significantly higher number of CLABSIs than PADOH predicted. In the other three hospital locations, there were five hospitals that had a significantly lower number of CLABSIs and six that had a significantly higher number of CLABSIs than predicted by PADOH. These hospitals can be found in Tables 13 and 14.

Surgical Site Infections (SSIs)

Among the six benchmark surgical procedures (cardiac surgery, cardiac bypass grafts [with a single and with dual incision sites], hip prostheses, knee prostheses, and abdominal hysterectomy) tracked for SSIs, all but one can involve implantable devices. NHSN definitions for implant-associated surgical

procedures currently require a 12-month follow-up period to detect an SSI. Therefore the information in this report for the SSI benchmark lags the other conditions by a year. In 2010, at least one of these six procedures was performed in 164 Pennsylvania hospitals. For all six procedures combined, a total of 95,034 operations took place, with knee prostheses forming the largest number (41.8 percent). For all six procedures combined, a total of 1,206 SSIs were identified. This produces an overall rate of 1.27 SSIs per 100 procedures, representing a decline of 5.9 percent compared to the 2009 baseline rate. This translates to 77 fewer SSIs in Pennsylvania since 2009. The rate per procedure ranged from a high of 2.02 SSIs per 100 procedures for dual-incision cardiac bypass grafts to 0.88 SSIs per 100 procedures for cardiac surgeries and abdominal hysterectomies.

Among all of the hospitals that performed at least one of the six benchmark procedures, many reported no, or very few, infections. As a result, the number of hospitals found to have a significantly better or worse number of SSIs than predicted in any of the benchmarked procedures is small. Most of the hospitals found to be significantly better or worse than predicted are larger in size and, therefore, perform a larger number of procedures. The criteria used for risk adjustment (patient risk index) may not fully differentiate the complexity and overall illness status (both of which influence risk) between patients undergoing the same type of procedure at different hospitals. In 2010, only two hospitals were identified as having a significantly lower number of SSIs than predicted, while 21 different hospitals were identified as having a significantly higher number of SSIs than predicted in at least one of the six benchmarked procedure categories (Tables 25 and 26). Of note, PADOH, in consultation with its Healthcare-Associated Infections Advisory Committee, added the category of colon surgeries as a seventh benchmarking category beginning in 2012. This procedure was added to benchmarking because colon surgery-related SSIs are the most commonly reported type by Pennsylvania hospitals and should help determine hospitals that are performing better or worse than predicted. In addition, this procedure, along with abdominal hysterectomy, was chosen for in-patient prospective payment determinations by CMS, and this aligns Pennsylvania with CMS reporting requirements.

Health Care Provider Influenza Vaccination

A total of 236 (93 percent) hospitals voluntarily submitted data on influenza vaccination coverage on a total of 355,514 healthcare providers, although most could not provide full data on employees, licensed independent practitioners and volunteers. Among hospital employees, influenza vaccination coverage was 72 percent. Among licensed independent practitioners, it was 67 percent. Among volunteers, it was 66 percent. The proportion of persons with unknown vaccination status ranged from 20-32 percent per group. There were 44 hospitals (19 percent) that reported achieving the Healthy People 2020 goal of 90 percent or better influenza vaccine coverage. The hospitals meeting the Healthy People 2020 goal can be found in Table 31.

Conclusions

The findings in 2011 demonstrate that progress continues to be made in preventing the occurrence of HAIs in Pennsylvania. This progress is gradual, with overall declines of approximately 3 percent in each of the last two years, but declines are occurring across the range of measured HAIs. This suggests that widely applied measures to reduce the burden of HAIs are successful. Of note, after 2 years of >20 percent declines in CLABSIs, the decline noted in 2011 is considerably lower (4.3 percent). This finding suggests that some CLABSIs may be especially difficult to prevent due to the underlying health condition of the patient or the complexity of care being administered. Additional strategies may be needed to address CLABSIs in these situations. PADOH continues to work with a variety of stakeholders on prevention collaboratives and assessments of methods to reduce the burden of HAIs. Efforts to date by the healthcare community have resulted in the prevention of thousands of HAIs in just the past two

years. This results in improved patient outcomes, decreases in re-hospitalization and long term rehabilitation, and conservative savings of at least \$34 million in direct healthcare costs. PADOH, working with stakeholders inside and outside government, will continue to monitor trends and promote prevention strategies with a goal of elimination of HAIs as a public health concern.

Introduction

Healthcare-associated infection (HAI) is the term used for an infection that occurs in a patient as a direct consequence of the health care interventions being delivered to them. HAIs are one of the major types of adverse events that can occur in the health care environment and are a considerable patient safety concern. HAIs represent a diverse group of complications, ranging from infections that occur in a surgical wound to pneumonias among patients on ventilators. They vary based on the reason that the patient is receiving care, the type of interventions being administered, the portion of the healthcare system being used by the patient, and the patient's underlying health status and circumstances.

HAIs also vary substantially in terms of their impact on the patient, the outcome and their cost. They can be relatively minor and easily treatable (such as a minor skin infection in an outpatient), or they can result in significant patient deterioration, longer hospital stays, and even death. Taken as a group, HAIs are considered among the leading causes of death in the United States and have been estimated to cost the health care system tens of billions of dollars annually.

These factors have resulted in a growing awareness of the importance of HAIs, and have helped to establish patient safety as a core pillar of the health care system. Although HAIs are an important factor throughout the health care continuum, nowhere are they more impactful than in the hospital setting, where the sickest patients are located and treated.

As recently as the 1990s, HAIs were considered an inevitable consequence of health care delivery. But this view has shifted dramatically as HAIs are recognized to be preventable. This had led to a paradigm shift throughout the healthcare system that the elimination of HAIs as a public health and patient safety concern is a possibility and the ultimate goal. In a 2010 article* co-authored by the Centers for Disease Control and Prevention (CDC) and a consortium of patient safety organizations, four major pillars crucial to meeting the goal of elimination of HAIs were identified. They are:

1. Comprehensive, systematic and continuous adherence to evidence-based prevention practices
2. Alignment of incentives to promote the adoption of prevention practices
3. Conducting research to identify strategies to reduce HAIs where knowledge gaps remain
4. Collecting, analyzing and disseminating data for action

Pennsylvania is considered a national leader in all of these areas. Researchers in the commonwealth have conducted some of the seminal studies used to develop the knowledge base for HAI prevention. Practitioners have demonstrated the impact of systematic implementation of HAI prevention strategies. And Pennsylvania was one of the first states to require that all hospitals publicly disclose their HAI data.

The current report focuses on the fourth pillar of the HAI elimination blueprint published in 2010. Legislation known as Act 52 was passed and enacted in 2007 that contains the most comprehensive reporting requirements of any state. The act requires the Pennsylvania Department of Health (PADOH) to collect information on all in-patient HAIs, summarize the findings, and publicly report the results.

Since Act 52's requirements took effect in February 2008, PADOH has published a comprehensive report on the patterns of HAIs in Pennsylvania. The current report is the fourth in this series. It includes data

* Cardo D et al. *Moving toward Elimination of Healthcare-Associated Infections: A Call to Action*. *Infect Cont Hosp Epidemiol* 2010;31:1101-5.

on the overall patterns of HAIs in Pennsylvania acute care in-patient institutions, and focuses on the three types of HAIs that are used to measure the progress in HAI reductions. These HAI types are known as benchmark HAIs. They were selected by PADOH in collaboration with a statewide HAI Advisory Committee established by Act 52 based on their burden, impact and preventability. They are catheter-associated urinary tract infections (CAUTIs), central line-associated bloodstream infections (CLABSIs) and six different types of surgical site infections (SSIs). These HAI types were also selected to allow some type of measure to be established across the range of in-patient facilities present in a large, diverse state like Pennsylvania. Even the smallest hospitals are likely to use urinary catheters and to perform at least one of the six surgical procedures.

With the growing focus on patient safety, the demand for measures of progress in reducing HAIs and in demonstrating a culture of patient safety is also growing. In addition to measuring actual trends in HAIs, there is growing interest in assessing process measures of patient safety. Therefore, PADOH has added a new category of information to the 2011 report. This section examines vaccination coverage of the health care workforce against influenza. Influenza is recognized as a major cause of illness and death, can be transmitted in health care settings, and is preventable through vaccination. Major healthcare organizations, societies, and federal and state governments have all promoted influenza vaccination of healthcare workers to control influenza and to keep the workforce healthy. The U.S. Department of Health and Human Services has established a Healthy People 2020 goal for 90 percent of health care workers to be vaccinated against influenza annually.

Submission of data on health care worker vaccination is not a mandated requirement of Act 52. But starting in 2013, all hospitals receiving in-patient payments from the federal Centers for Medicare and Medicaid Services (CMS) will be required to submit data to the National Healthcare Safety Network (NHSN) system that is currently used by Pennsylvania to report HAIs. In recognition of this requirement, PADOH partnered with the Pennsylvania Healthcare Quality Alliance (PHCQA) to collect and display information on health care worker influenza vaccination from hospitals **on a voluntary basis**, using National Quality Forum endorsed metric 0431. For this first year of reporting, PADOH is publishing aggregate vaccination rates and recognizing the accomplishments of those facilities that achieved employee vaccination rates of 90 percent or better. PADOH will display all vaccination rates reported by facilities to NHSN in future reports.

In an effort to make data on HAIs more useful and useable by stakeholders, especially the public, the 2011 annual report contains for the first time hospital-specific trends in the occurrence of HAIs. Since this is the fourth published report, there are now enough data points to make this information meaningful. This will enable any user of the data to see whether the overall rates of HAIs, and the rates of CAUTIs and CLABSIs, are increasing, decreasing or remaining stable, on a hospital-by-hospital basis.

As in previous reports, the information in 2011 is divided into several sections. First, composite information is provided for the entire state. That is followed by hospital-specific data on the overall numbers of HAIs in each reporting category in NHSN. Separate sections then focus on CAUTIs, CLABSIs and SSIs, followed by the section on healthcare worker flu vaccination. The hospital-specific trends over time are included as an appendix to the report.

It is important to note that PADOH works collaboratively with a variety of stakeholder organizations to promote healthcare quality and reduce the incidence of healthcare-associated infections. In addition, two governmental partners, the Pennsylvania Patient Safety Authority (PSA) and the Pennsylvania Health Care Cost Containment Council (PHC4), have specific roles under Act 52 and work closely with

PADOH on HAI prevention and control. Readers of the annual report are encouraged to examine companion reports published by PSA and PHC4. The PSA annual report for 2011 describes PSA HAI-related activities and can be found at <http://patientsafetyauthority.org>. The PHC4 report entitled *The Impact of Healthcare Associated Infections in Pennsylvania, 2010*, examines costs, mortality, readmissions and underlying health conditions associated with HAIs. It can be found at <http://www.phc4.org>.

Data and Methods

The data, analytic approaches and methods used in this report are similar to those used in previous reports. They are described in much greater detail in the 2009 report, which is available on the Pennsylvania Department of Health website at the following address: www.portal.health.state.pa.us/portal/server.pt/community/healthcare_associated_infections/14234

All hospitals are required to report all HAIs associated with any in-patient location using the Patient Safety Module of CDC's National Healthcare Safety Network (NHSN). These infection types are:

- Bone and joint infections (BJ)
- Blood stream infections (BSI) with or without a central line
 - BSI associated with a central line are known as central line associated bloodstream infections (CLABSI)
- Central nervous system infections (CNS)
- Cardiovascular system infections (CVS)
- Eye, Ear Nose and Throat infections (EENT)
- Gastrointestinal infections (GI)
- Lower respiratory tract infections (LRI)
- Pneumonia (PNEU) whether ventilator or non-ventilator associated
- Reproductive tract infections (REPR)
- Skin and soft tissue infections (SST)
- Surgical site infections (SSI)
- Systemic infections (SYS)
- Urinary tract infections (UTI) with or without a catheter
 - UTI associated with a urinary catheter are known as catheter associated urinary tract infections (CAUTI)

NHSN uses standardized definitions for each of these infection types, including methods for their detection, how they are to be identified, and the time frames for the infection to occur upon and after hospitalization. The NHSN definitions can be found in the NHSN Patient Safety Manual at <http://www.cdc.gov/nhsn>. Infection preventionists and data reporters under Act 52 are required to use the standardized NHSN criteria and methods to determine whether an identified infection should be reported as an HAI.

Hospitals also collect certain denominator information to enable the calculation of HAI rates. This information includes:

- Patient days – the total number of patients in the hospital per day over the entire calendar year (total hospitalizations multiplied by the duration of each hospitalization).

- Urinary catheter days – the total number of hospitalized patients with a urinary catheter in place per day over the entire calendar year (total number of patients with a urinary catheter in place multiplied by the number of days a catheter was used for each patient).
- Central line days – the total number of hospitalized patients with a central line in place per day over the entire calendar year (total number of patients with at least one central line in place multiplied by the number of days a central line was in place for each patient).
- For the six benchmarked surgical procedures, hospitals collect and submit certain standardized information on all patients who had the procedure performed during the period of interest, not just those in whom an HAI subsequently developed. This includes risk index information for all patients undergoing one of the benchmarked procedures, allowing risk index-specific HAI rates for each procedure category.

The overall rate of HAIs by hospital (Table 4) is calculated as infections per 1,000 patient-days. This is a standard method of reporting HAIs. For CAUTIs and CLABSIs, the identified rates are per 1,000 device days (either catheter days or central line days), since these are the more appropriate denominators. For benchmarked SSIs, the rates are reported as infections per 100 procedures. All of the reported rates are unadjusted for factors that might be related to differences in HAIs between or within a hospital, such as the type and intensity of care, size of the facility or differences in patient populations.

Hospitals also complete accessory reports that indicate the ward types present in their facility, the number of infection preventionists, and hospital characteristics (including number of beds). This information is summarized in Table 1.

NHSN contains certain basic error checks that help to ensure that the information reported into the system is valid. PADOH also reviews the information submitted by each Pennsylvania hospital on a quarterly basis to spot unusual patterns or information that might suggest reporting errors or incomplete reporting. Each hospital receives a “data integrity verification” (DIV) report every 90 days that includes a list of any questionable reports submitted in the preceding quarter. The hospital is then given 30 days to review and correct the information before the data are considered “locked down” for analytical purposes. In 2011, PADOH also initiated on-site auditing procedures for selected hospitals to further determine the accuracy of the information reported in NHSN. The auditing process focused on the benchmarking categories of CAUTIs, CLABSIs and SSIs, looking to identify inaccurately reported infections and unreported infections.

Act 52 requires PADOH to: (1) assess overall trends in HAIs in Pennsylvania, (2) compare the rates of HAIs in Pennsylvania to the rates elsewhere in the country, and (3) compare the occurrence of HAIs between hospitals and over time in each hospital. To assess overall HAI trends in Pennsylvania, PADOH produces summary statistics on the patterns of HAIs by category, the overall rates of HAIs, and the rates by category. Information is also provided on the pathogens causing HAIs, with an emphasis on infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA), which was a special focus of Act 52.

To compare Pennsylvania’s rates and patterns of HAIs to the rest of the country, this report uses information contained in the NHSN summary report. NHSN now collects data from more than 5,000 hospitals across the United States and produces the definitive dataset on HAIs. However, the most recently available report from CDC on device-associated HAIs covers those infections reported in 2010, not 2011. Thus, Pennsylvania’s 2011 rates by ward type for CAUTI and CLABSI are compared to national

data from 2010, which might account for some of the differences observed in the graphs and tables that show Pennsylvania performing better than the country as a whole.

To compare differences between hospitals, the recommended approach is the use of a standardized infection ratio, or SIR. The SIR is a comparison between the reported occurrence (the observed number of infections) of a specific HAI (e.g., CAUTI or CLABSI) in a hospital to the number that would be predicted to occur (predicted) in that hospital if the hospital's rate was identical to the statewide HAI rate for that infection type. If a hospital reported 10 CAUTIs during 2010 (and based on the overall statewide rate of CAUTIs per 1,000 catheter-days we would have predicted only 5 CAUTIs should occur in that hospital), the standardized infection ratio (SIR) would be $10/5$ or 2.00. If another hospital reported 5 CAUTIs (and based on statewide rates we would have predicted the hospital would have 10 CAUTIs), the SIR would be $5/10$ or 0.50. An SIR of 1.00 means the hospital reported exactly the same number of infections as predicted based on statewide rates (i.e. the hospital's rate was exactly the same as the statewide rate). An SIR >1.00 means the hospital reported more infections than predicted, and an SIR <1.00 means the hospital reported fewer infections than predicted.

Differences between hospitals (such as intensity of care or patient populations) may explain why they have differences in their HAI rates. Some hospitals care for sicker patients, and these patients are at higher risk for an HAI with all other factors being equal. To account for such differences, an adjustment is made to the predicted number of infections (the predicted number is adjusted upward for hospitals that provide more complex care and downward for hospitals that provide less complex care). It is difficult to precisely measure complexity of care. Factors that were examined for this purpose for CAUTIs and CLABSIs include device utilization ratio (how often a catheter or central line is used in each hospital – calculated as the number of catheter or central line days divided by the number of patient days), the bed size of the hospital, the geographic location of the hospital (urban or rural) and whether the hospital is affiliated with a medical school. These factors have been shown in medical literature to influence the likelihood of an HAI as a surrogate for patient population differences or intensity of care. The final risk adjustment model for CAUTIs and CLABSIs incorporates the device utilization ratio (DUR) and medical school affiliation, similar to previous reports. For SSIs, such adjustments are not needed, as information is collected on all patients who underwent a procedure whether or not an infection subsequently occurred. Adjustment factors for predicting the number of infections used for SSIs include the American Society of Anesthesiology (ASA) score (the patient's level of health), duration of the surgical procedure, and whether or not the operation site was "clean" or "contaminated." Together, these comprise the risk index.

After the SIR is calculated, a determination is made regarding whether any differences seen between hospitals are statistically meaningful. For a small hospital that performs few operative procedures or uses very few catheters or central lines, the level of confidence in the reliability of the calculated rates is lower than for a larger hospital. This is reflected in a calculation known as the "confidence interval" or CI, for which a lower limit and an upper limit are calculated and displayed. The true SIR for the hospital is found somewhere in between the lower value and the upper value of the confidence interval. In general, the smaller the facility, the wider the confidence interval, meaning our confidence in the calculated rate is low. Larger facilities tend to have narrower confidence intervals, meaning there was more information available to calculate the rates. If the two values in the confidence interval are both <1.00 , it means the observed number of infections in that hospital is significantly lower than predicted. If both values in the confidence interval are >1.00 , it means there are significantly more infections than predicted. If the confidence interval includes the value of 1.00, it means the observed number of infections is not statistically different than predicted based on statewide rates. Hospitals with a

significantly lower number of observed infections are depicted in green in the graphs included in the report; hospitals with a significantly higher number of observed infections are depicted in red in the graphs. Hospitals that are no different than predicted are depicted in yellow in the graphs.

For the section on health care worker influenza vaccination, hospitals were asked to voluntarily submit information on the number of health care workers in their facility and the number of these workers that were documented to have received influenza vaccine (whether or not the vaccine was administered at the hospital) for the 2011-2012 flu season. The methods for counting vaccination are based on those developed by the National Quality Forum (NQF), which uses three separate categories (hospital employees, licensed independent practitioners, and adult volunteers or students) and counts only those present in the hospital for at least 30 days during the flu season.

Results

Hospital Characteristics

In 2011, a total of 254 hospitals reported data on the occurrence of healthcare-associated infections to the National Healthcare Safety Network (NHSN) for the entire calendar year. The characteristics of these hospitals are found in Table 1A and Table 1B.

Table 1A
Characteristics of Hospitals Reporting
Healthcare-Associated Infections – Pennsylvania 2011
(State Hospital Survey and NHSN)

Hospital Characteristics	N	Percentage
	254	100
Facility Type		
Acute Care Hospital	163	64.2
Critical Access Hospital	13	5.1
Children's Hospital	7	2.8
Long Term Acute Care (LTAC)	27	10.6
Psychiatric hospital	25	9.8
Rehab Hospital	19	7.5
Medical School Affiliation		
No affiliation	176	69.3
Affiliation	78	30.7
Number of Infection Preventionists (IPs)		
0*	1	0.4
1	170	66.9
2	42	16.5
3+	41	16.1

*Behavioral facility

Table 1B
Characteristics of Hospitals Reporting
Healthcare-Associated Infections in Pennsylvania - 2011
(State Hospital Survey and U.S. Census)

Urban Status	N=254	Percentage
Urban	82	32.3
Suburban	93	36.6
Rural	79	31.1
Hospital Bed Size		
≤ 200	172	65.4
201-500	65	25.2
> 500	17	9.4

Overall Patterns of Healthcare-Associated Infections

Among the 254 reporting hospitals, there were a total of 22,713 healthcare-associated infections reported (Table 2). These HAIs occurred over a total of 10,212,208 patient-days of care in Pennsylvania hospitals. The number of reported HAIs in 2011 is 3.8 percent lower than in 2010, and the number of patient days in 2011 is 0.7 percent lower than in 2010. The overall rate of HAIs in 2011 is 2.22 HAIs per 1,000 patient days, which is 3.1 percent lower than the rate of 2.29 HAIs per 1,000 patient days in 2010, and 6.3 percent lower than the rate of 2.37 HAIs per 1,000 patient days in 2009 (the baseline year for Pennsylvania data). These declines translate to 2,274 fewer healthcare-associated infections having occurred in Pennsylvania since 2009.

Healthcare-Associated Infections in Pennsylvania (2009-2011)

Year	No. of HAIs	No. of Patient Days	Rate per 1,000 Patient Days	Percent Decline (prior year/cumulative)
2009	25,914	10,920,596	2.37	
2010	23,601	10,289,079	2.29	3.4/3.4
2011	22,713	10,212,208	2.22	3.1/6.3

Among the 22,713 HAIs that occurred in 2011, the most common types are found in Table 2. Surgical site infections (SSIs) continue to be the most commonly identified category of HAIs, comprising 26.9 percent of all HAIs, followed by urinary tract infections (UTIs) at 22.3 percent, and gastrointestinal infections (GI) at 17.4 percent.

Table 2
Healthcare-Associated Infections in PA Hospitals by Type - 2011

Infection Type	Number	Percent
Bone and Joint (BJ)	27	0.12
Blood Stream Infection (BSI)	2,479	10.91
Central Nervous System (CNS)	73	0.32
Cardiovascular System (CVS)	103	0.45
Eye Ear Nose and Throat (EENT)	741	3.26
Gastrointestinal (GI)	3,951	17.40
Lower Respiratory Tract (LRI)	865	3.81
Pneumonia (PNEU)	2,420	10.65
Reproductive (REPR)	77	0.34
Surgical Site Infection (SSI)	6,113	26.91
Skin and Soft Tissue (SST)	799	3.52
Systemic (SYS)	2	0.01
Urinary Tract Infection (UTI)	5,063	22.29
TOTAL	22,713	100%

Table 2A compares the proportions of each HAI category between 2010 and 2011. The overall patterns are similar between the two years, although there was a decline of more than one percentage point for urinary tract infections. The proportion of HAIs due to surgical site infections continues to increase.

Table 2A
Comparison of HAI Percentages in PA Hospitals 2010-2011

Infection Type	Percent in 2010	Percent in 2011
Bone and Joint (BJ)	0.09	0.12
Blood Stream Infection (BSI)	11.06	10.91
Central Nervous System (CNS)	0.35	0.32
Cardiovascular System (CVS)	0.44	0.45
Eye Ear Nose and Throat (EENT)	2.74	3.26
Gastrointestinal (GI)	17.43	17.40
Lower Respiratory Tract (LRI)	3.42	3.81
Pneumonia (PNEU)	10.95	10.65
Reproductive (REPR)	0.42	0.34
Surgical Site Infection (SSI)	26.24	26.91
Skin and Soft Tissue (SST)	3.50	3.52
Systemic (SYS)	0.03	0.01
Urinary Tract Infection (UTI)	23.34	22.29
TOTAL	100%	100%

Methicillin Resistant Staphylococcus Aureus (MRSA)

Methicillin-resistant *Staphylococcus aureus* (MRSA) continues to be a serious concern in the healthcare setting. Act 52 instituted specific requirements related to MRSA, including screening of high-risk patients on admission. The Department's annual HAI reports have included information on the incidence of MRSA and progress in reducing the burden of this infection in Pennsylvania. Table 3 includes information for 2011. It shows the total number of HAI due to MRSA by category of HAI. In 2011, a total of 1,840 HAIs were caused by MRSA, accounting for 8.1 percent of all HAIs. For those categories of HAIs with over 100 reported infections, the highest proportion caused by MRSA were skin and soft tissue (SST) infections (22.2 percent) followed by cardiovascular system (CVS) infections (14.6 percent) and surgical site infections (SSI) (14.0 percent). By category, the largest proportion of the 1,840 total MRSA HAIs were related to surgical site infections (857 representing 46.6 percent) followed by pneumonia (representing 15.1 percent) and blood stream infections (representing 14.6 percent).

Table 3
Methicillin Resistant *Staphylococcus aureus*
Healthcare-Associated Infections in Pennsylvania - 2011

Infection Type	Total Count	MRSA Count	Percent
Bone and Joint (BJ)	27	5	18.51
Blood Stream Infection (BSI)	2,479	268	10.81
Central Nervous System (CNS)	73	5	6.85
Cardiovascular System (CVS)	103	15	14.56
Eye Ear Nose and Throat (EENT)	741	26	3.51
Gastrointestinal (GI)	3,951	18	0.46
Lower Respiratory Tract (LRI)	865	120	13.87
Pneumonia (PNEU)	2,420	278	11.49
Reproductive (REPR)	77	1	1.45
Surgical Site Infection (SSI)	6,113	857	14.02
Skin and Soft Tissue (SST)	799	177	22.15
Systemic (SYS)	2	0	0
Urinary Tract Infection (UTI)	5,063	70	1.38
Total	22,713	1,840	8.10

Table 3A compares the MRSA data for 2011 with the data from 2010. There has been little change in the proportion of HAIs due to MRSA by overall proportion or individual category. In 2010, 7.92 percent of HAIs were caused by MRSA, in 2011 that proportion was 8.10 percent. However, the absolute number of reported HAIs caused by MRSA declined slightly between the two years (1,869 to 1,840, a reduction of 1.5 percent).

Table 3A
Comparison of Proportion of Healthcare-Associated Infections Caused by
Methicillin Resistant *Staphylococcus aureus* - 2010 versus 2011

Infection Type	2010 Percentage	2011 Percentage
Bone and Joint (BJ)	9.09	18.51
Blood Stream Infection (BSI)	10.11	10.81
Central Nervous System (CNS)	2.44	6.85
Cardiovascular System (CVS)	20.19	14.56
Eye Ear Nose and Throat (EENT)	5.26	3.51
Gastrointestinal (GI)	0.29	0.46
Lower Respiratory Tract (LRI)	15.76	13.87
Pneumonia (PNEU)	11.15	11.49
Reproductive (REPR)	2.02	1.45
Surgical Site Infection (SSI)	14.21	14.02
Skin and Soft Tissue (SST)	20.00	22.15
Systemic (SYS)	0	0
Urinary Tract Infection (UTI)	1.31	1.38
Total	7.92	8.10

Hospital Specific Overall Infections and Crude Rates

Table 4 presents the overall patterns of HAIs by hospital. Included is the organizational identifying number used by the hospital in the National Healthcare Safety Network (NHSN) system. Of note, some hospitals with separate campuses report HAI data to NHSN separately for each campus and use different NHSN numbers. Other hospitals report such data in merged fashion and use only a single, unified NHSN number.

The hospital name, the number of patient days the hospital reported in 2011, the total number of HAIs, and the number of HAIs by category are also listed in Table 4. This information is followed by the crude rate of HAIs per 1,000 patient days. It is important to note that the crude rates are *not* risk-adjusted and therefore should not be used for hospital-to-hospital comparisons. However, unless there is a change in a hospital's status (such as a merger, closure of hospital units, or expansion), the crude rate can be used to illustrate trends over time (changes in annual rates). Therefore, such hospital-by-hospital information is included in Appendix A of this report and should allow users of this report to evaluate hospital performance over time.

Table 4
2011 Healthcare Associated Infections in PA Hospitals by Type
Hospital-wide crude rate per 1,000 patient days

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
11838	ABINGTON MEMORIAL HOSPITAL	381	151539	59	1	40	4	51	0	100	5	119	2	2.51
16317	ADVANCED SURGICAL HOSPITAL	1	1116	0	0	0	0	0	0	1	0	0	0	0.90
10585	ALBERT EINSTEIN MEDICAL CENTER	308	111995	73	8	44	4	20	1	94	6	53	5	2.75
12500	ALBERT EINSTEIN MEDICAL CENTER AT ELKINS PARK	31	10601	9	0	6	0	1	0	8	1	5	1	2.92
12508	ALBERT EINSTEIN MEDICAL CENTER MOSS REHABILITATION	42	40945	2	0	7	0	1	0	0	2	30	0	1.03
10648	ALLEGHENY GENERAL HOSPITAL	688	133596	174	2	158	81	36	0	149	12	65	11	5.15
11842	ALLEGHENY VALLEY HOSPITAL	73	46228	6	6	19	0	4	0	25	3	9	1	1.58
12591	ALLIED SERVICES INSTITUTE OF REHABILITATION	19	20817	2	0	1	0	0	0	0	0	16	0	0.91
10178	ALTOONA REGIONAL HEALTH SYSTEM	102	89191	7	0	4	0	12	0	70	3	6	0	1.14
11388	ARIA HEALTH	252	115743	28	4	39	14	37	0	42	7	78	3	2.18
12057	ARMSTRONG COUNTY MEMORIAL HOSPITAL	35	34165	3	0	10	0	3	1	12	0	6	0	1.02
12037	BARIX CLINICS OF PENNSYLVANIA	1	661	0	0	0	0	0	0	1	0	0	0	1.51
12404	BARNES-KASSON COUNTY HOSPITAL	0	4251	0	0	0	0	0	0	0	0	0	0	0.00
12505	BELMONT CENTER FOR COMPREHENSIVE TREATMENT	10	47456	0	9	0	0	0	0	0	1	0	0	0.21
11442	BERWICK HOSPITAL CENTER	8	14647	2	0	0	1	2	0	1	0	2	0	0.55
12008	BLOOMSBURG HOSPITAL	7	13619	2	0	0	0	2	0	3	0	0	0	0.51
12361	BRADFORD REGIONAL MEDICAL CENTER	12	11423	0	0	3	0	2	0	3	3	1	0	1.05
11979	BRANDYWINE HOSPITAL	52	37170	4	0	6	0	12	0	19	0	11	0	1.40

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
12623	BROOKE GLEN BEHAVIORAL HOSPITAL	0	31602	0	0	0	0	0	0	0	0	0	0	0.00
12418	BROOKVILLE HOSPITAL	6	6425	0	0	0	0	0	1	2	0	3	0	0.93
15202	BUCKS COUNTY SPECIALTY HOSPITAL	0	739	0	0	0	0	0	0	0	0	0	0	0.00
12461	BUCKTAIL MEDICAL CENTER	1	1078	0	0	1	0	0	0	0	0	0	0	0.93
11736	BUTLER MEMORIAL HOSPITAL	116	67225	8	0	11	4	10	1	57	5	20	0	1.73
11586	CANONSBURG GENERAL HOSPITAL	21	17798	1	0	5	0	1	0	6	1	6	1	1.18
11997	CARLISLE REGIONAL MEDICAL CENTER	25	26235	1	0	1	0	0	0	21	0	2	0	0.95
15259	CH HOSPITAL OF ALLENTOWN	3	1913	0	0	0	0	0	0	2	0	1	0	1.57
11913	CHAMBERSBURG HOSPITAL	124	56846	6	0	22	0	12	0	62	1	21	0	2.18
11956	CHARLES COLE MEMORIAL HOSPITAL	10	9233	1	0	0	0	1	0	4	0	4	0	1.08
12016	CHESTER COUNTY HOSPITAL	156	59845	10	4	33	6	14	2	30	10	46	1	2.61
12304	CHESTNUT HILL HOSPITAL	27	27803	1	0	6	0	0	0	13	3	4	0	0.97
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	496	150455	97	78	73	50	24	1	68	43	45	17	3.30
11640	CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC	196	84133	62	7	26	26	11	0	40	8	11	5	2.33
12266	CHILDREN'S INSTITUTE OF PITTSBURGH	5	7631	1	0	0	0	0	0	0	4	0	0	0.66
11654	CLARION HOSPITAL	35	10903	0	0	4	0	6	0	11	2	12	0	3.21
12454	CLARION PSYCHIATRIC CENTER	29	21714	0	25	0	0	1	2	0	1	0	0	1.34
12051	CLARKS SUMMIT STATE HOSPITAL	30	67128	0	12	0	0	0	0	0	1	17	0	0.45
11843	CLEARFIELD HOSPITAL	7	16613	0	0	0	0	0	0	5	0	2	0	0.42
11914	COMMUNITY MEDICAL CENTER	58	52727	1	0	1	0	14	0	36	0	6	0	1.10
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	330	121737	73	2	62	52	5	0	69	2	62	3	2.71

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
11872	COORDINATED HEALTH ORTHOPEDIC HOSPITAL, LLC	10	3107	0	0	0	0	1	0	9	0	0	0	3.22
12283	CORRY MEMORIAL HOSPITAL	3	5107	0	0	0	0	0	0	1	0	2	0	0.59
12273	CRICHTON REHABILITATION CENTER	10	9740	1	0	2	0	0	0	0	0	7	0	1.03
11839	CROZER CHESTER MEDICAL CENTER	143	88176	17	2	39	2	20	0	36	1	26	0	1.62
11851	CROZER CHESTER MEDICAL CENTER SPRINGFIELD	3	5467	0	0	2	0	0	0	0	0	1	0	0.55
11932	CROZER CHESTER MEDICAL CENTER TAYLOR	75	35178	9	0	36	0	2	0	15	2	11	0	2.13
11848	DANVILLE STATE HOSPITAL	37	60873	0	11	2	0	1	0	0	15	8	0	0.61
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	56	48197	7	0	14	0	4	0	16	2	13	0	1.16
12738	DEVEREUX CHILDREN'S BEHAVIORAL HEALTH INSTITUTE	12	9054	0	12	0	0	0	0	0	0	0	0	1.33
11743	DIVINE PROVIDENCE HOSPITAL	3	6529	0	1	0	0	0	0	0	1	1	0	0.46
10190	DOYLESTOWN HOSPITAL	100	53945	0	3	31	0	15	0	27	0	24	0	1.85
11606	DUBOIS REGIONAL MEDICAL CENTER	77	41223	6	4	16	2	8	2	26	3	10	0	1.87
12965	EAGLEVILLE HOSPITAL	0	6561	0	0	0	0	0	0	0	0	0	0	0.00
12348	EASTERN REGIONAL MEDICAL CENTER	103	13007	21	1	26	5	21	0	12	1	16	0	7.92
11929	EASTON HOSPITAL	149	48864	4	3	23	7	19	0	48	7	34	4	3.05
12552	EDGEWOOD SURGICAL HOSPITAL	0	373	0	0	0	0	0	0	0	0	0	0	0.00
11859	ELK REGIONAL HEALTH CENTER	27	14320	0	6	6	0	0	0	6	7	1	1	1.89
11779	ELLWOOD CITY HOSPITAL	14	11686	0	0	1	0	5	0	1	0	7	0	1.20
11817	ENDLESS MOUNTAINS HEALTH SYSTEMS	1	3542	0	0	0	0	0	0	1	0	0	0	0.28
11764	EPHRATA COMMUNITY HOSPITAL	36	28104	1	1	3	0	8	1	15	1	6	0	1.28

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
11701	EVANGELICAL COMMUNITY HOSPITAL	58	21474	0	1	2	3	7	0	35	0	10	0	2.70
11639	EXCELA HEALTH FRICK HOSPITAL	24	14998	2	0	8	0	4	0	3	1	6	0	1.60
11651	EXCELA HEALTH LATROBE HOSPITAL	64	28678	10	1	8	1	7	0	23	1	13	0	2.23
11637	EXCELA HEALTH WESTMORELAND REGIONAL HOSPITAL	107	94631	11	3	22	1	10	0	33	0	27	0	1.13
12565	FAIRMOUNT BEHAVIORAL HEALTH SYSTEM	38	41349	0	31	0	0	0	4	0	3	0	0	0.92
12050	FIRST HOSPITAL OF WYOMING VALLEY	0	33733	0	0	0	0	0	0	0	0	0	0	0.00
11265	FORBES REGIONAL HOSPITAL	165	85996	16	0	68	1	13	0	41	1	24	1	1.92
12832	FOUNDATIONS BEHAVIORAL HEALTH	19	15372	0	13	0	0	0	1	0	2	3	0	1.24
12488	FRIENDS HOSPITAL	45	52675	0	36	0	0	0	0	0	6	3	0	0.85
11939	FULTON COUNTY MEDICAL CENTER	6	4065	0	0	0	0	3	0	0	0	3	0	1.48
11993	GEISINGER HEALTHSOUTH REHABILITATION HOSPITAL	8	10978	0	0	5	0	0	0	0	0	3	0	0.73
11775	GEISINGER MEDICAL CENTER	559	136175	82	3	76	19	34	0	213	19	112	1	4.11
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	285	64749	14	0	40	14	32	0	111	5	67	2	4.40
11531	GETTYSBURG HOSPITAL	35	18089	0	0	10	0	2	2	19	0	2	0	1.93
12241	GNADEN HUETTEN MEMORIAL HOSPITAL	32	16886	1	4	3	0	3	0	6	2	13	0	1.90
13929	GOOD SHEPHERD PENN PARTNERS	55	8537	22	0	11	15	1	0	0	2	4	0	6.44
11887	GOOD SHEPHERD SPECIALTY HOSPITAL	30	10551	9	0	6	0	0	0	0	3	12	0	2.84
11847	GRAND VIEW HOSPITAL	134	42899	7	2	21	0	46	0	21	2	35	0	3.12
11722	GROVE CITY MEDICAL CENTER	11	7906	0	0	5	0	1	0	5	0	0	0	1.39
11437	HAHNEMANN UNIVERSITY HOSPITAL	262	127259	46	6	75	7	16	0	54	10	44	4	2.06

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
11899	HANOVER HOSPITAL	82	25152	0	0	23	1	8	0	20	3	27	0	3.26
14471	HAVEN BEHAVIORAL HOSPITAL OF EASTERN PENNSYLVANIA	0	7714	0	0	0	0	0	0	0	0	0	0	0.00
11878	HAZLETON GENERAL HOSPITAL	41	33295	5	0	10	0	6	0	10	2	8	0	1.23
11727	HEALTHSOUTH HARMARVILLE REHABILITATION HOSPITAL	37	31608	2	1	5	0	0	0	0	0	29	0	1.17
11667	HEALTHSOUTH NITTANY VALLEY REHABILITATION HOSPITAL	21	11594	1	0	7	0	0	0	0	2	11	0	1.81
12139	HEALTHSOUTH READING REHABILITATION HOSPITAL	20	15204	1	0	2	0	0	0	0	0	17	0	1.32
11903	HEALTHSOUTH REHABILITATION HOSPITAL OF ALTOONA	33	23971	1	0	4	0	2	0	0	4	22	0	1.38
11810	HEALTHSOUTH REHABILITATION HOSPITAL OF ERIE	9	25219	1	0	1	0	4	0	0	0	3	0	0.36
12402	HEALTHSOUTH REHABILITATION HOSPITAL OF MECHANICSBURG	11	16976	0	0	2	0	0	0	0	0	9	0	0.65
12066	HEALTHSOUTH REHABILITATION HOSPITAL OF SEWICKLEY	16	11046	0	0	0	0	2	0	0	0	14	0	1.45
12058	HEALTHSOUTH REHABILITATION HOSPITAL OF YORK	70	20041	1	8	20	1	5	0	0	1	34	0	3.49
12571	HEART OF LANCASTER REGIONAL MEDICAL CENTER	40	10692	2	0	0	0	5	6	14	3	10	0	3.74
11831	HERITAGE VALLEY BEAVER	207	83343	24	0	46	1	20	2	37	11	64	2	2.48
10375	HERITAGE VALLEY SEWICKLEY	94	46555	8	0	28	3	8	0	29	1	17	0	2.02
11902	HIGHLANDS HOSPITAL	9	12457	1	1	0	0	0	0	6	0	1	0	0.72
11973	HOLY REDEEMER HOSPITAL AND MEDICAL CENTER	119	64189	3	0	75	0	6	1	19	5	10	0	1.85

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
12387	HOLY SPIRIT HOSPITAL	139	73682	12	2	32	4	8	0	36	6	38	1	1.89
12543	HORSHAM CLINIC	36	50200	0	21	0	0	0	0	0	0	15	0	0.72
12134	HOSPITAL OF FOX CHASE CANCER CENTER	86	22367	11	0	8	0	6	0	37	0	24	0	3.84
10219	HOSPITAL OF THE UNIV OF PENNSYLVANIA	1069	249501	39	52	232	103	71	2	264	60	235	11	4.28
11759	INDIANA REGIONAL MEDICAL CENTER	68	40201	3	0	23	0	14	0	12	1	15	0	1.69
11724	J C BLAIR MEMORIAL HOSP	43	9767	1	2	4	0	9	1	15	3	8	0	4.40
11954	JAMESON MEMORIAL HOSPITAL	40	38782	7	0	15	0	6	0	8	0	3	1	1.03
11459	JEANES HOSPITAL	34	41037	3	0	4	1	5	0	12	1	8	0	0.83
10237	JEFFERSON REGIONAL MEDICAL CENTER	209	83272	21	1	33	3	40	0	74	5	30	2	2.51
12337	JENNERSVILLE REGIONAL HOSPITAL	14	13563	1	0	5	0	3	0	3	0	2	0	1.03
11689	JERSEY SHORE HOSPITAL	2	5197	0	0	0	0	1	0	0	0	1	0	0.38
11861	JOHN HEINZ INSTITUTE OF REHABILITATION	37	21076	0	1	9	0	2	0	0	1	24	0	1.76
12111	KANE COMMUNITY HOSPITAL	6	5398	0	0	2	0	3	0	0	0	1	0	1.11
12609	KENSINGTON HOSPITAL	2	2751	1	0	0	0	0	0	0	0	1	0	0.73
12430	KIDSPACE ORCHARD HILLS CAMPUS	0	25124	0	0	0	0	0	0	0	0	0	0	0.00
12504	KINDRED HOSPITAL --- DELEWARE COUNTY	46	6819	14	0	5	5	3	0	0	1	18	0	6.75
11832	KINDRED HOSPITAL --- PHILADELPHIA	111	13457	24	0	19	6	3	0	0	2	57	0	8.25
12358	KINDRED HOSPITAL --- PITTSBURGH	47	10214	12	0	4	15	1	0	0	4	11	0	4.60
12485	KINDRED HOSPITAL --- WYOMING VALLEY	66	8404	7	0	8	4	14	0	0	6	27	0	7.85
12268	KINDRED HOSPITAL AT HERITAGE VALLEY	41	8765	6	0	8	10	0	0	0	2	15	0	4.68
12007	KINDRED HOSPITAL EASTON	34	6982	8	0	12	3	1	0	0	1	9	0	4.87

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
12908	KINDRED HOSPITAL PHILADELPHIA --- HAVERTOWN	36	12225	11	0	7	0	0	0	0	5	13	0	2.94
12296	KINDRED HOSPITAL PITTSBURGH --- NORTH SHORE	9	8578	3	0	0	3	1	0	0	0	2	0	1.05
11940	KINDRED HOSPITAL SOUTH PHILADELPHIA	75	6625	20	2	11	9	21	0	0	2	10	0	11.32
12624	KIRKBRIDE CENTER	4	3593	0	4	0	0	0	0	0	0	0	0	1.11
10183	LANCASTER GENERAL HOSPITAL	376	161796	39	1	17	12	46	3	157	13	74	14	2.32
12335	LANCASTER REGIONAL MEDICAL CENTER	79	28792	10	0	5	0	10	0	25	2	26	1	2.74
12628	LANCASTER REHABILITATION HOSPITAL	18	17607	0	0	4	0	0	0	0	0	14	0	1.02
12032	LANSDALE HOSPITAL	24	21292	7	0	5	0	3	0	5	0	4	0	1.13
11884	LEHIGH VALLEY HOSPITAL	482	221791	105	0	84	5	47	2	124	2	104	9	2.17
11898	LEHIGH VALLEY HOSPITAL --- MUHLENBERG	84	50937	9	0	21	0	2	0	30	0	20	2	1.65
11825	LEWISTOWN HOSPITAL	40	24902	1	0	7	0	4	2	18	0	8	0	1.61
12005	LIFECARE HOSPITALS OF CHESTER COUNTY	32	8890	12	0	12	0	1	0	0	0	7	0	3.60
12388	LIFECARE HOSPITALS OF MECHANICSBURG	20	11607	5	0	2	0	1	0	0	0	12	0	1.72
11945	LIFECARE HOSPITALS OF PITTSBURGH	50	27933	19	0	19	0	6	0	0	1	5	0	1.79
18955	LIFECARE HOSPITALS OF PITTSBURGH --- ALLE-KISKI CAMPUS	15	7254	1	0	3	0	1	0	0	0	10	0	2.07
12254	LIFECARE HOSPITALS OF PITTSBURGH --- MONROEVILLE	50	14075	10	0	17	4	0	0	0	0	19	0	3.55
12385	LIFECARE HOSPITALS OF PITTSBURGH --- SUBURBAN CAMPUS	20	7155	9	0	9	0	0	0	0	0	2	0	2.80
12097	LOCK HAVEN HOSPITAL	5	4158	0	0	0	0	2	0	2	0	1	0	1.20
12390	LOWER BUCKS HOSPITAL	26	31448	1	0	0	5	2	0	13	0	5	0	0.83

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
12146	MAGEE REHAB HOSPITAL	73	28612	2	0	10	0	1	0	0	0	60	0	2.55
10301	MAGEE WOMENS HOSPITAL OF UPMC HEALTH SYSTEM	169	77844	18	7	4	5	17	1	95	7	15	0	2.17
11750	MAIN LINE HOSPITAL --- PAOLI	96	59968	6	1	15	3	14	0	33	2	20	2	1.60
11753	MAIN LINE HOSPITAL BRYN MAWR	134	94116	19	0	25	1	29	0	30	3	26	1	1.42
11417	MAIN LINE HOSPITAL BRYN MAWR REHABILITATION	82	41448	1	0	9	2	3	0	0	4	63	0	1.98
11770	MAIN LINE HOSPITAL LANKENAU MEDICAL CENTER	182	85861	18	10	20	14	25	0	60	1	34	0	2.12
12338	MARIAN COMMUNITY HOSPITAL	9	7862	0	0	5	0	1	0	0	0	3	0	1.14
11583	MEADVILLE MEDICAL CENTER	60	36634	2	1	16	1	10	0	19	1	10	0	1.64
11633	MEMORIAL HOSPITAL YORK	76	23341	3	1	9	0	6	1	28	5	23	0	3.26
12549	MEMORIAL HOSPITAL, INC. TOWANDA	1	4432	0	0	0	0	0	0	0	1	0	0	0.23
11683	MERCY FITZGERALD HOSPITAL	84	47715	19	0	14	1	9	0	19	1	20	1	1.76
11946	MERCY PHILADELPHIA HOSPITAL	17	43434	1	0	5	1	0	0	9	1	0	0	0.39
11952	MERCY SUBURBAN HOSPITAL NORRISTOWN	54	28748	6	0	7	0	4	0	21	4	9	3	1.88
11968	MEYERSDALE COMMUNITY HOSPITAL	1	1727	0	0	0	0	0	0	0	0	1	0	0.58
11557	MID-VALLEY HOSPITAL	2	4247	0	0	0	0	0	0	0	0	2	0	0.47
12253	MILLCREEK COMMUNITY HOSPITAL	27	20062	2	0	0	6	0	0	2	2	14	1	1.35
11747	MILTON S HERSHEY MEDICAL CENTER	552	144466	76	22	88	44	31	0	146	11	119	15	3.82
12295	MINERS MEDICAL CENTER	4	4420	0	0	1	0	1	0	1	0	0	1	0.90
11069	MONONGAHELA VALLEY HOSPITAL	90	51094	7	2	14	0	26	0	21	2	18	0	1.76

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
12287	MONTGOMERY COUNTY MH/MR EMERGENCY SERVICES, INC.	0	21680	0	0	0	0	0	0	0	0	0	0	0.00
11947	MONTGOMERY HOSPITAL	54	29541	7	0	8	0	1	1	25	1	11	0	1.83
11528	MOSES TAYLOR HOSPITAL	74	57390	8	4	5	0	10	2	30	4	11	0	1.29
11797	MOUNT NITTANY MEDICAL CENTER	124	51928	5	1	18	0	9	1	58	0	31	1	2.39
11748	MUNCY VALLEY HOSPITAL	15	4785	1	0	2	0	2	0	2	1	7	0	3.13
11907	NASON HOSPITAL	13	8468	0	0	1	0	1	0	9	0	2	0	1.54
11919	NAZARETH HOSPITAL	96	46634	22	4	20	0	8	0	12	2	28	0	2.06
12047	NORRISTOWN STATE HOSPITAL	129	125390	0	66	1	1	1	6	0	49	5	0	1.03
12298	OHIO VALLEY GENERAL HOSPITAL	21	21440	6	0	9	0	0	0	1	0	5	0	0.98
18467	OSS ORTHOPAEDIC HOSPITAL	20	3302	0	0	0	0	0	0	17	0	3	0	6.06
12396	PALMERTON HOSPITAL	7	11229	0	0	1	0	5	0	0	1	0	0	0.62
11814	PENN PRESBYTERIAN MEDICAL CENTER	180	65272	33	1	20	20	10	0	59	4	33	0	2.76
11915	PENN STATE HERSHEY REHABILITATION LLC	34	14130	2	0	5	0	0	0	0	1	26	0	2.41
11448	PENNSYLVANIA HOSP OF THE UNIV OF PA HEALTH SYS	413	129191	42	12	73	14	20	9	161	21	59	2	3.20
14190	PENNSYLVANIA PSYCHIATRIC INSTITUTE	3	20269	0	1	0	0	1	0	0	0	1	0	0.15
11740	PHILHAVEN HOSPITAL	0	28128	0	0	0	0	0	0	0	0	0	0	0.00
11836	PHOENIXVILLE HOSPITAL COMPANY LLC	64	34445	3	0	11	0	12	0	24	2	11	1	1.86
19630	PHYSICIANS CARE SURGICAL HOSPITAL	0	215	0	0	0	0	0	0	0	0	0	0	0.00
10122	PINNACLE HEALTH HOSPITALS	401	149719	25	5	54	0	22	1	173	18	93	10	2.68
11772	POCONO MEDICAL CENTER	81	56600	8	0	10	0	9	0	43	4	7	0	1.43
11983	POTTSTOWN MEMORIAL MEDICAL CENTER	33	43413	2	0	5	0	4	0	11	1	10	0	0.76

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
11830	PUNXSUTAWNEY AREA HOSPITAL	24	7380	0	0	5	0	1	0	13	1	3	1	3.25
12375	READING HOSPITAL AND MEDICAL CENTER	356	158238	36	2	63	10	21	2	110	24	85	3	2.25
12533	REGIONAL HOSPITAL OF SCRANTON	45	43923	10	0	8	0	6	0	13	0	8	0	1.02
11731	RIDDLE MEMORIAL HOSPITAL	39	49126	4	3	0	0	5	0	15	0	12	0	0.79
12422	ROBERT PACKER HOSPITAL	113	63820	31	0	0	6	21	0	32	3	20	0	1.77
11978	ROXBOROUGH MEMORIAL HOSPITAL	36	29113	13	0	5	0	3	0	3	1	11	0	1.24
12723	ROXBURY TREATMENT CENTER	24	33540	0	21	0	0	0	1	0	2	0	0	0.72
11684	SACRED HEART HOSPITAL	51	33338	4	1	8	0	1	0	25	2	10	0	1.53
11922	SCHUYLKILL MEDICAL CENTER -- - EAST NORWEGIAN STREET	31	30491	4	0	8	1	4	0	9	0	5	0	1.02
12087	SCHUYLKILL MEDICAL CENTER -- - SOUTH JACKSON STREET	33	37078	3	0	1	0	7	0	15	3	4	0	0.89
13921	SELECT MEDICAL AT POLYCLINC MEDICAL CENTER	29	9728	6	0	14	0	0	0	0	1	8	0	2.98
12334	SELECT SPECIALTY HOSPITAL --- CENTRAL PENNSYLVANIA (YORK)	21	5387	1	0	9	0	0	0	0	0	11	0	3.90
11880	SELECT SPECIALTY HOSPITAL --- ERIE	88	10883	5	4	16	5	12	0	0	3	42	1	8.09
12299	SELECT SPECIALTY HOSPITAL --- JOHNSTOWN	19	10110	6	0	0	0	2	0	0	2	9	0	1.88
12009	SELECT SPECIALTY HOSPITAL --- PITTSBURGH/UPMC	43	8138	12	0	17	1	5	0	0	2	6	0	5.28
12123	SELECT SPECIALTY HOSPITAL --- DANVILLE	21	5168	4	0	11	0	2	0	0	0	4	0	4.06
12271	SELECT SPECIALTY HOSPITAL --- MCKEESPORT, INC.	7	7857	3	0	1	1	0	0	0	1	1	0	0.89

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
12147	SELECT SPECIALTY HOSPITAL --- CENTRAL PENNSYLVANIA (CAMP HILL)	27	8609	5	0	9	0	0	0	0	0	13	0	3.14
12108	SELECT SPECIALTY HOSPITAL LAUREL HIGHLANDS, INC.	12	7750	2	0	6	0	0	0	0	1	3	0	1.55
12133	SHAMOKIN AREA COMMUNITY HOSPITAL	5	11564	0	0	1	0	0	0	3	0	1	0	0.43
12250	SHARON REGIONAL HEALTH SYSTEM	54	37998	2	0	30	1	3	0	12	0	6	0	1.42
12244	SHRINERS HOSPITAL FOR CHILDREN --- PHILADELPHIA	10	4514	0	0	0	0	0	0	6	0	4	0	2.22
12411	SHRINERS HOSPITALS FOR CHILDREN --- ERIE	2	69	0	0	0	0	0	0	0	2	0	0	28.99
11688	SOLDIERS & SAILORS MEM HOSPITAL	25	11733	1	0	3	0	7	0	10	0	3	1	2.13
12282	SOMERSET HOSPITAL	8	19366	2	0	1	0	1	0	3	0	1	0	0.41
11942	SOUTHWEST REGIONAL MEDICAL CENTER	5	16853	1	0	0	0	0	0	4	0	0	0	0.30
12453	SOUTHWOOD PSYCHIATRIC HOSPITAL	30	11388	0	20	0	1	0	0	0	8	1	0	2.63
12604	SPECIAL CARE HOSPITAL	57	14958	1	0	11	14	1	0	0	0	30	0	3.81
12365	ST. CATHERINE MEDICAL CENTER FOUNTAIN SPRINGS	8	6167	0	0	0	0	4	0	0	0	4	0	1.30
12290	ST. CHRISTOPHER'S HOSPITAL FOR CHILDREN	107	46423	27	17	7	15	3	0	16	8	12	2	2.30
10561	ST. CLAIR MEMORIAL HOSPITAL	180	85606	2	1	81	1	15	0	66	4	8	2	2.10
12548	ST. JOHN VIANNEY HOSPITAL	8	14231	0	0	4	0	0	0	0	4	0	0	0.56
11961	ST. JOSEPH MEDICAL CENTER	61	37733	10	0	2	1	4	0	28	0	16	0	1.62
12438	ST. JOSEPH'S HOSPITAL	57	23411	20	0	3	0	7	0	1	1	25	0	2.43
11718	ST. LUKE'S HOSPITAL BETHLEHEM	425	142433	38	10	75	41	36	1	105	9	104	6	2.98

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
11784	ST. LUKE'S MINERS MEMORIAL HOSPITAL	5	6390	0	0	0	0	0	0	2	0	3	0	0.78
11711	ST. LUKE'S QUAKERTOWN HOSPITAL	17	15057	0	0	4	0	2	0	7	1	3	0	1.13
11885	ST. MARY MEDICAL CENTER	165	99643	15	0	27	1	19	0	30	7	64	2	1.66
12483	ST. MARY MEDICAL CENTER REHAB	17	8745	0	0	2	0	0	0	0	0	15	0	1.94
11699	ST. VINCENT HEALTH CENTER	265	83108	11	3	48	7	30	0	93	7	63	3	3.19
12105	SUNBURY COMMUNITY HOSPITAL	12	7897	0	3	1	0	6	0	2	0	0	0	1.52
12535	SURGICAL INSTITUTE OF READING	4	2646	0	0	0	0	0	0	3	0	1	0	1.51
12382	TEMPLE UNIVERSITY HOSPITAL	330	145364	62	3	46	16	65	0	60	9	69	0	2.27
12336	THE CHILDREN'S HOME OF PITTSBURGH	11	4665	5	3	0	0	0	0	0	3	0	0	2.36
11712	THE GOOD SAMARITAN HOSPITAL	77	42849	4	1	16	2	9	0	14	5	25	1	1.80
11896	THE GOOD SHEPHERD REHABILITATION HOSPITAL	37	29920	4	1	3	0	1	0	0	4	24	0	1.24
12156	THE MEADOWS PSYCHIATRIC CENTER	32	34542	0	21	0	3	1	0	0	2	5	0	0.93
11460	THE WASHINGTON HOSPITAL	106	62228	3	0	22	1	21	0	31	0	28	0	1.70
11864	THE WESTERN PENNSYLVANIA HOSPITAL	97	41736	32	1	24	11	1	0	17	1	10	0	2.32
12017	THOMAS JEFFERSON UNIV HOSP - METHODIST	181	46785	28	1	29	2	55	0	17	7	42	0	3.87
11506	THOMAS JEFFERSON UNIV HOSPITAL	715	192353	56	1	130	0	64	0	253	6	203	2	3.72
11738	TITUSVILLE AREA HOSPITAL	7	7822	0	0	0	0	0	0	5	2	0	0	0.89
12091	TORRANCE STATE HOSPITAL	43	109720	0	7	1	0	1	1	0	20	12	1	0.39
12018	TROY COMMUNITY HOSPITAL	12	7358	1	0	1	2	1	0	1	2	4	0	1.63
11829	TYLER MEMORIAL HOSPITAL	18	6054	0	0	0	1	3	0	4	2	8	0	2.97

orgID	Name	Infections	Patient Days	BSI	EENT	GI	LRI	PNEU	REPR	SSI	SST	UTI	Other	Crude Infection Rate/1000 pt-days
12717	TYRONE HOSPITAL	5	2672	0	0	0	0	0	0	4	1	0	0	1.87
10441	UNIONTOWN HOSPITAL	87	42132	3	0	32	1	10	0	29	1	11	0	2.06
11680	UPMC BEDFORD	9	6685	0	0	0	0	0	0	6	0	3	0	1.35
11725	UPMC HAMOT	244	87580	13	4	33	2	38	0	105	5	43	1	2.79
11675	UPMC HORIZON	68	34976	2	0	2	0	30	0	24	4	6	0	1.94
11707	UPMC MCKEESPORT	129	64473	6	0	24	0	30	1	26	6	36	0	2.00
10384	UPMC MERCY	299	144046	12	1	28	7	57	0	93	4	93	4	2.08
11837	UPMC NORTHWEST	47	35676	2	0	7	0	4	0	13	0	21	0	1.32
11242	UPMC PASSAVANT	355	105433	15	0	67	8	48	0	138	5	74	0	3.37
10348	UPMC PRESBYTERIAN SHADYSIDE --- PRESBYTERIAN	1021	224769	95	13	150	27	198	0	315	17	193	13	4.54
10118	UPMC PRESBYTERIAN SHADYSIDE --- SHADYSIDE	667	170109	38	15	189	6	114	0	183	15	99	8	3.92
13702	UPMC PRESBYTERIAN SHADYSIDE --- WPIC	48	102650	3	14	3	0	3	0	0	5	20	0	0.47
11561	UPMC ST MARGARET	143	79022	12	1	19	1	23	0	59	3	25	0	1.81
12029	VALLEY FORGE MEDICAL CENTER AND HOSPITAL	0	17024	0	0	0	0	0	0	0	0	0	0	0.00
12216	WARREN GENERAL HOSPITAL	24	13033	2	0	8	0	4	0	8	0	2	0	1.84
12081	WARREN STATE HOSPITAL	0	5042	0	0	0	0	0	0	0	0	0	0	0.00
12004	WAYNE MEMORIAL HOSPITAL	34	15942	1	1	3	0	11	0	13	0	5	0	2.13
11642	WAYNESBORO HOSPITAL	4	9729	0	0	0	0	2	0	1	0	1	0	0.41
12368	WERNERSVILLE STATE HOSPITAL	36	97823	0	12	1	0	0	0	0	15	8	0	0.37
12487	WESTFIELD HOSPITAL	2	2004	0	0	0	0	0	0	2	0	0	0	1.00
11916	WILKES-BARRE GENERAL HOSPITAL	235	84294	32	3	25	5	37	2	56	5	67	3	2.79
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER	164	54085	7	10	21	4	15	1	47	9	48	2	3.03
12031	WINDBER HOSPITAL	9	7878	0	0	0	0	1	0	6	0	2	0	1.14
10108	YORK HOSPITAL	519	175653	17	7	89	30	85	8	147	19	112	5	2.95
Total		22713	10212208	2479	741	3951	865	2420	77	6113	799	5063	205	2.22

Catheter-Associated Urinary Tract Infections (CAUTIs)

In 2011, urinary tract infections constituted the second most commonly reported category of HAIs in Pennsylvania, with 5,063 (22.3 percent) occurrences. More than half (2,819, or 55.7 percent) of the UTIs were associated with the use of urinary catheters, which are one of the more commonly used medical devices in hospital settings. In 2011, a total of 1,820,899 urinary catheter days were reported by 234 Pennsylvania hospitals (urinary catheter days ranged from a low of 4 for the year to a high of 80,086 among the 234 hospitals). The number of hospitals that reported using urinary catheters in 2011 represents 92.1 percent of the 254 hospitals that reported data through NHSN. The 20 hospitals with no reported use of urinary catheters are mostly psychiatric or drug and alcohol rehabilitation facilities and can be found before Table 9.

The number of urinary catheter days reported in 2011 produces a device utilization ratio of 0.18, meaning that a urinary catheter was used 18 percent of the time in Pennsylvania’s hospitalized patients (Table 5). As expected, urinary catheter use is highest in critical care units where the sickest patients are receiving care. Catheter use was highest in trauma critical care units (75 percent of the time), in surgical intensive care units (72 percent of the time), and in cardiothoracic critical care units (69 percent of the time).

Among the 234 hospitals that reported any use of urinary catheters, 191 (81.6 percent) of them reported at least one CAUTI while the other 43 (18.4 percent) reported no identified CAUTIs. Pennsylvania’s CAUTI rate for 2011 was 1.55 CAUTIs per 1,000 urinary catheter days (Table 5). This compares to a CAUTI rate in 2010 of 1.71 CAUTIs per 1,000 urinary catheter days (Table 5A), representing a reduction of 9.4 percent. When compared to the baseline year of 2009, the decline is 21.3 percent, translating to 1,256 fewer CAUTIs than would have otherwise occurred if the 2009 rate persisted into 2011.

The risk of a CAUTI varies substantially in the different areas of the hospital (Table 5). The highest rate seen in 2011 among the hospital locations was in rehabilitation wards (3.26 CAUTIs per 1,000 urinary catheter days), followed by specialty care units (2.53 CAUTIs) and surgical intensive care units (2.40 CAUTIs). The lowest rates (for locations with at least 1,000 urinary catheter days) were seen in labor/deliver post-partum (0.46 CAUTIs per 1,000 urinary catheter days), pediatric medical-surgical wards (1.05 CAUTIs per 1,000 urinary catheter days) and medical intensive care units (1.13 CAUTIs per 1,000 urinary catheter days).

Catheter-Associated Urinary Tract Infections by Year in Pennsylvania

Year	No. of CAUTIs	No. of Catheter Days	No. of Patient Days	Device Utilization Ratio	Rate per 1,000 Catheter Days	Percent Decline (prior year/cumulative)
2009	3,935	1,995,114	10,920,596	0.20	1.97	
2010	3,245	1,894,709	10,289,079	0.18	1.71	13.2/13.2
2011	2,819	1,820,899	10,212,208	0.18	1.55	9.4/21.3

Table 5
Catheter-Associated Urinary Tract Infections in Hospitals by Location
Infection Rate and Device Utilization Ratio for 2011

Ward Category	No. of CAUTI	Urinary Catheter Days	Patient Days	Rate	DUR
NICU*	3		271,973		
SCA	68	26,848	213,907	2.53	0.13
Step	208	132,154	598,034	1.57	0.22
LTAC	285	121,637	271,324	2.34	0.45
cc:Burn	6	4,465	11,135	1.34	0.40
cc:CT	95	66,597	97,189	1.43	0.69
cc:MS	410	289,168	447,121	1.42	0.65
cc:Med	100	88,633	144,364	1.13	0.61
cc:Peds	23	10,992	57,395	2.09	0.19
cc:SpecMed	73	43,044	106,767	1.70	0.40
cc:Surgery	214	89,318	123,348	2.40	0.72
cc:Trauma	68	41,299	54,962	1.65	0.75
w:Behavior	8	3,940	1,614,797	2.03	<0.01
w:LD_pp	22	47,479	382,131	0.46	0.12
w:MS	535	457,361	2,711,996	1.17	0.17
w:Med	260	175,254	1,210,801	1.48	0.14
w:Newborn	0	124	170,453	0.00	<0.01
w:Ped_ms	8	7,586	235,930	1.05	0.03
w:Rehab	165	50,646	663,495	3.26	0.08
w:Surgery	268	164,354	825,086	1.63	0.20
Total	2,819	1,820,899	10,212,208	1.55	0.18

* Data on NICU urinary catheter days not reported

Table 5A
Catheter-Associated Urinary Tract Infections in Hospitals by Location
Comparison of 2010 and 2011 Rates and Device Utilization Ratios

Ward Category	2010 Rate	2011 Rate	2010 DUR	2011 DUR
NICU*				
SCA	1.81	2.53	0.14	0.13
Step	1.73	1.57	0.22	0.22
LTAC	2.37	2.34	0.46	0.45
cc:Burn	1.66	1.34	0.39	0.40
cc:CT	1.64	1.43	0.68	0.69
cc:MS	1.40	1.42	0.65	0.65
cc:Med	1.58	1.13	0.61	0.61
cc:Peds	2.71	2.09	0.21	0.19
cc:SpecMed	1.96	1.70	0.46	0.40
cc:Surgery	2.44	2.40	0.75	0.72
cc:Trauma	1.42	1.65	0.79	0.75
w:Behavior	1.91	2.03	<0.01	<0.01
w:LD_pp	0.62	0.46	0.14	0.12
w:MS	1.56	1.17	0.17	0.17
w:Med	1.70	1.48	0.16	0.14
w:Newborn	0.00	0.00	<0.01	<0.01
w:Ped_ms	1.19	1.05	0.04	0.03
w:Rehab	3.30	3.26	0.08	0.08
w:Surgery	1.64	1.63	0.22	0.20
Total	1.71	1.55	0.18	0.18

Pathogen	Count	Percent
Escherichia coli	940	29.64
Pseudomonas aeruginosa	375	11.83
Klebsiella pneumoniae	338	10.66
Enterococcus faecalis	241	7.60
Proteus mirabilis	189	5.96
Enterococcus species	154	4.86
Candida albicans	137	4.32
Enterococcus faecium	103	3.25
Yeast	92	2.90
Others	602	18.98
TOTAL	3,171*	100

* The number of pathogens exceeds the number of catheter-associated urinary tract infections (2,819) because the NHSN allows entry of more than one pathogen per infection. In some instances, multiple pathogens were identified and reported.

The findings in Table 6 are similar to those identified in 2010. *Escherichia coli* continues to be the pathogen most commonly associated with catheter associated urinary tract infections, followed by *P. aeruginosa* and *K. pneumoniae*. All are gram negative organisms commonly associated with the gastrointestinal tract.

Act 52 requires comparisons between Pennsylvania data and national data. These comparisons are shown below and generally demonstrate that the rates of CAUTIs and device utilization ratios for urinary catheters are lower in Pennsylvania than elsewhere. However, these findings must be cautiously interpreted, since the NHSN data are from 2010 and the Pennsylvania data are from 2011. CAUTI rates are declining, and comparisons between two different years may account for some of the observed differences. However, 2010 is the latest year for which NHSN national data are available.

Figure 1. Catheter-associated urinary tract infection (CAUTI) rates in Pennsylvania hospitals compared to national rates, by hospital location, critical care units. Rates are per 1,000 catheter days.

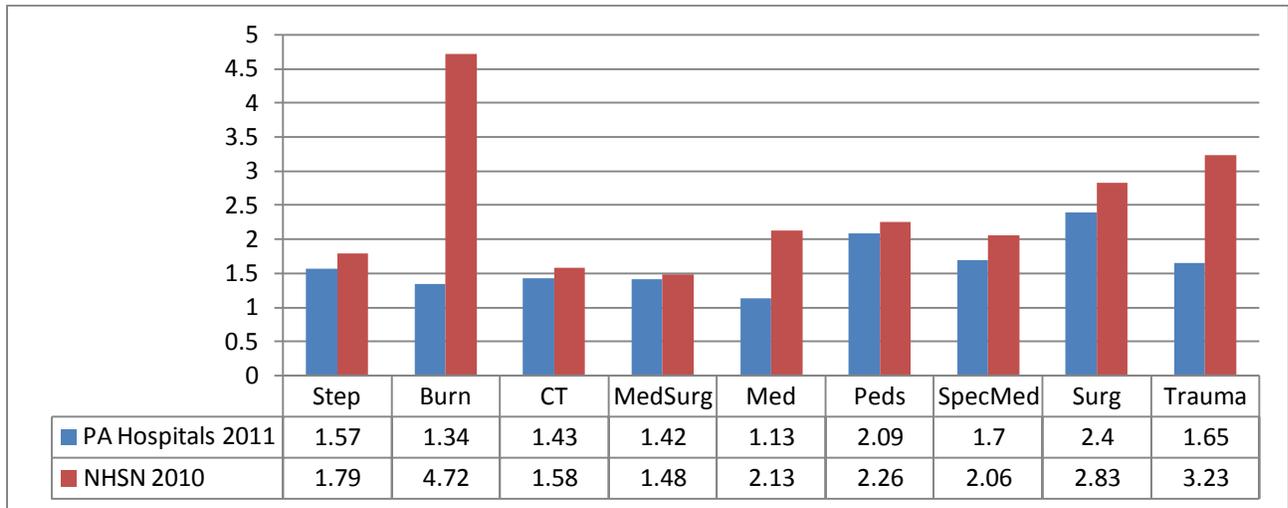


Figure 2. Device utilization ratios (DURs) for urinary catheters in Pennsylvania hospitals compared to national data, by hospital location, critical care units.

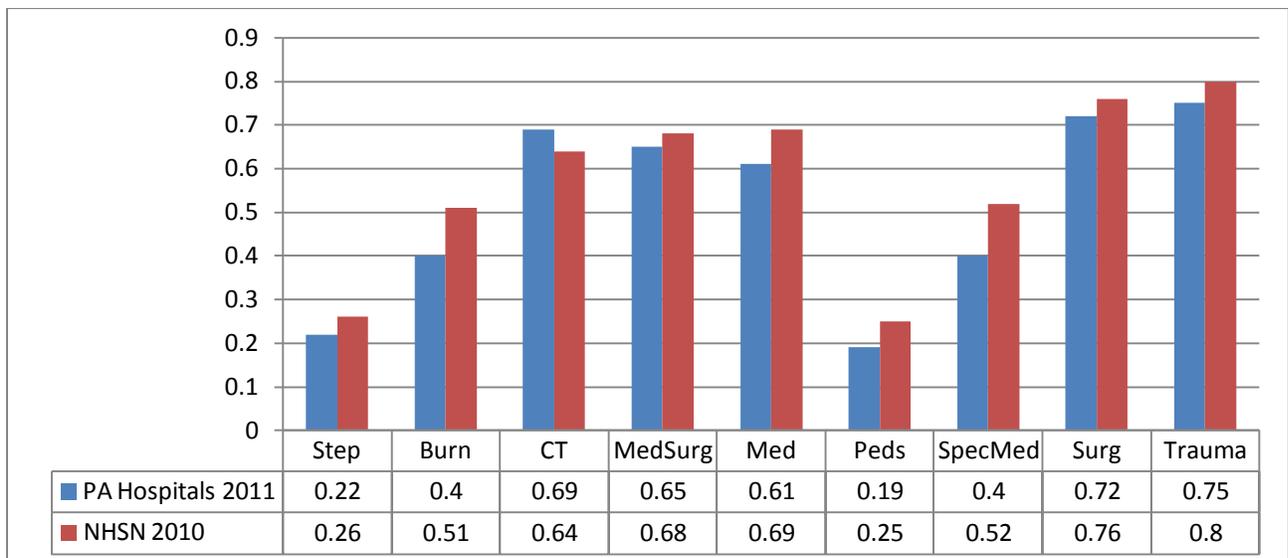


Figure 3. Catheter-associated urinary tract infection (CAUTI) rates in Pennsylvania hospitals compared to national rates, by hospital location, non-critical care locations. Rates are per 1,000 catheter days.

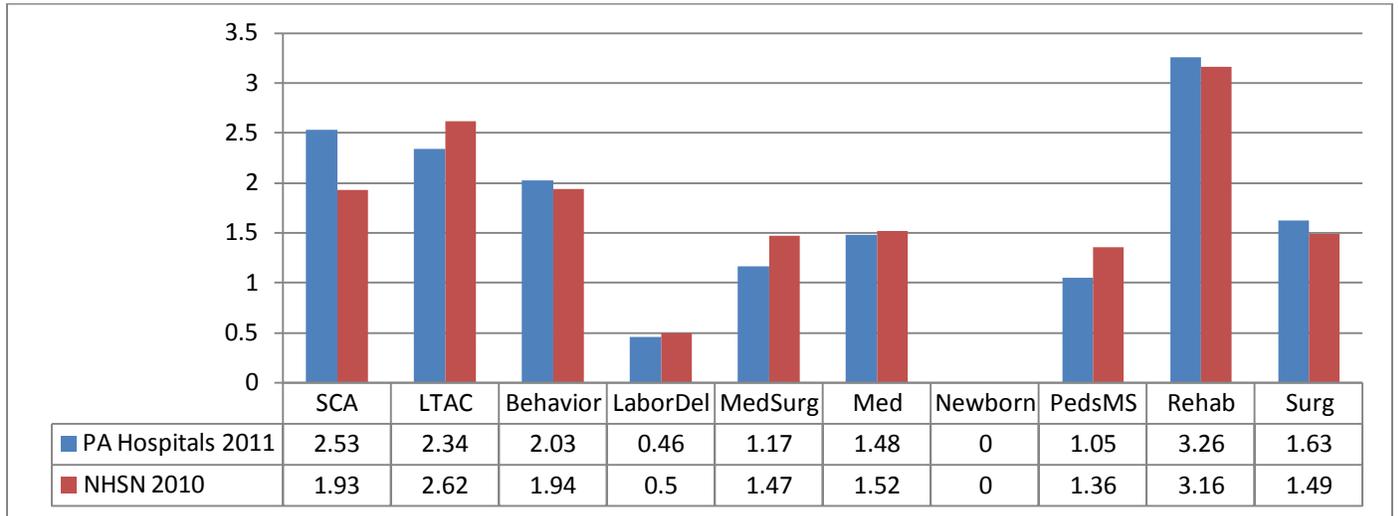
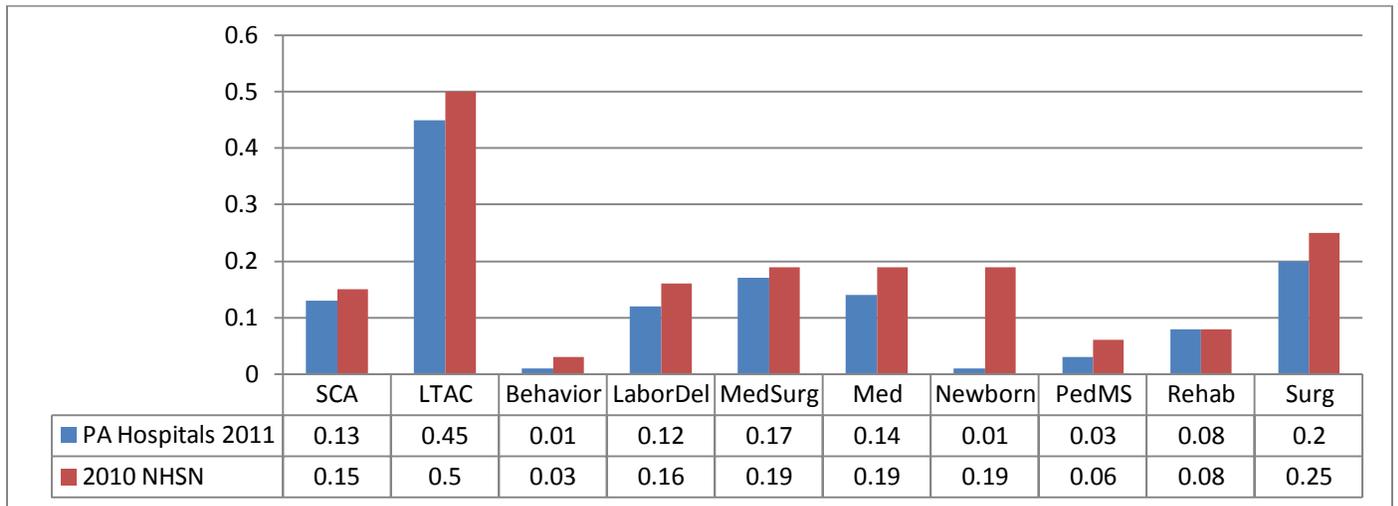


Figure 4. Device utilization ratios (DURs) for urinary catheters in Pennsylvania hospitals compared to national data, by hospital location, non-critical care units.



Source for 2010 NHSN data: Dudeck MA, et al. National Healthcare Safety Network (NHSN) Report, data summary for 2010, device-associated module. Am J Infect Control 2011;39:798-816.

Facility Specific Catheter-Associated Urinary Tract Infection Findings

Among the 234 hospitals that reported using urinary catheters in 2011, a total of 141 (60.3 percent) had a standardized infection ratio (SIR) that was <1.00, meaning they reported fewer CAUTIs than predicted by PADOH based on the statewide rate of CAUTIs. For 43 of these hospitals (18.4 percent of hospitals using urinary catheters), the SIR was 0.00 as they reported no CAUTIs in 2011. There were 92 hospitals (39.3 percent) that had an SIR that was >1.00, meaning they reported a greater number of CAUTIs than predicted by PADOH based on the statewide CAUTI rate. One hospital had exactly the same number of CAUTIs as predicted, producing an SIR of 1.00.

For many of the hospitals, the difference between the number of CAUTIs reported in NHSN and the number predicted by PADOH is not statistically meaningful. This occurs in situations where the hospital's use of urinary catheters is low or when the difference between the observed number and predicted number is relatively small. As an example, for 39 (16.7 percent) hospitals, the number of predicted CAUTIs was <1. Data from such hospitals is considered statistically unreliable, and the level of confidence in the reported results is low. For hospitals where the difference between the observed and predicted was not statistically different than expected, their reported CAUTI rates are considered "the same as" the statewide rate. In the accompanying tables, the confidence intervals for these hospitals are shaded in yellow.

However, there were 28 hospitals (12.0 percent) where the reported number of CAUTIs was significantly better than predicted by PADOH. These hospitals are listed in Table 7 in alphabetical order and their confidence intervals are shaded in green in Table 10. There were also 28 hospitals (12.0 percent) where the reported number of CAUTIs was significantly worse than predicted by PADOH. These hospitals are listed in Table 8 in alphabetical order and their confidence intervals are shaded in red in Table 10.

The SIR tables (Table 9 and 10) divide the list of hospitals based on their number of predicted infections into different tiers. This is because hospitals with similar numbers of predicted infections are generally in the same size range. The categories used in the 2011 report are similar to those previous used: hospitals with <1 predicted CAUTI, 1-2.99 predicted CAUTIs, 3-7.49 predicted CAUTIs, 7.50-14.99 predicted CAUTIs, 15.00-29.99 predicted CAUTIs, and 30+ predicted CAUTIs. Within each tier, hospitals are listed in order from best to worst SIR.

Table 7
 Pennsylvania Hospitals with a Significantly **Better** than Predicted
 Number of Catheter-Associated Urinary Tract Infections in 2011

ALLEGHENY GENERAL HOSPITAL	MERCY PHILADELPHIA HOSPITAL
ALTOONA REGIONAL HEALTH SYSTEM	PINNACLE HEALTH HOSPITALS
CARLISLE REGIONAL MEDICAL CENTER	REGIONAL HOSPITAL OF SCRANTON
COMMUNITY MEDICAL CENTER	RIDDLE MEMORIAL HOSPITAL
CROZER CHESTER MEDICAL CENTER	ROBERT PACKER HOSPITAL
CROZER CHESTER MEDICAL CENTER TAYLOR	SELECT SPECIALTY HOSPITAL LAUREL HIGHLANDS, INC.
EXCELA HEALTH LATROBE HOSPITAL	SHARON REGIONAL HEALTH SYSTEM
EXCELA HEALTH WESTMORELAND REGIONAL HOSPITAL	SOMERSET HOSPITAL
HAZLETON GENERAL HOSPITAL	ST. CLAIR MEMORIAL HOSPITAL
HOLY REDEEMER HOSPITAL AND MEDICAL CENTER	THE GOOD SAMARITAN HOSPITAL
JAMESON MEMORIAL HOSPITAL	THE WESTERN PENNSYLVANIA HOSPITAL
JEANES HOSPITAL	UNIONTOWN HOSPITAL
KINDRED HOSPITAL PITTSBURGH --- NORTH SHORE	UPMC PRESBYTERIAN SHADYSIDE --- SHADYSIDE (10118)
MAGEE WOMENS HOSPITAL OF UPMC HEALTH SYSTEM	UPMC ST MARGARET

Table 8
 Pennsylvania Hospitals with a Significantly **Worse** than Predicted
 Number of Catheter-Associated Urinary Tract Infections in 2011

ABINGTON MEMORIAL HOSPITAL	MILTON S HERSHEY MEDICAL CENTER
ARIA HEALTH	OSS ORTHOPAEDIC HOSPITAL
CHESTER COUNTY HOSPITAL	SELECT SPECIALTY HOSPITAL – CENTRAL PENNSYLVANIA (CAMP HILL)
GEISINGER MEDICAL CENTER	SELECT SPECIALTY HOSPITAL – CENTRAL PENNSYLVANIA (YORK)
GEISINGER WYOMING VALLEY MEDICAL CENTER	SELECT SPECIALTY HOSPITAL – ERIE
HEALTHSOUTH REHABILITATION HOSPITAL OF YORK	SPECIAL CARE HOSPITAL
HOSPITAL OF FOX CHASE CANCER CENTER	ST. CHRISTOPHER’S HOSPITAL FOR CHILDREN
HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	ST. JOSEPH’S HOSPITAL
KINDRED HOSPITAL – DELAWARE COUNTY	ST. MARY MEDICAL CENTER
KINDRED HOSPITAL - PHILADELPHIA	THOMAS JEFFERSON UNIVERSITY HOSPITAL – METHODIST
KINDRED HOSPITAL - SOUTH PHILADELPHIA	THOMAS JEFFERSON UNIVERSITY HOSPITAL
KINDRED HOSPITAL – WYOMING VALLEY	TYLER MEMORIAL HOSPITAL
LANCASTER REGIONAL MEDICAL CENTER	WILKES-BARRE GENERAL HOSPITAL
MAGEE REHABILITATION HOSPITAL	YORK HOSPITAL

**Hospitals Omitted From Tables 9 & 10 Due to No Reported Urinary Catheter Use
By Name and NHSN ID Number
(N=20)**

BELMONT CENTER FOR COMPREHENSIVE TREATMENT (12505)
BROOKE GLEN BEHAVIORAL HOSPITAL (12623)
CLARION PSYCHIATRIC CENTER (12454)
DEVEREUX CHILDREN'S BEHAVIORAL HEALTH INSTITUTE (12738)
FAIRMOUNT BEHAVIORAL HEALTH SYSTEM (12565)
FIRST HOSPITAL OF WYOMING VALLEY (12050)
FOUNDATIONS BEHAVIORAL HEALTH (12832)
HAVEN BEHAVIORAL HOSPITAL OF EASTERN PENNSYLVANIA (14471)
HORSHAM CLINIC (12543)
KIDSPEACE ORCHARD HILLS CAMPUS (12430)
KIRKBRIDE CENTER (12624)
MONTGOMERY COUNTY MH/MR EMERGENCY SERVICES, INC. (12287)
PHILHAVEN HOSPITAL (11740)
ROXBURY TREATMENT CENTER (12723)
SOUTHWOOD PSYCHIATRIC HOSPITAL (12453)
ST. JOHN VIANNEY HOSPITAL (12548)
THE CHILDREN'S HOME OF PITTSBURGH (12336)
THE MEADOWS PSYCHIATRIC CENTER (12156)
VALLEY FORGE MEDICAL CENTER AND HOSPITAL (12029)
WARREN STATE HOSPITAL (12081)

Table 9
Cather-Associated Urinary Tract Infection-Adjusted Standardized Infection Ratios (SIRs)
(DUR and Medical School Affiliation) by PA Hospitals by Location and Expected Infections
Sorted by Adjusted SIR

Hospitals with < 1 Predicted Infection						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12411	SHRINERS HOSPITALS FOR CHILDREN --- ERIE	0	0.00	0.00	0.00	0-871.1
12488	FRIENDS HOSPITAL	0	0.01	-0.01	0.00	0-596.54
14190	PENNSYLVANIA PSYCHIATRIC INSTITUTE	0	0.01	-0.01	0.00	0-352.49
12266	CHILDREN'S INSTITUTE OF PITTSBURGH	0	0.01	-0.01	0.00	0-306.4
12047	NORRISTOWN STATE HOSPITAL	0	0.01	-0.01	0.00	0-276.21
12965	EAGLEVILLE HOSPITAL	0	0.02	-0.02	0.00	0-215.79
11743	DIVINE PROVIDENCE HOSPITAL	0	0.02	-0.02	0.00	0-173.68
12552	EDGEWOOD SURGICAL HOSPITAL	0	0.04	-0.04	0.00	0-102.93
19630	PHYSICIANS CARE SURGICAL HOSPITAL	0	0.07	-0.07	0.00	0-53.42
12091	TORRANCE STATE HOSPITAL	0	0.09	-0.09	0.00	0-41.33
12368	WERNERSVILLE STATE HOSPITAL	0	0.11	-0.11	0.00	0-34.83
12461	BUCKTAIL MEDICAL CENTER	0	0.11	-0.11	0.00	0-33.33
11968	MEYERSDALE COMMUNITY HOSPITAL	0	0.14	-0.14	0.00	0-26.76
12609	KENSINGTON HOSPITAL	0	0.17	-0.17	0.00	0-21.16
12487	WESTFIELD HOSPITAL	0	0.19	-0.19	0.00	0-19.15
15202	BUCKS COUNTY SPECIALTY HOSPITAL	0	0.25	-0.25	0.00	0-14.72
11848	DANVILLE STATE HOSPITAL	0	0.28	-0.28	0.00	0-13.22
11993	GEISINGER HEALTHSOUTH REHABILITATION HOSPITAL	0	0.31	-0.31	0.00	0-11.97
16317	ADVANCED SURGICAL HOSPITAL	0	0.32	-0.32	0.00	0-11.53
11667	HEALTHSOUTH NITTANY VALLEY REHABILITATION HOSPITAL	0	0.47	-0.47	0.00	0-7.77
12717	TYRONE HOSPITAL	0	0.50	-0.50	0.00	0-7.27
12283	CORRY MEMORIAL HOSPITAL	0	0.75	-0.75	0.00	0-4.88
12404	BARNES-KASSON COUNTY HOSPITAL	0	0.82	-0.82	0.00	0-4.5
11817	ENDLESS MOUNTAINS HEALTH SYSTEMS	0	0.83	-0.83	0.00	0-4.42
12037	BARIX CLINICS OF PENNSYLVANIA	0	0.89	-0.89	0.00	0-4.1
11689	JERSEY SHORE HOSPITAL	0	0.93	-0.93	0.00	0-3.93
12418	BROOKVILLE HOSPITAL	1	0.84	0.16	1.20	0.02-6.66
12139	HEALTHSOUTH READING REHABILITATION HOSPITAL	1	0.76	0.24	1.31	0.02-7.3
12535	SURGICAL INSTITUTE OF READING	1	0.73	0.27	1.37	0.02-7.62
12066	HEALTHSOUTH REHABILITATION HOSPITAL OF SEWICKLEY	1	0.70	0.30	1.43	0.02-7.95
12111	KANE COMMUNITY HOSPITAL	1	0.69	0.31	1.46	0.02-8.1
11939	FULTON COUNTY MEDICAL CENTER	1	0.59	0.41	1.71	0.02-9.49
12628	LANCASTER REHABILITATION HOSPITAL	1	0.43	0.57	2.34	0.03-13.04
12123	SELECT SPECIALTY HOSPITAL --- DANVILLE	2	0.83	1.17	2.41	0.27-8.69
12051	CLARKS SUMMIT STATE HOSPITAL	1	0.21	0.79	4.75	0.06-26.45

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12483	ST. MARY MEDICAL CENTER REHAB	2	0.41	1.59	4.84	0.54-17.49
11748	MUNCY VALLEY HOSPITAL	3	0.60	2.40	4.98	1-14.54
18467	OSS ORTHOPAEDIC HOSPITAL	3	0.45	2.55	6.66	1.34-19.45
13702	UPMC PRESBYTERIAN SHADYSIDE --- WPIC	2	0.29	1.71	6.95	0.78-25.1
Hospitals with 1 - 2.99 Predicted Infections						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12097	LOCK HAVEN HOSPITAL	0	1.05	-1.05	0.00	0-3.51
12295	MINERS MEDICAL CENTER	0	1.07	-1.07	0.00	0-3.43
15259	CH HOSPITAL OF ALLENTOWN	0	1.10	-1.10	0.00	0-3.34
11810	HEALTHSOUTH REHABILITATION HOSPITAL OF ERIE	0	1.15	-1.15	0.00	0-3.2
11738	TITUSVILLE AREA HOSPITAL	0	1.29	-1.29	0.00	0-2.84
12396	PALMERTON HOSPITAL	0	1.35	-1.35	0.00	0-2.72
12105	SUNBURY COMMUNITY HOSPITAL	0	1.54	-1.54	0.00	0-2.39
11722	GROVE CITY MEDICAL CENTER	0	1.61	-1.61	0.00	0-2.27
12549	MEMORIAL HOSPITAL, INC. TOWANDA	0	1.88	-1.88	0.00	0-1.95
11872	COORDINATED HEALTH ORTHOPEDIC HOSPITAL, LLC	0	2.03	-2.03	0.00	0-1.81
11942	SOUTHWEST REGIONAL MEDICAL CENTER	0	2.25	-2.25	0.00	0-1.63
12008	BLOOMSBURG HOSPITAL	0	2.67	-2.67	0.00	0-1.37
12361	BRADFORD REGIONAL MEDICAL CENTER	0	2.95	-2.95	0.00	0-1.24
12133	SHAMOKIN AREA COMMUNITY HOSPITAL	1	2.69	-1.69	0.37	0-2.07
12402	HEALTHSOUTH REHABILITATION HOSPITAL OF MECHANICSBURG	1	2.15	-1.15	0.46	0.01-2.58
11642	WAYNESBORO HOSPITAL	1	2.13	-1.13	0.47	0.01-2.61
11851	CROZER CHESTER MEDICAL CENTER SPRINGFIELD	1	2.03	-1.03	0.49	0.01-2.74
12244	SHRINERS HOSPITAL FOR CHILDREN --- PHILADELPHIA	1	1.73	-0.73	0.58	0.01-3.22
11903	HEALTHSOUTH REHABILITATION HOSPITAL OF ALTOONA	1	1.45	-0.45	0.69	0.01-3.83
12365	ST. CATHERINE MEDICAL CENTER FOUNTAIN SPRINGS	1	1.41	-0.41	0.71	0.01-3.94
12253	MILLCREEK COMMUNITY HOSPITAL	2	2.78	-0.78	0.72	0.08-2.6
12216	WARREN GENERAL HOSPITAL	2	2.37	-0.37	0.84	0.09-3.04
11907	NASON HOSPITAL	2	2.20	-0.20	0.91	0.1-3.28
11902	HIGHLANDS HOSPITAL	1	1.10	-0.10	0.91	0.01-5.07
12018	TROY COMMUNITY HOSPITAL	2	2.15	-0.15	0.93	0.1-3.37
11688	SOLDIERS & SAILORS MEM HOSPITAL	2	2.10	-0.10	0.95	0.11-3.44
12338	MARIAN COMMUNITY HOSPITAL	2	2.04	-0.04	0.98	0.11-3.53
11830	PUNXSUTAWNEY AREA HOSPITAL	2	1.90	0.10	1.05	0.12-3.81
13929	GOOD SHEPHERD PENN PARTNERS	2	1.87	0.13	1.07	0.12-3.86
11956	CHARLES COLE MEMORIAL HOSPITAL	2	1.76	0.24	1.14	0.13-4.11
11779	ELLWOOD CITY HOSPITAL	2	1.64	0.36	1.22	0.14-4.39
11784	ST. LUKE'S MINERS MEMORIAL HOSPITAL	3	2.25	0.75	1.33	0.27-3.9
12591	ALLIED SERVICES INSTITUTE OF REHABILITATION	2	1.44	0.56	1.39	0.16-5.01

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12031	WINDBER HOSPITAL	2	1.44	0.56	1.39	0.16-5.02
11724	J C BLAIR MEMORIAL HOSP	3	2.08	0.92	1.45	0.29-4.22
11896	THE GOOD SHEPHERD REHABILITATION HOSPITAL	4	2.59	1.41	1.55	0.42-3.96
11557	MID-VALLEY HOSPITAL	2	1.22	0.78	1.64	0.18-5.93
12241	GNADEN HUETTEN MEMORIAL HOSPITAL	5	2.86	2.14	1.75	0.56-4.07
11711	ST. LUKE'S QUAKERTOWN HOSPITAL	3	1.68	1.32	1.79	0.36-5.22
12348	EASTERN REGIONAL MEDICAL CENTER	5	2.50	2.50	2.00	0.65-4.67
11680	UPMC BEDFORD	3	1.48	1.52	2.03	0.41-5.93
11417	MAIN LINE HOSPITAL BRYN MAWR REHABILITATION	5	2.37	2.63	2.11	0.68-4.93
12273	CRICHTON REHABILITATION CENTER	3	1.25	1.75	2.40	0.48-7.01
11915	PENN STATE HERSHEY REHABILITATION LLC	3	1.13	1.87	2.64	0.53-7.73
11861	JOHN HEINZ INSTITUTE OF REHABILITATION	4	1.33	2.67	3.02	0.81-7.73
11829	TYLER MEMORIAL HOSPITAL	5	1.40	3.60	3.57	1.15-8.32
11880	SELECT SPECIALITY HOSPITAL --- ERIE	11	2.98	8.02	3.69	1.84-6.6
12290	ST. CHRISTOPHER'S HOSPITAL FOR CHILDREN	7	1.42	5.58	4.93	1.97-10.15
12058	HEALTHSOUTH REHABILITATION HOSPITAL OF YORK	11	1.60	9.40	6.89	3.43-12.33
Hospitals with 3 - 7.49 Predicted Infections						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11859	ELK REGIONAL HEALTH CENTER	0	3.21	-3.21	0.00	0-1.14
12282	SOMERSET HOSPITAL	0	5.32	-5.32	0.00	0-0.69
12250	SHARON REGIONAL HEALTH SYSTEM	1	6.92	-5.92	0.14	0-0.8
12337	JENNERVILLE REGIONAL HOSPITAL	1	3.84	-2.84	0.26	0-1.45
12108	SELECT SPECIALTY HOSPITAL LAUREL HIGHLANDS, INC.	2	7.39	-5.39	0.27	0.03-0.98
12271	SELECT SPECIALTY HOSPITAL --- MCKEESPORT, INC.	1	3.37	-2.37	0.30	0-1.65
11764	EPHRATA COMMUNITY HOSPITAL	2	6.62	-4.62	0.30	0.03-1.09
11531	GETTYSBURG HOSPITAL	1	3.10	-2.10	0.32	0-1.79
12385	LIFECARE HOSPITALS OF PITTSBURGH --- SUBURBAN CAMPUS	2	6.07	-4.07	0.33	0.04-1.19
11639	EXCELA HEALTH FRICK HOSPITAL	2	4.53	-2.53	0.44	0.05-1.59
11843	CLEARFIELD HOSPITAL	2	4.17	-2.17	0.48	0.05-1.73
11586	CANONSBURG GENERAL HOSPITAL	2	4.15	-2.15	0.48	0.05-1.74
11606	DUBOIS REGIONAL MEDICAL CENTER	3	6.12	-3.12	0.49	0.1-1.43
12032	LANSDALE HOSPITAL	3	5.47	-2.47	0.55	0.11-1.6
12087	SCHUYLKILL MEDICAL CENTER --- SOUTH JACKSON STREET	3	4.96	-1.96	0.61	0.12-1.77
11922	SCHUYLKILL MEDICAL CENTER --- EAST NORWEGIAN STREET	3	4.94	-1.94	0.61	0.12-1.77
11442	BERWICK HOSPITAL CENTER	2	3.27	-1.27	0.61	0.07-2.21
12298	OHIO VALLEY GENERAL HOSPITAL	3	4.48	-1.48	0.67	0.13-1.96
11727	HEALTHSOUTH HARMARVILLE REHABILITATION HOSPITAL	3	4.40	-1.40	0.68	0.14-1.99
11825	LEWISTOWN HOSPITAL	3	4.22	-1.22	0.71	0.14-2.08
12057	ARMSTRONG COUNTY MEMORIAL HOSPITAL	5	6.41	-1.41	0.78	0.25-1.82

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12500	ALBERT EINSTEIN MEDICAL CENTER AT ELKINS PARK	4	4.70	-0.70	0.85	0.23-2.18
11759	INDIANA REGIONAL MEDICAL CENTER	4	3.99	0.01	1.00	0.27-2.57
12007	KINDRED HOSPITAL EASTON	5	4.74	0.26	1.05	0.34-2.46
12388	LIFECARE HOSPITALS OF MECHANICSBURG	8	7.34	0.66	1.09	0.47-2.15
11654	CLARION HOSPITAL	5	4.33	0.67	1.15	0.37-2.69
11837	UPMC NORTHWEST	7	6.06	0.94	1.16	0.46-2.38
12390	LOWER BUCKS HOSPITAL	5	4.29	0.71	1.16	0.38-2.72
11836	PHOENIXVILLE HOSPITAL COMPANY LLC	9	7.16	1.84	1.26	0.57-2.39
12571	HEART OF LANCASTER REGIONAL MEDICAL CENTER	5	3.88	1.12	1.29	0.41-3
18955	LIFECARE HOSPITALS OF PITTSBURGH --- ALLE-KISKI CAMPUS	10	7.25	2.75	1.38	0.66-2.54
11947	MONTGOMERY HOSPITAL	7	4.80	2.20	1.46	0.58-3
12004	WAYNE MEMORIAL HOSPITAL	5	3.36	1.64	1.49	0.48-3.47
11899	HANOVER HOSPITAL	11	7.02	3.98	1.57	0.78-2.8
11979	BRANDYWINE HOSPITAL	10	6.27	3.73	1.59	0.76-2.93
12508	ALBERT EINSTEIN MEDICAL CENTER MOSS REHABILITATION	10	5.91	4.09	1.69	0.81-3.11
13921	SELECT MEDICAL AT POLYCLINIC MEDICAL CENTER	8	4.67	3.33	1.71	0.74-3.37
11887	GOOD SHEPHERD SPECIALTY HOSPITAL	9	5.22	3.78	1.72	0.79-3.27
11069	MONONGAHELA VALLEY HOSPITAL	11	6.33	4.67	1.74	0.87-3.11
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	10	5.15	4.85	1.94	0.93-3.57
12438	ST. JOSEPH'S HOSPITAL	13	6.56	6.44	1.98	1.05-3.39
12147	SELECT SPECIALTY HOSPITAL --- CENTRAL PENNSYLVANIA (CAMP HILL)	12	5.67	6.33	2.12	1.09-3.7
11684	SACRED HEART HOSPITAL	8	3.66	4.34	2.19	0.94-4.31
12334	SELECT SPECIALITY HOSPITAL --- CENTRAL PENNSYLVANIA (YORK)	10	4.55	5.45	2.20	1.05-4.05
12335	LANCASTER REGIONAL MEDICAL CENTER	13	5.13	7.87	2.53	1.35-4.33
11940	KINDRED HOSPITAL SOUTH PHILADELPHIA	9	3.51	5.49	2.56	1.17-4.86
12504	KINDRED HOSPITAL --- DELEWARE COUNTY	16	4.84	11.16	3.31	1.89-5.37
12604	SPECIAL CARE HOSPITAL	24	7.20	16.80	3.33	2.14-4.96
12485	KINDRED HOSPITAL --- WYOMING VALLEY	24	5.62	18.38	4.27	2.73-6.35
Hospitals with 7.5 - 14.99 Predicted Infections						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11997	CARLISLE REGIONAL MEDICAL CENTER	0	9.52	-9.52	0.00	0-0.39
11946	MERCY PHILADELPHIA HOSPITAL	0	11.54	-11.54	0.00	0-0.32
11954	JAMESON MEMORIAL HOSPITAL	1	8.72	-7.72	0.11	0-0.64
11864	THE WESTERN PENNSYLVANIA HOSPITAL	1	8.18	-7.18	0.12	0-0.68
11973	HOLY REDEEMER HOSPITAL AND MEDICAL CENTER	2	12.30	-10.30	0.16	0.02-0.59
11878	HAZLETON GENERAL HOSPITAL	2	10.67	-8.67	0.19	0.02-0.68
10301	MAGEE WOMENS HOSPITAL OF UPMC HEALTH SYSTEM	2	9.94	-7.94	0.20	0.02-0.73
12296	KINDRED HOSPITAL PITTSBURGH --- NORTH SHORE	2	7.88	-5.88	0.25	0.03-0.92
11459	JEANES HOSPITAL	5	13.94	-8.94	0.36	0.12-0.84

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11932	CROZER CHESTER MEDICAL CENTER TAYLOR	5	12.75	-7.75	0.39	0.13-0.91
12304	CHESTNUT HILL HOSPITAL	4	8.65	-4.65	0.46	0.12-1.18
11675	UPMC HORIZON	4	8.58	-4.58	0.47	0.13-1.19
11772	POCONO MEDICAL CENTER	7	13.93	-6.93	0.50	0.2-1.04
11842	ALLEGHENY VALLEY HOSPITAL	5	9.67	-4.67	0.52	0.17-1.21
11528	MOSES TAYLOR HOSPITAL	6	11.41	-5.41	0.53	0.19-1.14
11640	CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC	6	11.28	-5.28	0.53	0.19-1.16
11952	MERCY SUBURBAN HOSPITAL NORRISTOWN	7	13.10	-6.10	0.53	0.21-1.1
11583	MEADVILLE MEDICAL CENTER	6	10.24	-4.24	0.59	0.21-1.28
11961	ST. JOSEPH MEDICAL CENTER	6	10.15	-4.15	0.59	0.22-1.29
11945	LIFECARE HOSPITALS OF PITTSBURGH	5	8.28	-3.28	0.60	0.19-1.41
11701	EVANGELICAL COMMUNITY HOSPITAL	5	8.15	-3.15	0.61	0.2-1.43
12009	SELECT SPECIALTY HOSPITAL --- PITTSBURGH/UPMC	5	7.76	-2.76	0.64	0.21-1.5
11913	CHAMBERSBURG HOSPITAL	8	12.28	-4.28	0.65	0.28-1.28
11683	MERCY FITZGERALD HOSPITAL	10	13.59	-3.59	0.74	0.35-1.35
11983	POTTSTOWN MEMORIAL MEDICAL CENTER	9	11.84	-2.84	0.76	0.35-1.44
12005	LIFECARE HOSPITALS OF CHESTER COUNTY	7	7.91	-0.91	0.88	0.35-1.82
12299	SELECT SPECIALITY HOSPITAL --- JOHNSTOWN	9	10.03	-1.03	0.90	0.41-1.7
11978	ROXBOROUGH MEMORIAL HOSPITAL	9	9.25	-0.25	0.97	0.44-1.85
11460	THE WASHINGTON HOSPITAL	12	11.38	0.62	1.05	0.54-1.84
12358	KINDRED HOSPITAL --- PITTSBURGH	9	8.36	0.64	1.08	0.49-2.04
11707	UPMC MCKEESPORT	11	9.95	1.05	1.10	0.55-1.98
11919	NAZARETH HOSPITAL	18	13.90	4.10	1.29	0.77-2.05
11847	GRAND VIEW HOSPITAL	17	13.11	3.89	1.30	0.75-2.08
12254	LIFECARE HOSPITALS OF PITTSBURGH --- MONROEVILLE	16	12.25	3.75	1.31	0.75-2.12
12908	KINDRED HOSPITAL PHILADELPHIA --- HAVERTOWN	10	7.53	2.47	1.33	0.64-2.44
11750	MAIN LINE HOSPITAL --- PAOLI	16	11.49	4.51	1.39	0.8-2.26
10190	DOYLESTOWN HOSPITAL	15	10.26	4.74	1.46	0.82-2.41
12268	KINDRED HOSPITAL AT HERITAGE VALLEY	14	9.12	4.88	1.54	0.84-2.58
11633	MEMORIAL HOSPITAL YORK	17	10.35	6.65	1.64	0.96-2.63
12016	CHESTER COUNTY HOSPITAL	26	14.01	11.99	1.86	1.21-2.72
12134	HOSPITAL OF FOX CHASE CANCER CENTER	21	11.18	9.82	1.88	1.16-2.87
11832	KINDRED HOSPITAL --- PHILADELPHIA	53	11.75	41.25	4.51	3.38-5.9
Hospitals with 15 - 29.99 Predicted Infections						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
10441	UNIONTOWN HOSPITAL	1	16.94	-15.94	0.06	0-0.33
10561	ST. CLAIR MEMORIAL HOSPITAL	2	16.12	-14.12	0.12	0.01-0.45
11914	COMMUNITY MEDICAL CENTER	4	20.67	-16.67	0.19	0.05-0.5
10178	ALTOONA REGIONAL HEALTH SYSTEM	6	28.58	-22.58	0.21	0.08-0.46

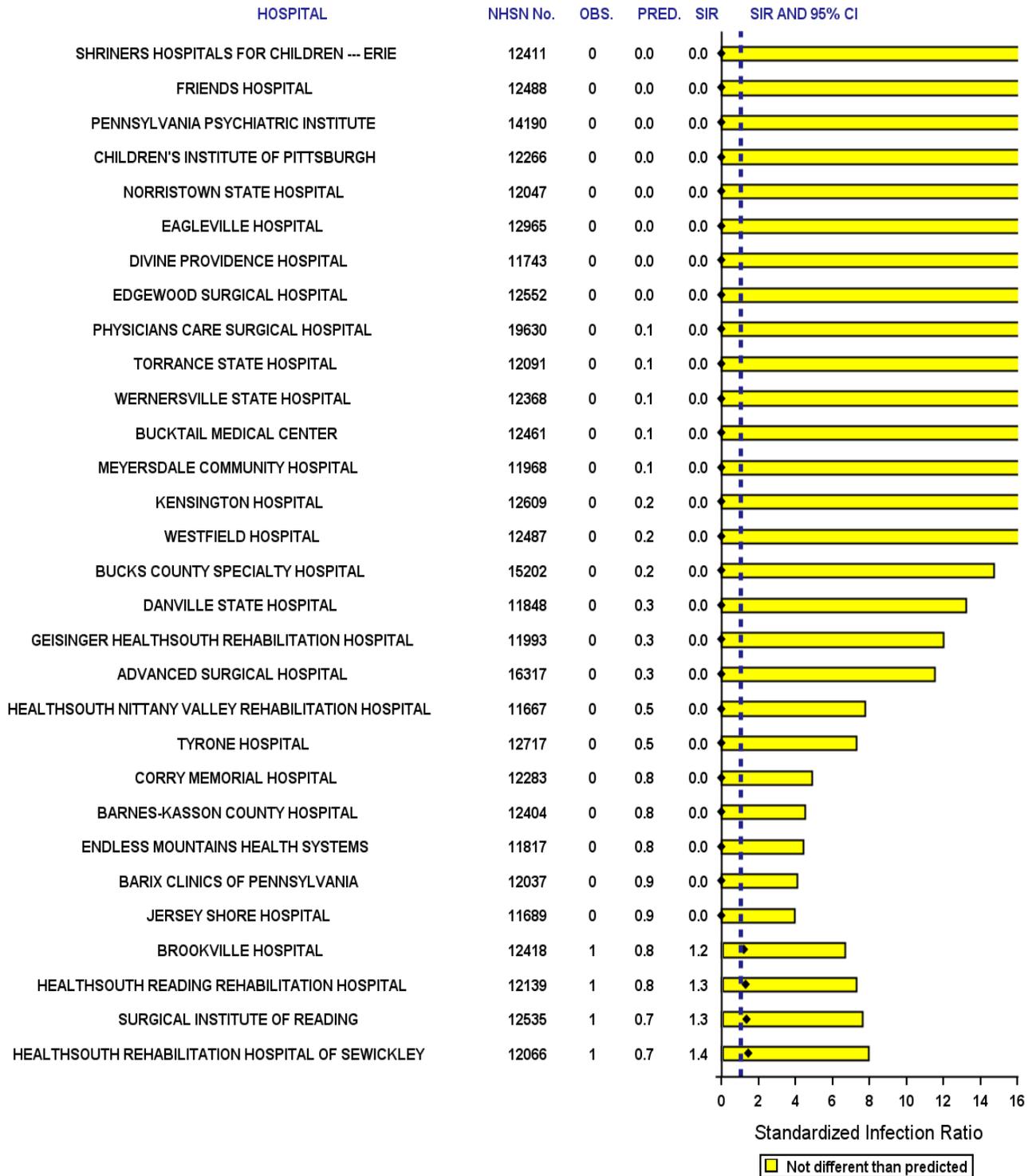
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12533	REGIONAL HOSPITAL OF SCRANTON	6	21.41	-15.41	0.28	0.1-0.61
12422	ROBERT PACKER HOSPITAL	6	20.60	-14.60	0.29	0.11-0.63
11731	RIDDLE MEMORIAL HOSPITAL	8	23.58	-15.58	0.34	0.15-0.67
11651	EXCELA HEALTH LATROBE HOSPITAL	8	19.60	-11.60	0.41	0.18-0.8
11712	THE GOOD SAMARITAN HOSPITAL	8	17.99	-9.99	0.44	0.19-0.88
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	11	18.07	-7.07	0.61	0.3-1.09
10375	HERITAGE VALLEY SEWICKLEY	11	16.65	-5.65	0.66	0.33-1.18
11814	PENN PRESBYTERIAN MEDICAL CENTER	13	18.71	-5.71	0.69	0.37-1.19
10237	JEFFERSON REGIONAL MEDICAL CENTER	14	19.69	-5.69	0.71	0.39-1.19
11736	BUTLER MEMORIAL HOSPITAL	12	15.60	-3.60	0.77	0.4-1.34
11437	HAHNEMANN UNIVERSITY HOSPITAL	23	28.37	-5.37	0.81	0.51-1.22
11753	MAIN LINE HOSPITAL BRYN MAWR	13	15.85	-2.85	0.82	0.44-1.4
11898	LEHIGH VALLEY HOSPITAL --- MUHLENBERG	16	19.06	-3.06	0.84	0.48-1.36
11770	MAIN LINE HOSPITAL LANKENAU MEDICAL CENTER	23	26.22	-3.22	0.88	0.56-1.32
11265	FORBES REGIONAL HOSPITAL	18	20.30	-2.30	0.89	0.53-1.4
11797	MOUNT NITTANY MEDICAL CENTER	21	21.95	-0.95	0.96	0.59-1.46
12387	HOLY SPIRIT HOSPITAL	24	21.31	2.69	1.13	0.72-1.68
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER	20	15.40	4.60	1.30	0.79-2.01
11929	EASTON HOSPITAL	27	17.86	9.14	1.51	1-2.2
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	47	27.27	19.73	1.72	1.27-2.29
12017	THOMAS JEFFERSON UNIV HOSP - METHODIST	30	17.12	12.88	1.75	1.18-2.5
11885	ST. MARY MEDICAL CENTER	31	17.43	13.57	1.78	1.21-2.52
12146	MAGEE REHAB HOSPITAL	60	15.26	44.74	3.93	3-5.06
Hospitals with 30+ Predicted Infections						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11637	EXCELA HEALTH WESTMORELAND REGIONAL HOSPITAL	17	35.56	-18.56	0.48	0.28-0.77
11561	UPMC ST MARGARET	15	30.87	-15.87	0.49	0.27-0.8
10648	ALLEGHENY GENERAL HOSPITAL	41	79.89	-38.89	0.51	0.37-0.7
11839	CROZER CHESTER MEDICAL CENTER	18	30.45	-12.45	0.59	0.35-0.93
10118	UPMC PRESBYTERIAN SHADYSIDE --- SHADYSIDE	49	78.23	-29.23	0.63	0.46-0.83
10122	PINNACLE HEALTH HOSPITALS	50	71.13	-21.13	0.70	0.52-0.93
11242	UPMC PASSAVANT	30	41.16	-11.16	0.73	0.49-1.04
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	42	53.52	-11.52	0.78	0.57-1.06
11725	UPMC HAMOT	30	37.01	-7.01	0.81	0.55-1.16
10384	UPMC MERCY	33	40.08	-7.08	0.82	0.57-1.16
12375	READING HOSPITAL AND MEDICAL CENTER	32	37.74	-5.74	0.85	0.58-1.2
10348	UPMC PRESBYTERIAN SHADYSIDE --- PRESBYTERIAN	124	145.16	-21.16	0.85	0.71-1.02
10183	LANCASTER GENERAL HOSPITAL	33	37.89	-4.89	0.87	0.6-1.22
12382	TEMPLE UNIVERSITY HOSPITAL	48	54.57	-6.57	0.88	0.65-1.17

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
10585	ALBERT EINSTEIN MEDICAL CENTER	33	36.97	-3.97	0.89	0.61-1.25
11699	ST. VINCENT HEALTH CENTER	32	33.91	-1.91	0.94	0.65-1.33
11448	PENNSYLVANIA HOSP OF THE UNIV OF PA HEALTH SYS	30	30.89	-0.89	0.97	0.66-1.39
11884	LEHIGH VALLEY HOSPITAL	73	69.16	3.84	1.06	0.83-1.33
11718	ST. LUKE'S HOSPITAL BETHLEHEM	62	49.88	12.12	1.24	0.95-1.59
11388	ARIA HEALTH	60	44.75	15.25	1.34	1.02-1.73
11831	HERITAGE VALLEY BEAVER	46	33.76	12.24	1.36	1-1.82
11916	WILKES-BARRE GENERAL HOSPITAL	52	37.95	14.05	1.37	1.02-1.8
11506	THOMAS JEFFERSON UNIV HOSPITAL	151	107.80	43.20	1.40	1.19-1.64
11838	ABINGTON MEMORIAL HOSPITAL	70	47.66	22.34	1.47	1.14-1.86
11775	GEISINGER MEDICAL CENTER	63	41.36	21.64	1.52	1.17-1.95
10219	HOSPITAL OF THE UNIV OF PENNSYLVANIA	114	71.65	42.35	1.59	1.31-1.91
10108	YORK HOSPITAL	74	45.58	28.42	1.62	1.27-2.04
11747	MILTON S HERSHEY MEDICAL CENTER	96	54.28	41.72	1.77	1.43-2.16

Table 10 - Hospitals with <1 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI

January 1, 2011 to December 31, 2011

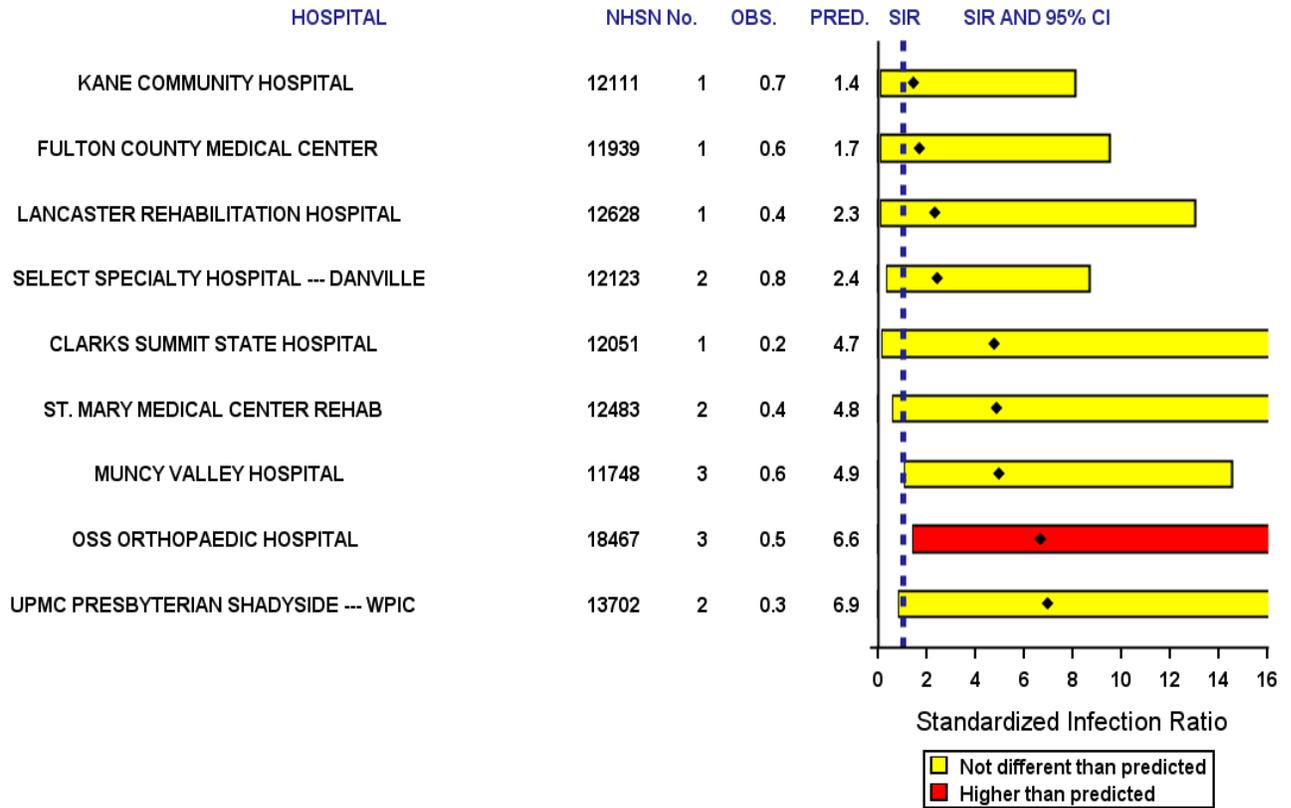


Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with <1 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI

January 1, 2011 to December 31, 2011



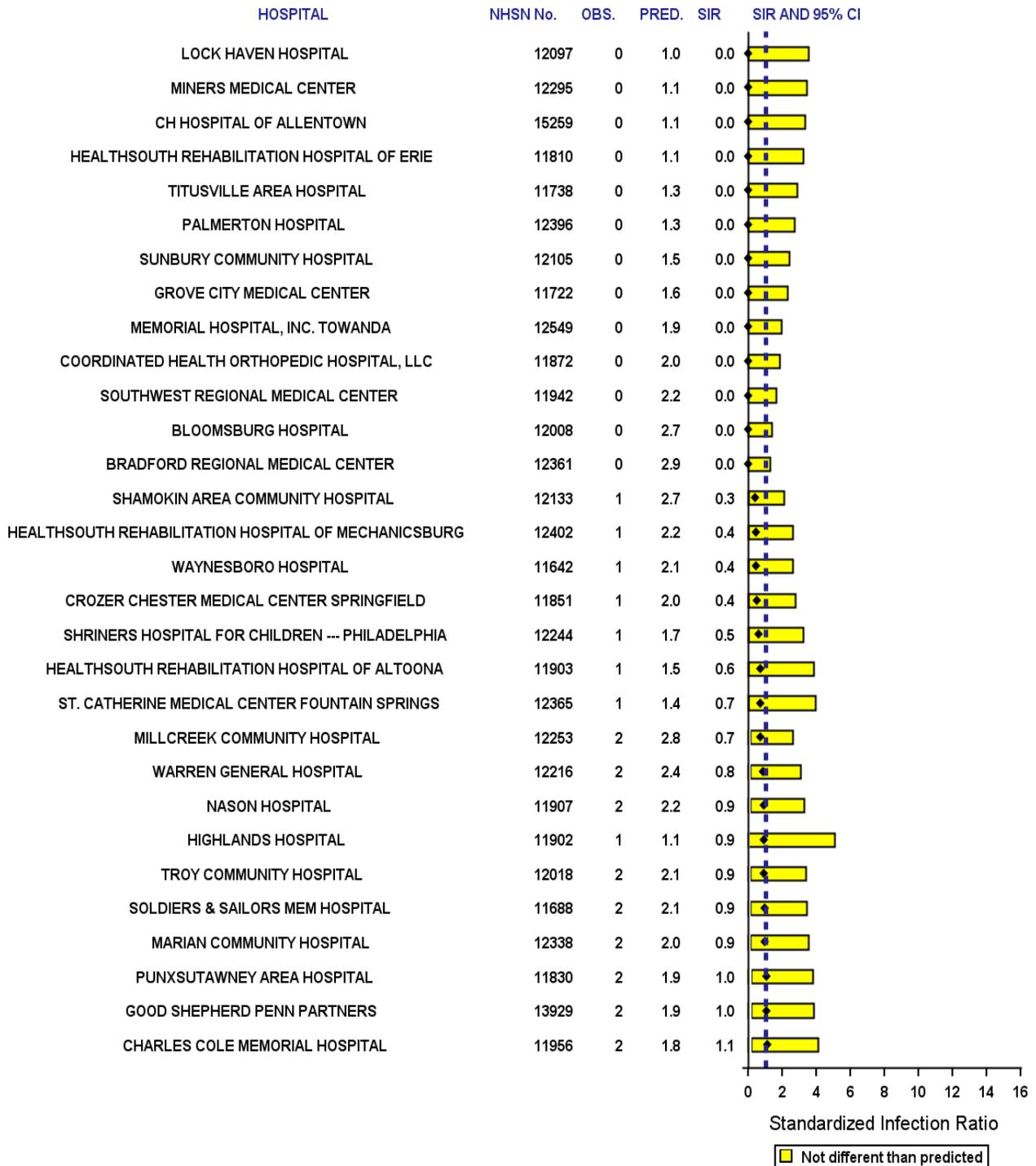
Obs. = observed number of CAUTI

Pred. = statistically 'predicted' number of CAUTI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 1 - 2.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI
January 1, 2011 to December 31, 2011

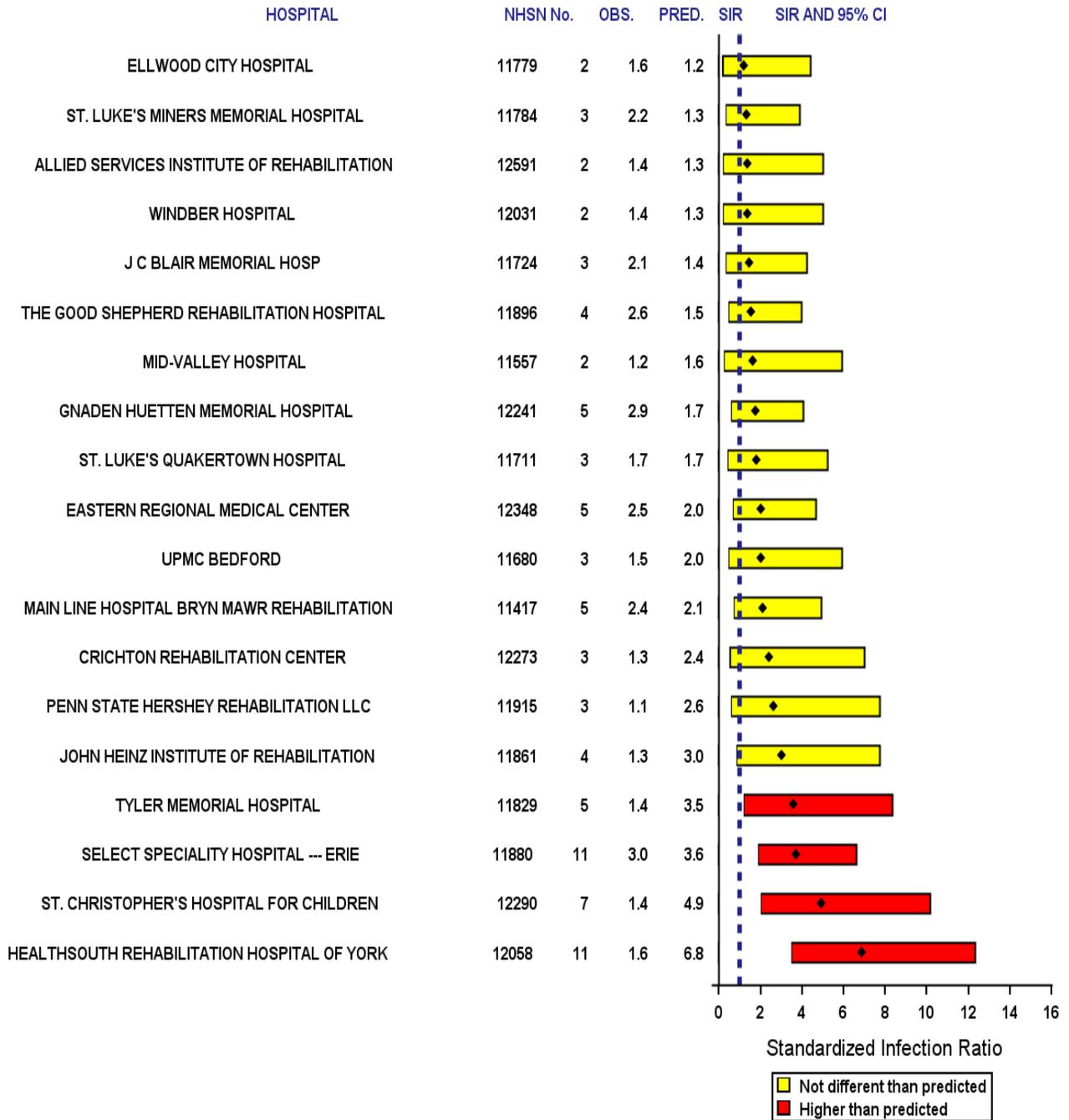


Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 1 - 2.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI

January 1, 2011 to December 31, 2011



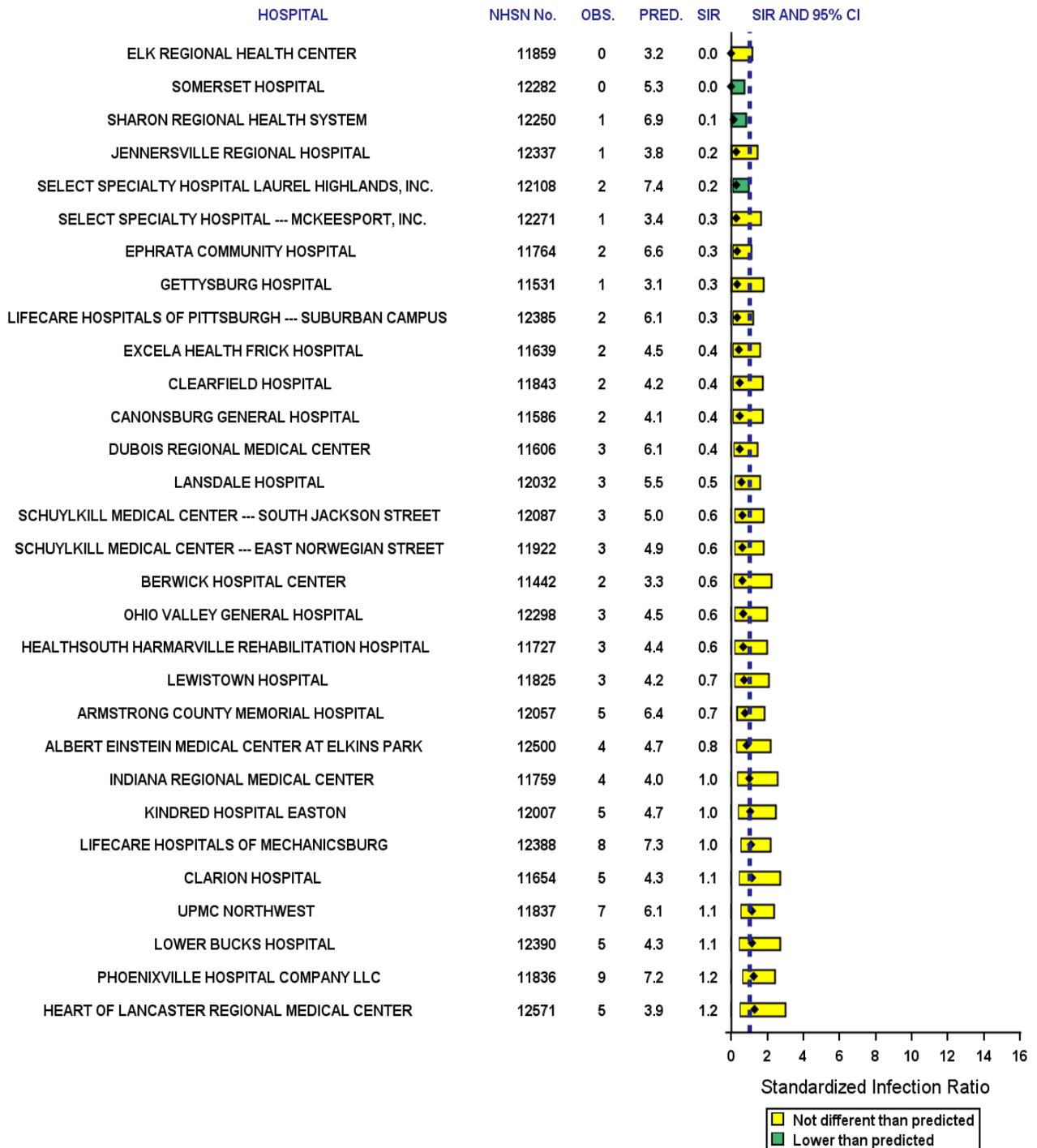
Obs. = observed number of CAUTI

Pred. = statistically 'predicted' number of CAUTI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 3 - 7.49 Predicted Infections

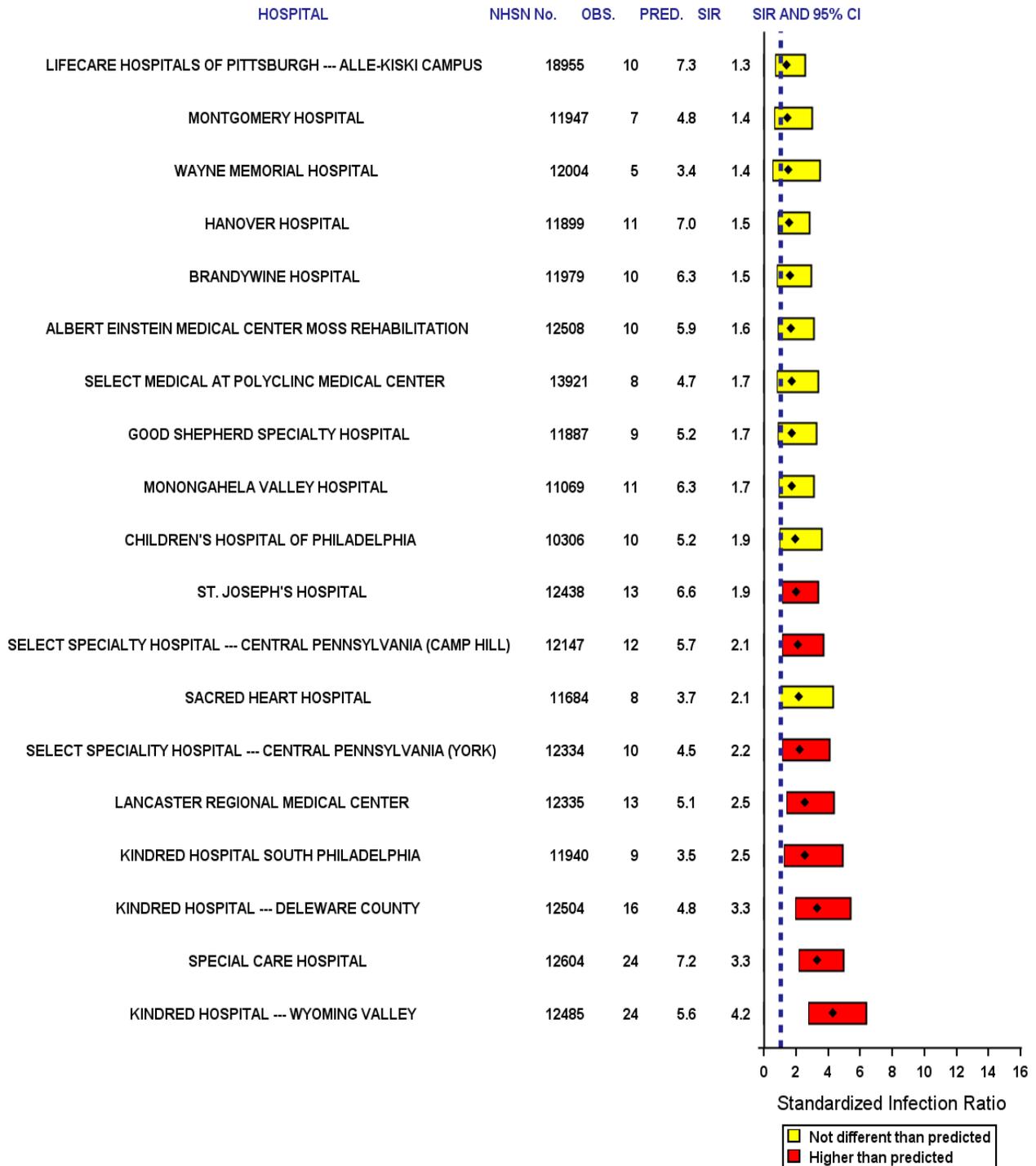
Ranking of PA Hospitals by Adjusted SIR for CAUTI
January 1, 2011 to December 31, 2011



Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 3 - 7.49 Predicted Infections

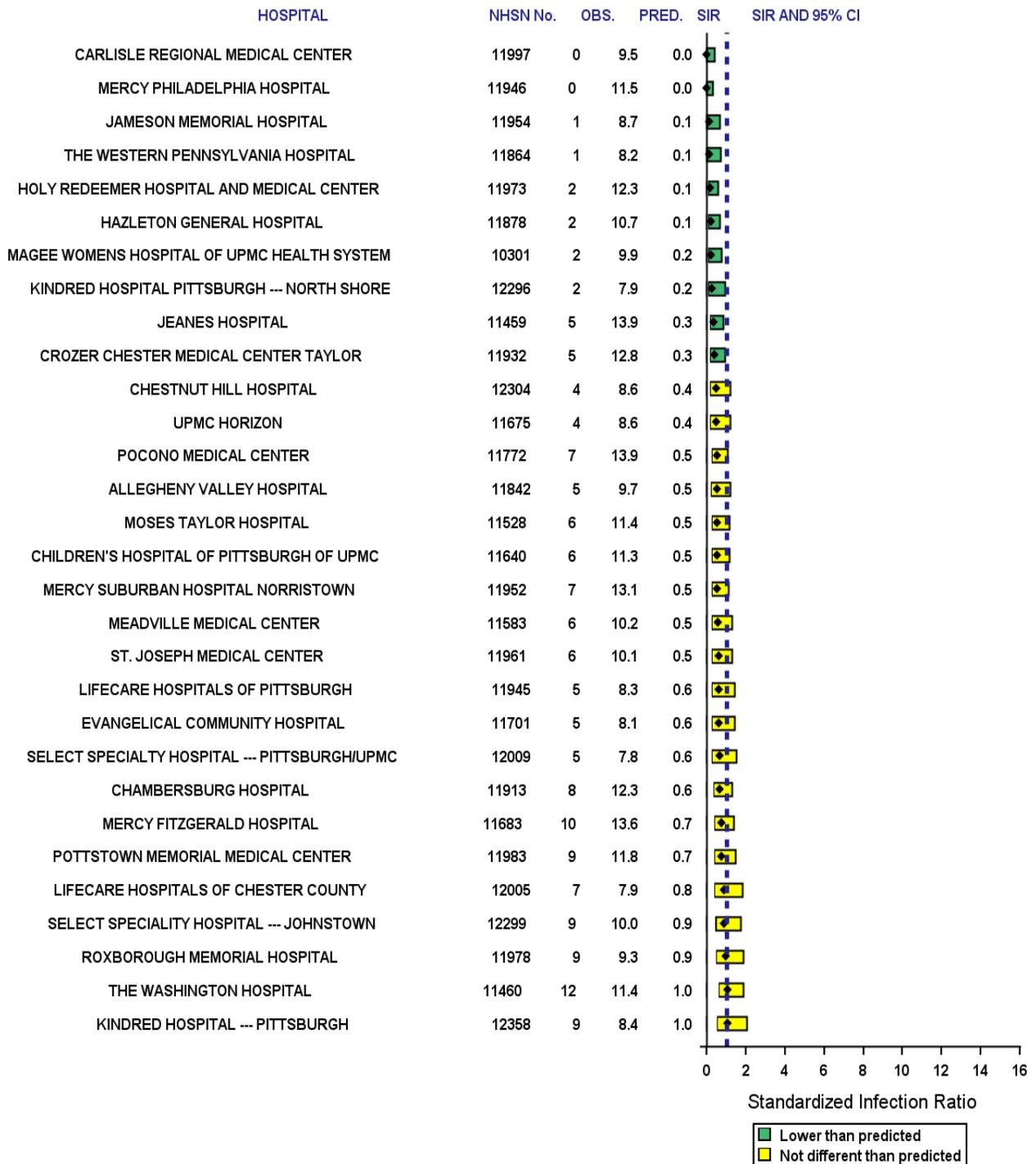
Ranking of PA Hospitals by Adjusted SIR for CAUTI
January 1, 2011 to December 31, 2011



Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 7.5 - 14.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI
January 1, 2011 to December 31, 2011

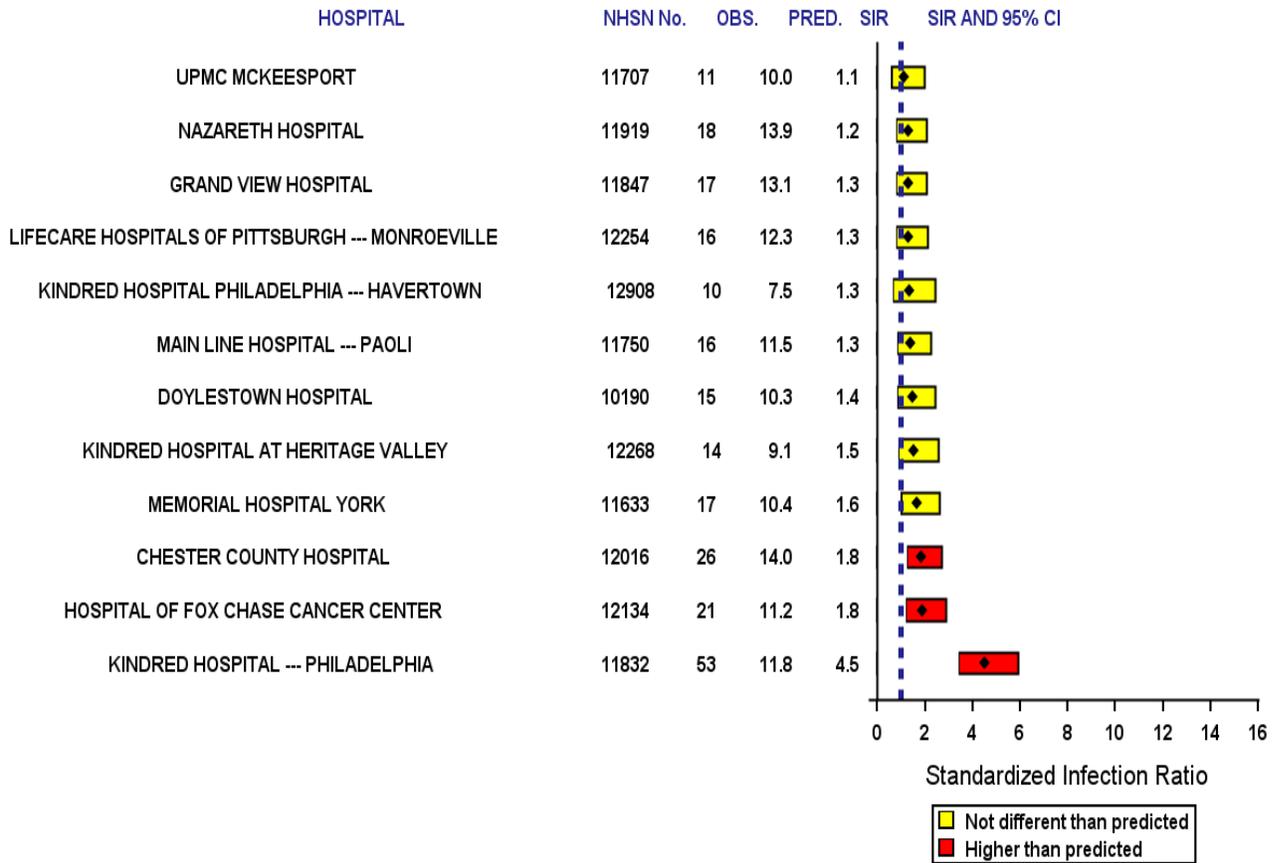


Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 7.5 - 14.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI

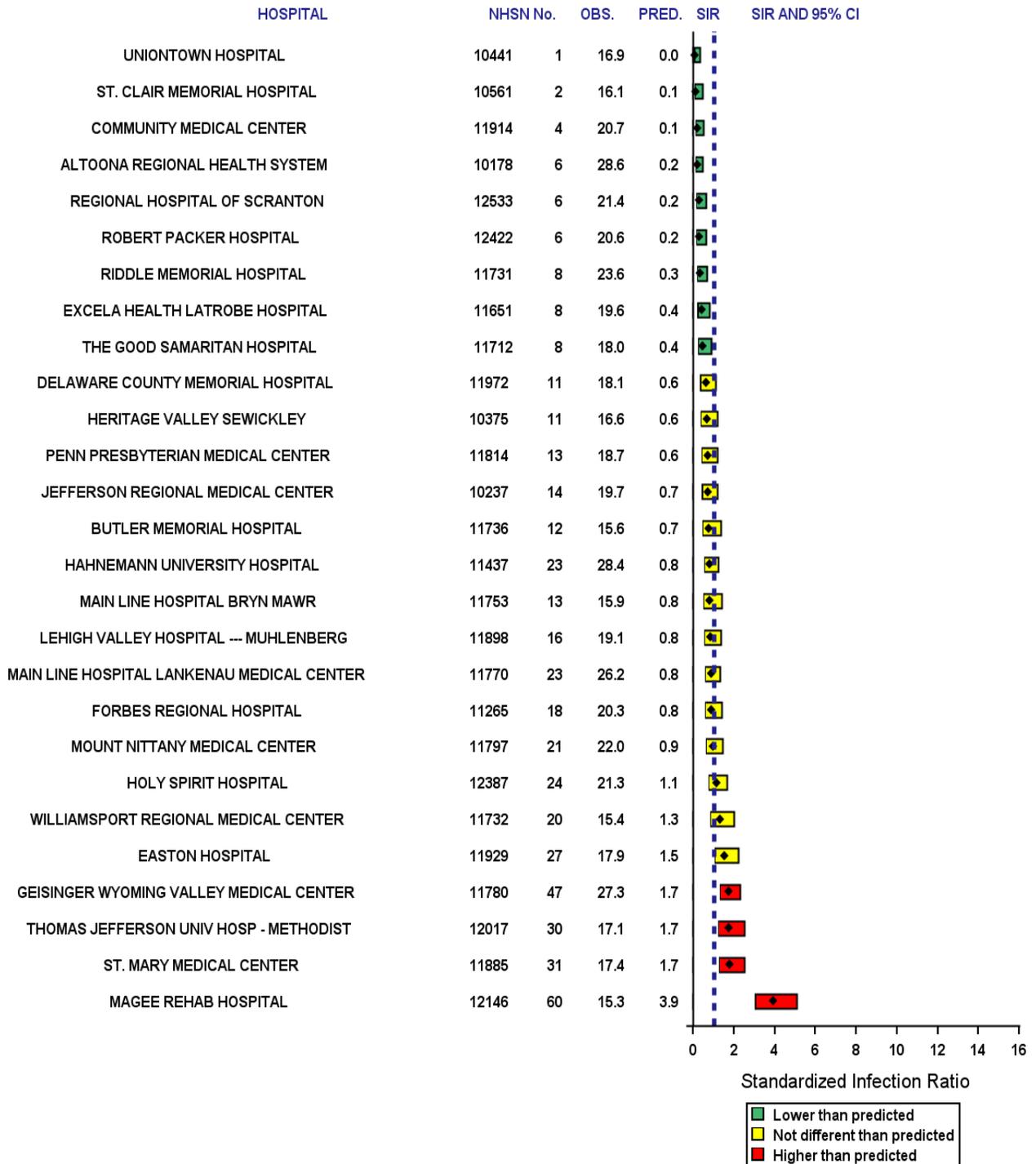
January 1, 2011 to December 31, 2011



Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 15 - 29.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI
January 1, 2011 to December 31, 2011

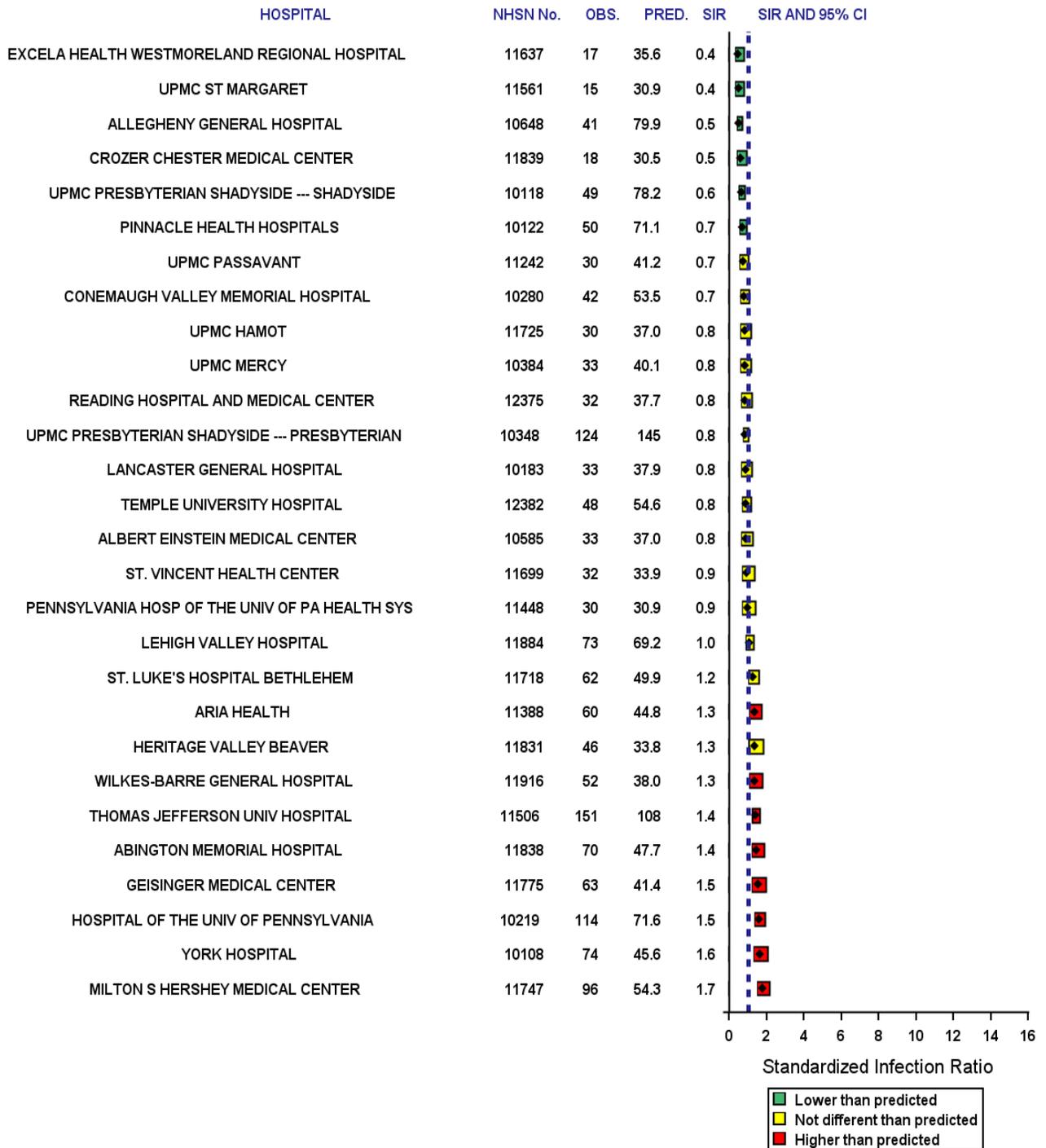


Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Table 10 - Hospitals with 30+ Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CAUTI

January 1, 2011 to December 31, 2011



Obs. = observed number of CAUTI
 Pred. = statistically 'predicted' number of CAUTI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CAUTI)

Central Line-Associated Bloodstream Infections (CLABSIs)

Central lines (also known as central venous catheters) are those catheters that are inserted into the large blood vessels of the body and usually end in proximity to the heart. They are generally used for the purposes of administering intravenous medications or to more closely monitor a patient's cardiac function and stability. If micro-organisms are inadvertently introduced through the central line, or the line becomes infected through improper care, a bloodstream infection is the usual result. Such infections, known as central line-associated bloodstream infections, are particularly severe because the infecting pathogen travels throughout the body and causes sepsis, and because patients with central lines usually have significant underlying health problems that place them at increased risk for poor outcomes from complications. CLABSIs are associated with prolonged hospital stays, high additional health care costs, and high mortality. Therefore CLABSIs are often the focus for infection prevention and control measures, and they are the single category of HAIs most often monitored by hospitals and health departments.

Several different types of central lines are used in medical care. These include central lines that are temporarily inserted, those that are permanently inserted, and central lines that are inserted through the umbilicus for use in infants. In previous reports, these line types were reported separately. However, changes were made to NHSN in 2011, and now the line type is only reported in specialty care areas.

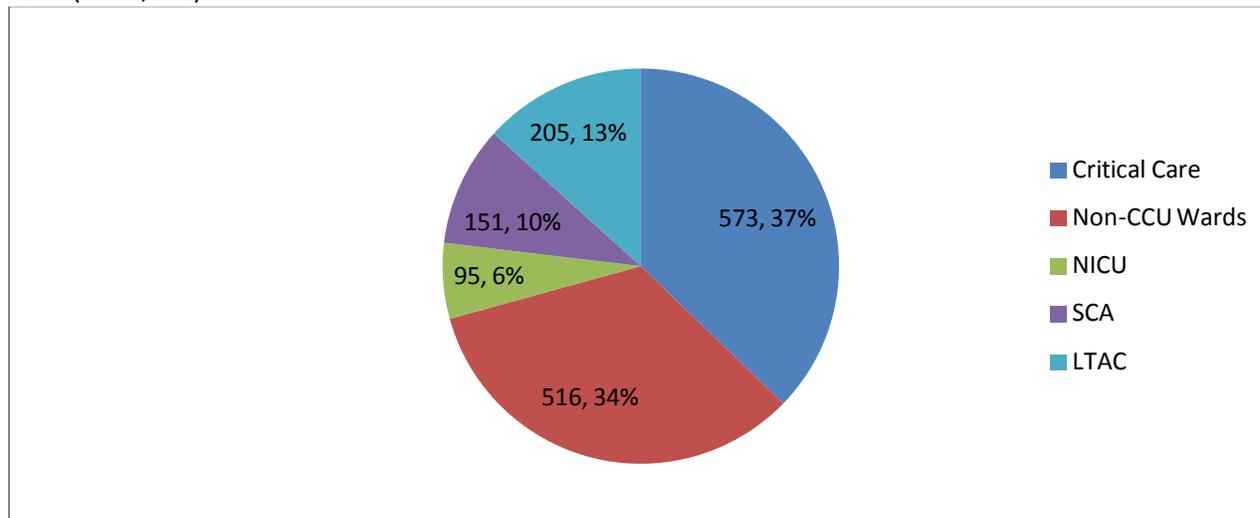
Similar to previous annual reports, in the present report the CLABSI tables are separated into several different locations in the hospital, including neonatal intensive care units (NICUs) and specialty care areas (SCAs), following CDC convention. All other critical care and ward locations are combined into a category known as ICU/other - a category that includes the bulk of central line days and data. CLABSI data are also reported separately for long term acute care facilities (LTACs), since studies have shown CLABSI rates can be different in LTAC settings.

Since Act 52 was signed into law, Pennsylvania has seen a substantial decline in the incidence of CLABSIs of more than 20 percent per year. While the findings in 2011 show continued declines in the incidence of CLABSIs, the decline is considerably smaller than seen the previous two years.

In 2011, a total of 222 (87.4 percent) of the 254 Pennsylvania hospitals using NHSN reported use of central lines in any of their hospital locations. The 32 hospitals not reporting any use of central lines are mostly psychiatric, drug and alcohol rehabilitation centers or specialty hospital. These are listed before Table 15. Among the hospitals using central lines, 193 used them in the ICU and/or other ward locations, 27 were long term care facilities, and two used central lines only in specialty care areas. There were 20 hospitals that reported use of central lines in specialty care areas (for a total of 22 hospitals with SCAs) in addition to ICU/ward locations, and there were 43 hospitals that used central lines in a neonatal intensive care unit (NICU). All NICU hospitals also used central lines in non-NICU locations.

Of the 222 hospitals that used central lines, in 2011 a total of 147 (66.2 percent) reported at least one CLABSI. During 2011, there were a total of 1,540 CLABSIs reported (Table 11). Of the 1,540 CLABSIs, 95 (6.2 percent) occurred in the NICU, 205 (13.3 percent) occurred in LTACs, 151 (9.8 percent) occurred in SCAs, 516 (33.5 percent) occurred in ward locations, and 573 (37.2 percent) occurred in critical care units (other than the NICU) (Figure 5).

Figure 5. Central line-associated bloodstream infections (CLABSIs) by unit type, Pennsylvania hospitals 2011 (N = 1,540)



These CLABSIs occurred over a total of 1,729,770 central line days. The range of central line days reported by hospitals in 2011 was a low of 1 central line day to a high of 103,214 central line days.

The absolute number of CLABSIs reported in 2011 is 4.1 percent lower than in 2010 and the number of central line days reported in 2011 is 0.2 percent lower than in 2010. The CLABSI rate for 2011 is 0.89 CLABSIs per 1,000 central line days. This compares to a rate of 0.93 CLABSIs per 1,000 central line days in 2010 (Table 11A). This difference in rates represents a 4.3 percent decline. The rate is 27.6 percent lower than the rate seen in the baseline year of 2009. This translates to 1,113 fewer CLABSIs in Pennsylvania than would have occurred if the 2009 CLABSI rate had persisted into 2011.

Central Line-Associated Bloodstream Infections by Year in Pennsylvania

Year	No. of CLABSIs	No. of Central Line Days	No. of Patient Days	Device Utilization Ratio	Rate per 1,000 Central Line Days	Percent Decline (prior year/cumulative)
2009	2,175	1,763,902	10,920,596	0.16	1.23	
2010	1,606	1,732,994	10,289,079	0.17	0.93	24.4/24.4
2011	1,540	1,729,770	10,212,208	0.17	0.89	4.3/27.6

As would be expected, CLABSI rates varied by location in the hospital (Table 11). The highest rate was seen in critical care burn units (2.58 CLABSIs per 1,000 central line days) followed by neonatal intensive care units (1.53 CLABSIs per 1,000 central line days) and pediatric critical care units (1.52 CLABSIs per 1,000 central line days). The lowest rates for locations with at least 1,000 central line days occurred in rehabilitation units (0.48 CLABSIs per 1,000 central line days) followed by surgical wards (0.57 CLABSIs per 1,000 central line days) and medical wards (0.58 CLABSIs per 1,000 central line days).

By location, the CLABSI rate for the NICU was 1.53 CLABSIs per 1,000 central line days, for specialty care areas it was 1.23 CLABSIs per 1,000 central line days, and for LTAC settings it was 1.30 CLABSIs per 1,000 central line days. For the remaining ward locations it was 0.67 CLABSIs per 1,000 central line days and for remaining critical care units it was 0.92 CLABSIs per 1,000 central line days.

Table 11
Central Line-Associated Bloodstream Infections
in Pennsylvania Hospitals by Location
Infection Rate and Device Utilization Ratio for 2011

Ward Category		CLABSI	Central Line Days	Patient days	Rate	DUR
Step		90	95,516	598,034	0.94	0.16
cc:Burn		12	4,651	11,135	2.58	0.42
cc:CT		41	68,598	97,189	0.60	0.71
cc:MS		203	207,709	447,121	0.98	0.46
cc:Med		60	77,049	144,364	0.78	0.53
cc:Peds		43	28,318	57,395	1.52	0.49
cc:SpecMed		26	36,536	106,767	0.71	0.34
cc:Surgery		61	67,819	123,348	0.90	0.55
cc:Trauma		37	34,070	54,962	1.09	0.62
w:Behavior		6	3,626	1,614,797	1.65	<0.01
w:LD_pp		0	630	382,131	0.00	0.00
w:MS		260	363,669	2,711,996	0.71	0.13
w:Med		120	207,931	1,210,801	0.58	0.17
w:Newborn		0	275	170,453	0.00	<0.01
w:Ped_ms		44	33,124	235,930	1.33	0.14
w:Rehab		22	45,373	663,495	0.48	0.07
w:Surgery		64	112,587	825,086	0.57	0.14
NICU		95	62,271	271,973	1.53	0.23
LTAC		205	157,404	266,659	1.30	0.59
SCA				218,572		
	Permanent Line	103	86,175		1.20	0.39
	Temporary Line	48	36,439		1.32	0.17
Total		1,540	1,729,770	10,212,208	0.89	0.17

Table 11A
Central Line-Associated Bloodstream Infections
in Pennsylvania Hospitals by Location
Infection Rate and Device Utilization Ratio 2010 vs. 2011

Ward Category	2010 Rate	2011 Rate	2010 DUR	2011 DUR
Step	0.79	0.94	0.16	0.16
cc:Burn	1.99	2.58	0.41	0.42
cc:CT	0.77	0.60	0.71	0.71
cc:MS	0.91	0.98	0.46	0.46
cc:Med	1.05	0.78	0.53	0.53
cc:Peds	1.84	1.52	0.53	0.49
cc:SpecMed	0.59	0.71	0.37	0.34
cc:Surgery	0.62	0.90	0.59	0.55
cc:Trauma	1.27	1.09	0.65	0.62
w:Behavior	1.37	1.65	<0.01	<0.01
w:LD_pp	0.00	0.00	<0.01	0.00
w:MS	0.67	0.71	0.13	0.13
w:Med	0.64	0.58	0.17	0.17
w:Newborn	0.00	0.00	<0.01	<0.01
w:Ped_ms	1.45	1.33	0.14	0.14
w:Rehab	0.42	0.48	0.07	0.07
w:Surgery	0.66	0.57	0.14	0.14
NICU		1.53		0.23
Central Line*	2.22		0.15	
Umbilical Line*	1.7		0.08	
LTAC		1.30		0.59
Permanent Line*	1.12		0.07	
Temporary Line*	1.45		0.5	
SCA				
Permanent Line	1.11	1.20	0.41	0.40
Temporary Line	1.86	1.32	0.16	0.17
Total	0.93	0.89	0.17	0.17

* These categories are not listed separately in 2011

Act 52 requires comparisons between Pennsylvania data with national data. These comparisons are shown below and generally demonstrate that the rates of CLABSIs and device utilization ratios for central lines are lower in Pennsylvania than elsewhere. However, these findings must be cautiously interpreted, since the NHSN data are from 2010 and the Pennsylvania data are from 2011. CLABSI rates are declining substantially, and comparisons between two different years may account for some of the observed differences. However, 2010 is the latest year for which NHSN national data are available.

Figure 6. Central line-associated bloodstream infection (CLABSI) rates in Pennsylvania hospitals compared to national rates, by hospital location, critical care units. Rates are per 1,000 central line days.

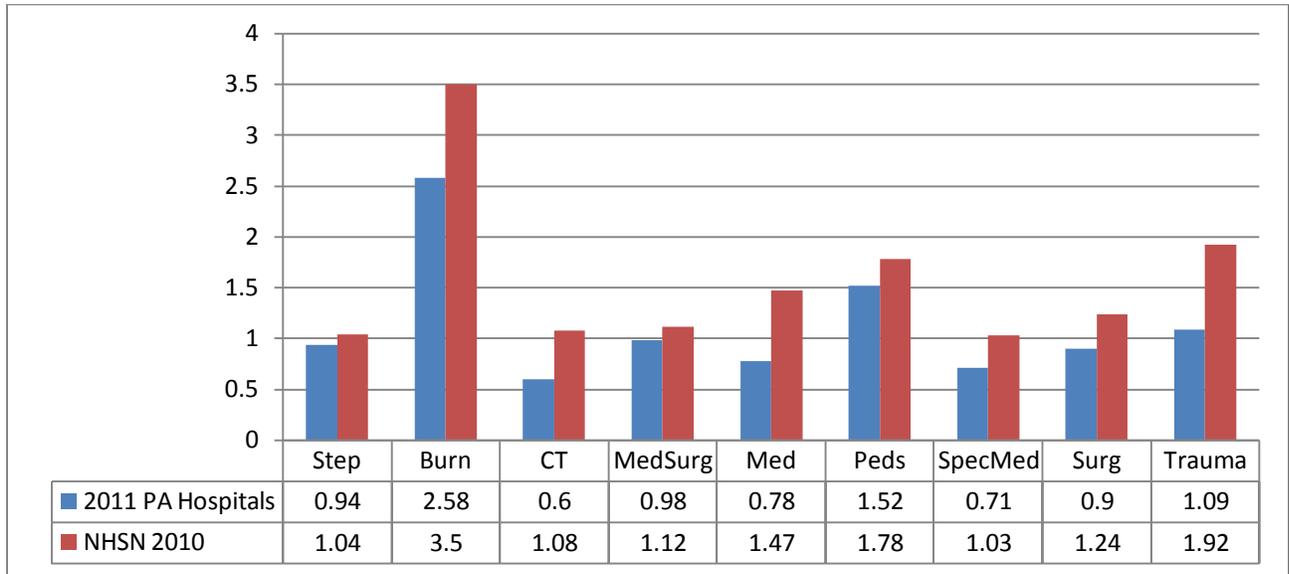


Figure 7. Central line device utilization ratios in Pennsylvania hospitals compared to national device utilization ratios, by hospital location, critical care units.

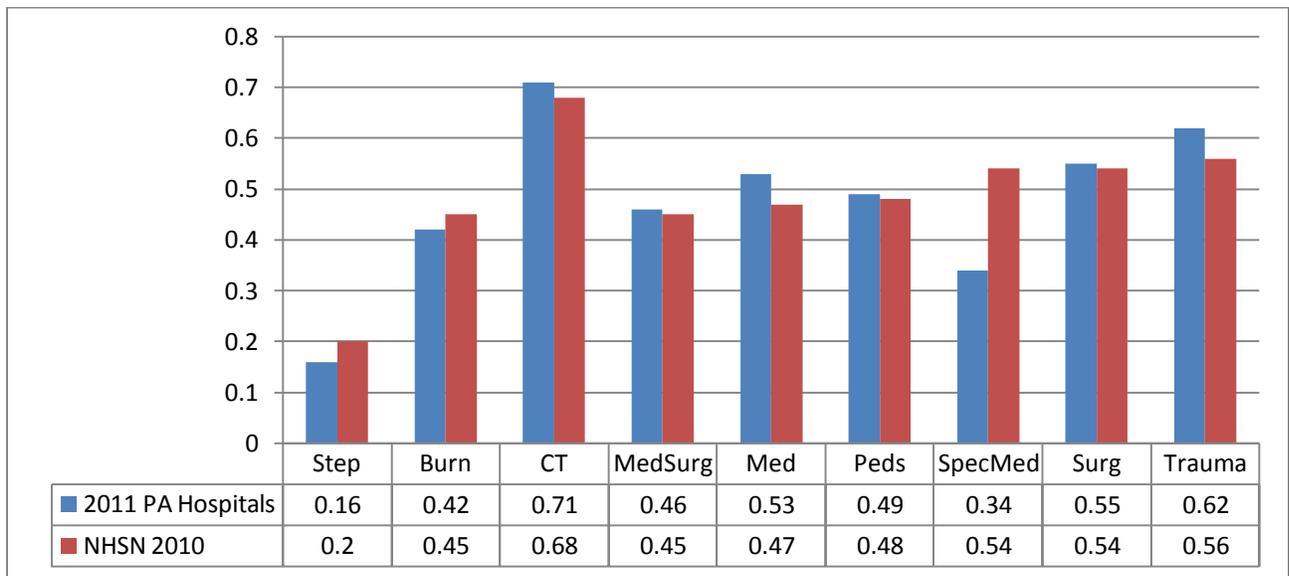


Figure 8. Central line associated bloodstream infection (CLABSI) rates in Pennsylvania hospitals compared to national rates, by hospital location, ward locations. Rates are per 1,000 central line days.

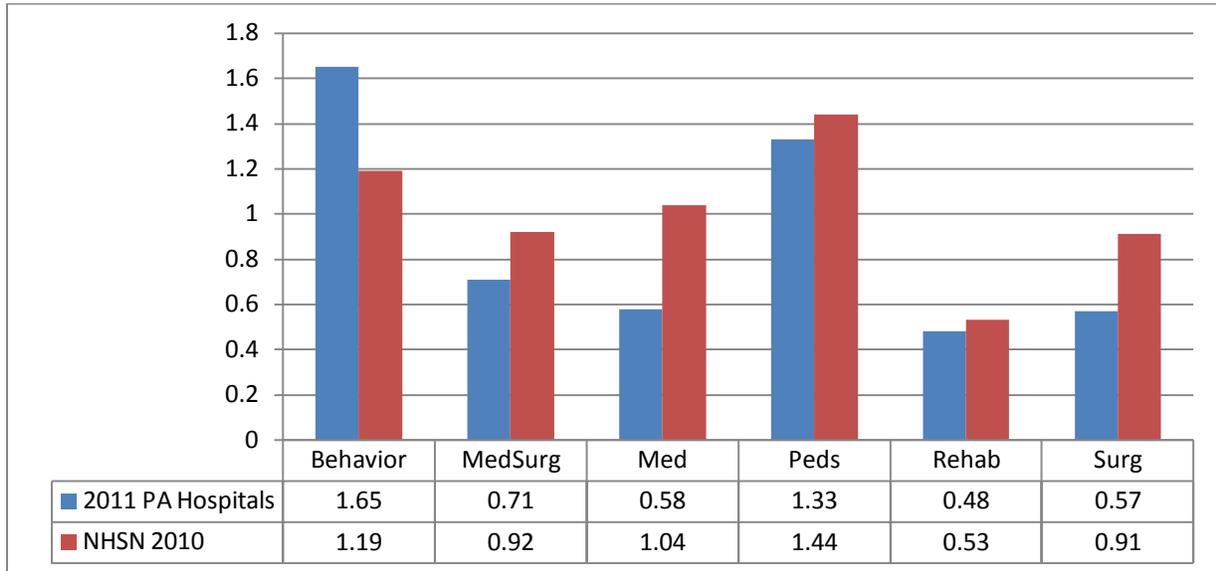


Figure 9. Central line device utilization ratios in Pennsylvania hospitals compared to national device utilization ratios, by hospital location, ward locations.

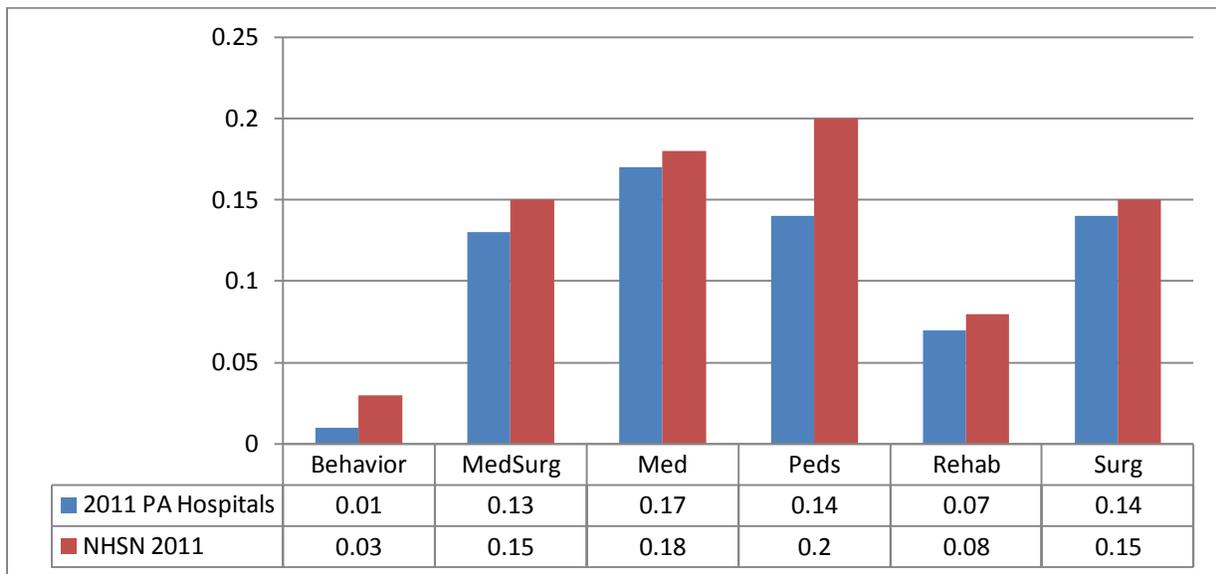


Figure 10. Central line-associated bloodstream infection (CLABSI) rates in Pennsylvania hospitals compared to national rates, by hospital location, non-general care locations. Rates are per 1,000 central line days.

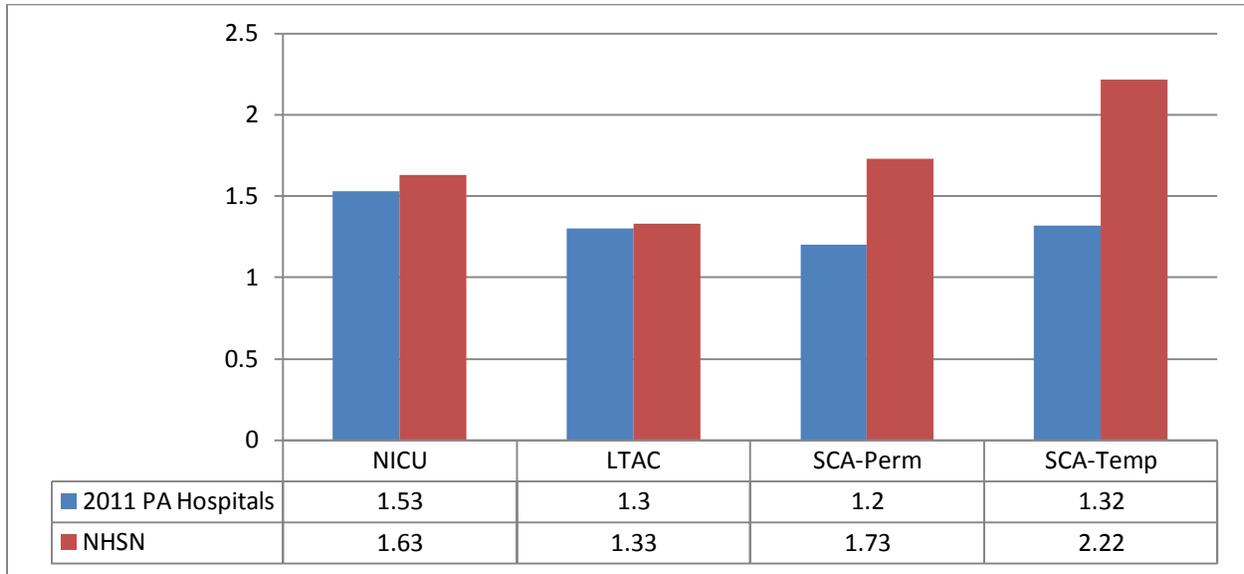
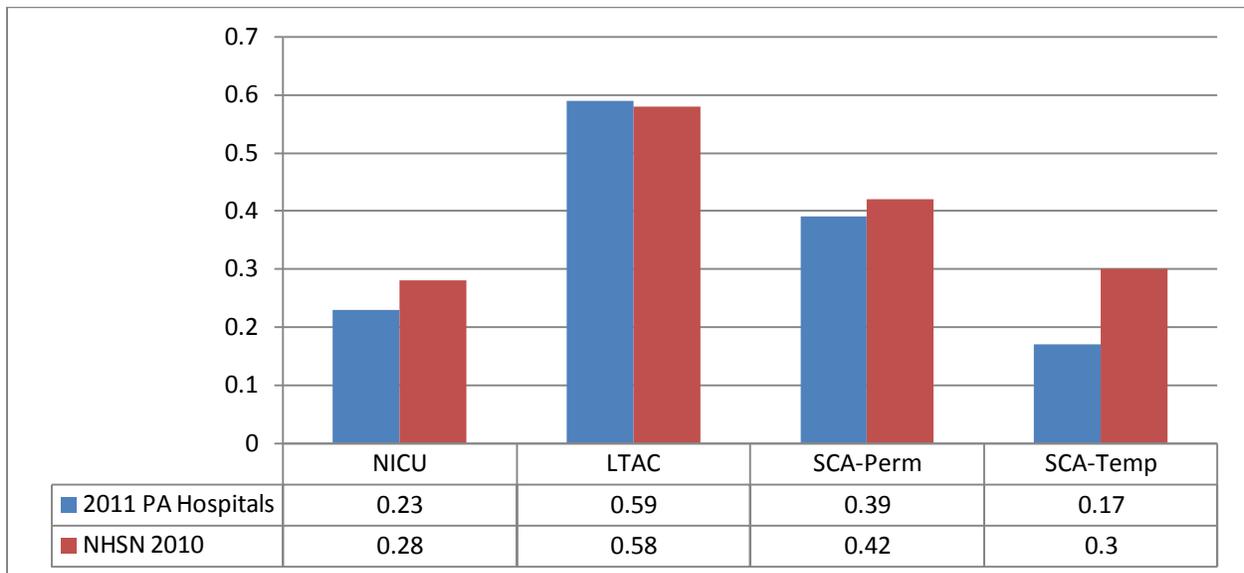


Figure 11. Central line device utilization ratios in Pennsylvania hospitals compared to national device utilization ratios, by hospital location, non-general care locations.



Source for 2010 NHSN data: Dudeck MA, et al. National Healthcare Safety Network (NHSN) Report, data summary for 2010, device-associated module. Am J Infect Control 2011;39:798-816.

Pathogen Distribution

The table below shows the distribution of pathogens responsible for central line-associated bloodstream infections in Pennsylvania. The total number (1,740) is larger than the number of CLABSIs (1,540) because in some instances multiple pathogens were identified. *S. aureus* remains the most common organism associated with CLABSIs, and collectively *Staphylococcus* species are found in almost a third of the reported CLABSIs. The patterns seen in 2011 are not substantially different than those in 2010.

Pathogen	Count	Percent
Staphylococcus aureus	312	17.93
Enterococcus faecalis	157	9.02
Klebsiella pneumoniae	143	8.22
Staphylococcus coagulase negative	141	8.10
Candida albicans	105	6.03
Enterococcus faecium	95	5.46
Pseudomonas aeruginosa	92	5.29
Staphylococcus epidermidis	91	5.23
Escherichia coli	65	3.74
Enterobacter cloacae	55	3.16
Others	484	27.82
TOTAL	1,740	100

Facility-specific Central Line-Associated Bloodstream Infection Findings

Among the 193 hospitals that used central lines in intensive care or general ward units (the ICU-other category), 135 (69.9 percent) had a standardized infection ratio (SIR) <1.00, meaning the hospital reported **fewer** CLABSIs than predicted based on statewide rates; 57 hospitals (29.5 percent) had an SIR >1.00, meaning the hospital reported **more** CLABSIs than predicted, and one hospital had an SIR of 1.00, meaning the hospital reported the same number as expected.

For many of the hospitals, the difference between the observed (number reported by the hospital) number of infections and predicted number of infections was not statistically meaningful. This occurs either when the hospital has a small number of patients with central lines in place or when the difference between the observed and predicted number is small. In such circumstances, the reliability (as demonstrated by the wide confidence intervals in the tables) is lower, and the “true” SIR may be either <1.00 or >1.00. As one example of this problem, a total of 72 (37.3 percent) of the hospitals had a predicted number of CLABSIs in their ICUs and wards that was <1. Findings for hospitals with such a low number of predicted infections are considered to be statistically unreliable, and the findings should be very cautiously interpreted and used.

Among the 193 hospitals in the ICU-other category, 13 (6.7 percent) hospitals had a reported number of central line-associated bloodstream infections that was significantly better than predicted. These hospitals are listed below in Table 13 in alphabetical order and are designated in green in Table 16. In contrast, 14 (7.3 percent) hospitals had a reported number of CLABSIs that was significantly worse than predicted. These hospitals are listed below in Table 14 and are designated in red in Table 16. All other hospitals are considered to have an incidence of CLABSIs in their critical care units and ward locations that are within (or no different from) the number predicted based on statewide rates of CLABSIs.

Among the other CLABSI-related locations (NICU, SCA, and LTAC), one (2.3 percent) of the 43 NICUs had an observed number of infections that was significantly worse than predicted; the remainder were no different than predicted. For specialty care areas, there were two (9.1 percent) that had an observed number of infections that was significantly better than expected, and two (9.1 percent) that had an observed number of infections that was significantly worse than expected. For long term-acute care hospitals, there were three (11.1 percent) facilities that had an observed number of infections that was significantly better than predicted and three (11.1 percent) that were significantly worse than predicted.

In order to categorize and compare hospitals that are similar, the next tables divide the hospitals based on the number of predicted infections. The categories that are used include hospitals with <1 predicted CLABSI, 1-2.99 predicted CLABSIs, 3-7.49 predicted CLABSIs, 7.5-14.99 predicted CLABSIs, 15-29.99 predicted CLABSIs and 30+ predicted CLABSIs. Within each tier, hospitals are listed in order by SIR from best to worst. There are separate sections for CCU-other, NICUs, SCAs, and LTACs.

Table 13
 Pennsylvania Hospitals with a Significantly **Better** than Predicted
 Number of Central Line-Associated Bloodstream Infections in 2011

CCU & OTHER WARD LOCATIONS

ALTOONA REGIONAL HEALTH SYSTEM	UPMC PRESBYTERIAN SHADYSIDE – SHADYSIDE (10118)
DOYLESTOWN HOSPITAL	UPMC ST MARGARET
EXCELA HEALTH WESTMORELAND REGIONAL HOSPITAL	
HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	<u>SPECIALTY CARE AREAS</u>
JEANES HOSPITAL	THOMAS JEFFERSON UNIVERSITY HOSPITAL
LEHIGH VALLEY HOSPITAL – MUHLENBERG	UPMC PRESBYTERIAN SHADYSIDE – SHADYSIDE (10118)
MOUNT NITTANY MEDICAL CENTER	
PINNACLE HEALTH HOSPITALS	<u>LONG TERM ACUTE CARE HOSPITALS</u>
ST CLAIR MEMORIAL HOSPITAL	LIFECARE HOSPITALS OF PITTSBURGH – ALLE KISKI CAMPUS
UPMC HAMOT	SELECT SPECIALTY HOSPITAL – CENTRAL PENNSYLVANIA (YORK)
UPMC MERCY	SPECIAL CARE HOSPITAL

Table 14
 Pennsylvania Hospitals with a Significantly **Worse** than Predicted
 Number of Central Line-Associated Bloodstream Infections in 2011

CCU & OTHER WARD LOCATIONS

ALBERT EINSTEIN MEDICAL CENTER	THOMAS JEFFERSON UNIVERSITY HOSPITAL – METHODIST
ALBERT EINSTEIN MEDICAL CENTER AT ELKINS PARK	
CHILDREN’S HOSPITAL OF PHILADELPHIA	<u>NEONATAL INTENSIVE CARE UNITS</u>
CHILDREN’S HOSPITAL OF PITTSBURGH OF UPMC	CHILDREN’S HOSPITAL OF PHILADELPHIA
EASTERN REGIONAL MEDICAL CENTER	
GEISINGER MEDICAL CENTER	<u>SPECIALTY CARE AREAS</u>
LANCASTER REGIONAL MEDICAL CENTER	CHILDREN’S HOSPITAL OF PITTSBURGH OF UPMC
MERCY FITZGERALD HOSPITAL	WILKES-BARRE GENERAL HOSPITAL
MILTON S HERSHEY MEDICAL CENTER	
NAZARETH HOSPITAL	<u>LONG TERM ACUTE CARE HOSPITALS</u>
ROXBOROUGH HOSPITAL	GOOD SHEPHERD PENN PARTNERS
ST JOSEPH’S HOSPITAL	KINDRED HOSPITAL – PHILADELPHIA
TEMPLE UNIVERSITY HOSPITAL	KINDRED HOSPITAL – SOUTH PHILADELPHIA

**Hospitals Omitted from Tables 15-19 Due to No Reported Central Line Use
By Name and NHSN ID Number
(N = 32)**

BARIX CLINICS OF PENNSYLVANIA (12037)
BELMONT CENTER FOR COMPREHENSIVE TREATMENT (12505)
BROOKE GLEN BEHAVIORAL HOSPITAL (12623)
BUCKS COUNTY SPECIALTY HOSPITAL (15202)
CLARION PSYCHIATRIC CENTER (12454)
CLARKS SUMMIT STATE HOSPITAL (12051)
DANVILLE STATE HOSPITAL (11848)
DEVEREAUX CHILDREN'S BEHAVIORAL HEALTH INSTITUTE (12738)
DIVINE PROVIDENCE HOSPITAL (11743)
EDGEWOOD SURGICAL HOSPITAL (12552)
FAIRMOUNT BEHAVIORAL HEALTH SYSTEM (12565)
FIRST HOSPITAL OF WYOMING VALLEY (12050)
FOUNDATIONS BEHAVIORAL HEALTH (12832)
FRIENDS HOSPITAL (12488)
HAVEN BEHAVIORAL HOSPITAL OF EASTERN PENNSYLVANIA (14471)
HORSHAM CLINIC (12543)
KIDSPEACE ORCHARD HILLS CAMPUS (12430)
KIRKBRIDE CENTER (12624)
MEYERSDALE COMMUNITY HOSPITAL (11968)
MONTGOMERY COUNTY MH/MR EMERGENCY SERVICES, INC. (12287)
NORRISTOWN STATE HOSPITAL (12047)
OSS ORTHOPAEDIC HOSPITAL (18467)
PHILHAVEN HOSPITAL (11740)
ROXBURY TREATMENT CENTER (12723)
ST JOHN VIANNEY HOSPITAL (12548)
SHRINERS HOSPITAL FOR CHILDREN – ERIE (12411)
SOUTHWOOD PSYCHIATRIC HOSPITAL (12453)
SURGICAL INSTITUTE OF READING (12535)
THE MEADOWS PSYCHIATRIC CENTER (12156)
TORRANCE STATE HOSPITAL (12091)
WARREN STATE HOSPITAL (12081)
WERNERSVILLE STATE HOSPITAL (12368)

Table 15
Central Line-Associated Bloodstream Infection (CLABSI) Adjusted Standardized Infection Ratios (SIRs)
(DUR and Medical School Affiliation) by PA Hospitals by Location and Expected Infections
Sorted by Adjusted SIR

CCU and Other Wards						
Hospitals with < 1 Predicted Infection - Critical Care Units and Wards						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
19630	PHYSICIANS CARE SURGICAL HOSPITAL	0	0.00	0.00	0.00	0-3586.87
16317	ADVANCED SURGICAL HOSPITAL	0	0.00	0.00	0.00	0-2729.14
14190	PENNSYLVANIA PSYCHIATRIC INSTITUTE	0	0.00	0.00	0.00	0-946.23
12283	CORRY MEMORIAL HOSPITAL	0	0.01	-0.01	0.00	0-339.26
12965	EAGLEVILLE HOSPITAL	0	0.02	-0.02	0.00	0-182.56
15259	CH HOSPITAL OF ALLENTOWN	0	0.02	-0.02	0.00	0-176.2
11829	TYLER MEMORIAL HOSPITAL	0	0.04	-0.04	0.00	0-95.05
12404	BARNES-KASSON COUNTY HOSPITAL	0	0.04	-0.04	0.00	0-89.7
12461	BUCKTAIL MEDICAL CENTER	0	0.05	-0.05	0.00	0-71
12418	BROOKVILLE HOSPITAL	0	0.07	-0.07	0.00	0-55.71
12295	MINERS MEDICAL CENTER	0	0.07	-0.07	0.00	0-55.6
12487	WESTFIELD HOSPITAL	0	0.08	-0.08	0.00	0-44.75
12717	TYRONE HOSPITAL	0	0.09	-0.09	0.00	0-42.66
11872	COORDINATED HEALTH ORTHOPEDIC HOSPITAL, LLC	0	0.09	-0.09	0.00	0-39.47
12549	MEMORIAL HOSPITAL, INC. TOWANDA	0	0.10	-0.10	0.00	0-35.21
12031	WINDBER HOSPITAL	0	0.10	-0.10	0.00	0-35.18
11817	ENDLESS MOUNTAINS HEALTH SYSTEMS	0	0.11	-0.11	0.00	0-34.5
12097	LOCK HAVEN HOSPITAL	0	0.13	-0.13	0.00	0-28.59
12105	SUNBURY COMMUNITY HOSPITAL	0	0.14	-0.14	0.00	0-25.94
11939	FULTON COUNTY MEDICAL CENTER	0	0.14	-0.14	0.00	0-25.67
12338	MARIAN COMMUNITY HOSPITAL	0	0.14	-0.14	0.00	0-25.6
11907	NASON HOSPITAL	0	0.15	-0.15	0.00	0-23.68
11680	UPMC BEDFORD	0	0.16	-0.16	0.00	0-23.08
11784	ST. LUKE'S MINERS MEMORIAL HOSPITAL	0	0.18	-0.18	0.00	0-20.36
11738	TITUSVILLE AREA HOSPITAL	0	0.19	-0.19	0.00	0-18.88
12111	KANE COMMUNITY HOSPITAL	0	0.20	-0.20	0.00	0-18.15
12365	ST. CATHERINE MEDICAL CENTER FOUNTAIN SPRINGS	0	0.21	-0.21	0.00	0-17.65
11557	MID-VALLEY HOSPITAL	0	0.26	-0.26	0.00	0-14.02
12029	VALLEY FORGE MEDICAL CENTER AND HOSPITAL	0	0.27	-0.27	0.00	0-13.4
11689	JERSEY SHORE HOSPITAL	0	0.28	-0.28	0.00	0-13.12
12483	ST. MARY MEDICAL CENTER REHAB	0	0.28	-0.28	0.00	0-12.97
12591	ALLIED SERVICES INSTITUTE OF REHABILITATION	0	0.30	-0.30	0.00	0-12.28
11861	JOHN HEINZ INSTITUTE OF REHABILITATION	0	0.32	-0.32	0.00	0-11.35
11830	PUNXSUTAWNEY AREA HOSPITAL	0	0.33	-0.33	0.00	0-11.28

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11667	HEALTHSOUTH NITTANY VALLEY REHABILITATION HOSPITAL	0	0.33	-0.33	0.00	0-11.17
11722	GROVE CITY MEDICAL CENTER	0	0.34	-0.34	0.00	0-10.83
12273	CRICHTON REHABILITATION CENTER	0	0.36	-0.36	0.00	0-10.3
12396	PALMERTON HOSPITAL	0	0.37	-0.37	0.00	0-9.91
11993	GEISINGER HEALTHSOUTH REHABILITATION HOSPITAL	0	0.38	-0.38	0.00	0-9.76
11748	MUNCY VALLEY HOSPITAL	0	0.39	-0.39	0.00	0-9.43
11724	J C BLAIR MEMORIAL HOSP	0	0.41	-0.41	0.00	0-8.93
12628	LANCASTER REHABILITATION HOSPITAL	0	0.41	-0.41	0.00	0-8.89
11851	CROZER CHESTER MEDICAL CENTER SPRINGFIELD	0	0.41	-0.41	0.00	0-8.87
12361	BRADFORD REGIONAL MEDICAL CENTER	0	0.43	-0.43	0.00	0-8.56
12133	SHAMOKIN AREA COMMUNITY HOSPITAL	0	0.43	-0.43	0.00	0-8.53
11843	CLEARFIELD HOSPITAL	0	0.44	-0.44	0.00	0-8.27
12244	SHRINERS HOSPITAL FOR CHILDREN --- PHILADELPHIA	0	0.46	-0.46	0.00	0-7.94
11859	ELK REGIONAL HEALTH CENTER	0	0.46	-0.46	0.00	0-7.91
11779	ELLWOOD CITY HOSPITAL	0	0.54	-0.54	0.00	0-6.81
12066	HEALTHSOUTH REHABILITATION HOSPITAL OF SEWICKLEY	0	0.54	-0.54	0.00	0-6.78
12058	HEALTHSOUTH REHABILITATION HOSPITAL OF YORK	0	0.54	-0.54	0.00	0-6.77
11642	WAYNESBORO HOSPITAL	0	0.58	-0.58	0.00	0-6.32
12571	HEART OF LANCASTER REGIONAL MEDICAL CENTER	0	0.65	-0.65	0.00	0-5.66
11711	ST. LUKE'S QUAKERTOWN HOSPITAL	0	0.66	-0.66	0.00	0-5.58
12241	GNADEN HUETTEN MEMORIAL HOSPITAL	0	0.69	-0.69	0.00	0-5.28
11903	HEALTHSOUTH REHABILITATION HOSPITAL OF ALTOONA	0	0.79	-0.79	0.00	0-4.62
11531	GETTYSBURG HOSPITAL	0	0.99	-0.99	0.00	0-3.7
12004	WAYNE MEMORIAL HOSPITAL	1	0.93	0.07	1.08	0.01-6.01
12139	HEALTHSOUTH READING REHABILITATION HOSPITAL	1	0.73	0.27	1.36	0.02-7.58
12253	MILLCREEK COMMUNITY HOSPITAL	1	0.73	0.27	1.38	0.02-7.66
12337	JENNERSVILLE REGIONAL HOSPITAL	1	0.72	0.28	1.38	0.02-7.69
11942	SOUTHWEST REGIONAL MEDICAL CENTER	1	0.71	0.29	1.40	0.02-7.8
11997	CARLISLE REGIONAL MEDICAL CENTER	1	0.71	0.29	1.40	0.02-7.81
12609	KENSINGTON HOSPITAL	1	0.69	0.31	1.46	0.02-8.1
12266	CHILDREN'S INSTITUTE OF PITTSBURGH	1	0.57	0.43	1.77	0.02-9.85
11902	HIGHLANDS HOSPITAL	1	0.48	0.52	2.08	0.03-11.59
11688	SOLDIERS & SAILORS MEM HOSPITAL	1	0.44	0.56	2.28	0.03-12.68
11956	CHARLES COLE MEMORIAL HOSPITAL	1	0.39	0.61	2.55	0.03-14.2
11442	BERWICK HOSPITAL CENTER	1	0.39	0.61	2.59	0.03-14.43
12216	WARREN GENERAL HOSPITAL	2	0.36	1.64	5.55	0.62-20.04
12008	BLOOMSBURG HOSPITAL	2	0.30	1.70	6.74	0.76-24.32
12348	EASTERN REGIONAL MEDICAL CENTER	2	0.11	1.89	17.68	1.99-63.85

Hospitals with 1 - 2.99 Predicted Infections - Critical Care Units and Wards						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11825	LEWISTOWN HOSPITAL	0	1.08	-1.08	0.00	0-3.4
11586	CANONSBURG GENERAL HOSPITAL	0	1.15	-1.15	0.00	0-3.19
12402	HEALTHSOUTH REHABILITATION HOSPITAL OF MECHANICSBURG	0	1.28	-1.28	0.00	0-2.86
11764	EPHRATA COMMUNITY HOSPITAL	0	1.41	-1.41	0.00	0-2.6
11639	EXCELA HEALTH FRICK HOSPITAL	0	1.45	-1.45	0.00	0-2.53
11654	CLARION HOSPITAL	0	1.57	-1.57	0.00	0-2.34
11701	EVANGELICAL COMMUNITY HOSPITAL	0	1.65	-1.65	0.00	0-2.23
11727	HEALTHSOUTH HARMARVILLE REHABILITATION HOSPITAL	0	1.67	-1.67	0.00	0-2.2
11899	HANOVER HOSPITAL	0	1.88	-1.88	0.00	0-1.95
12250	SHARON REGIONAL HEALTH SYSTEM	0	2.07	-2.07	0.00	0-1.78
11606	DUBOIS REGIONAL MEDICAL CENTER	0	2.41	-2.41	0.00	0-1.52
12146	MAGEE REHAB HOSPITAL	0	2.50	-2.50	0.00	0-1.47
12508	ALBERT EINSTEIN MEDICAL CENTER MOSS REHABILITATION	0	2.73	-2.73	0.00	0-1.34
11836	PHOENIXVILLE HOSPITAL COMPANY LLC	1	2.95	-1.95	0.34	0-1.89
12304	CHESTNUT HILL HOSPITAL	1	2.29	-1.29	0.44	0.01-2.43
11837	UPMC NORTHWEST	1	1.96	-0.96	0.51	0.01-2.84
11759	INDIANA REGIONAL MEDICAL CENTER	1	1.62	-0.62	0.62	0.01-3.43
12057	ARMSTRONG COUNTY MEMORIAL HOSPITAL	2	2.96	-0.96	0.68	0.08-2.44
12390	LOWER BUCKS HOSPITAL	1	1.38	-0.38	0.72	0.01-4.03
11417	MAIN LINE HOSPITAL BRYN MAWR REHABILITATION	1	1.34	-0.34	0.75	0.01-4.16
11915	PENN STATE HERSHEY REHABILITATION LLC	1	1.33	-0.33	0.75	0.01-4.18
11675	UPMC HORIZON	2	2.57	-0.57	0.78	0.09-2.81
12018	TROY COMMUNITY HOSPITAL	1	1.17	-0.17	0.86	0.01-4.77
11810	HEALTHSOUTH REHABILITATION HOSPITAL OF ERIE	1	1.06	-0.06	0.94	0.01-5.25
11633	MEMORIAL HOSPITAL YORK	3	2.51	0.49	1.20	0.24-3.5
12282	SOMERSET HOSPITAL	2	1.38	0.62	1.44	0.16-5.21
11842	ALLEGHENY VALLEY HOSPITAL	5	2.97	2.03	1.68	0.54-3.93
13702	UPMC PRESBYTERIAN SHADYSIDE --- WPIC	3	1.74	1.26	1.72	0.35-5.04
11979	BRANDYWINE HOSPITAL	4	2.31	1.69	1.73	0.47-4.43
11878	HAZLETON GENERAL HOSPITAL	3	1.65	1.35	1.82	0.37-5.31
11922	SCHUYLKILL MEDICAL CENTER --- EAST NORWEGIAN STREET	3	1.65	1.35	1.82	0.37-5.32
11684	SACRED HEART HOSPITAL	3	1.49	1.51	2.01	0.4-5.86
12032	LANSDALE HOSPITAL	3	1.43	1.57	2.10	0.42-6.15
12298	OHIO VALLEY GENERAL HOSPITAL	5	1.89	3.11	2.65	0.85-6.18
11954	JAMESON MEMORIAL HOSPITAL	6	2.26	3.74	2.65	0.97-5.77
11947	MONTGOMERY HOSPITAL	6	2.20	3.80	2.73	1-5.95
12087	SCHUYLKILL MEDICAL CENTER --- SOUTH JACKSON STREET	3	1.04	1.96	2.89	0.58-8.43
11896	THE GOOD SHEPHERD REHABILITATION HOSPITAL	4	1.12	2.88	3.56	0.96-9.11
12335	LANCASTER REGIONAL MEDICAL CENTER	8	1.96	6.04	4.09	1.76-8.06

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11978	ROXBOROUGH MEMORIAL HOSPITAL	10	2.42	7.58	4.14	1.98-7.61
12500	ALBERT EINSTEIN MEDICAL CENTER AT ELKINS PARK	7	1.24	5.76	5.63	2.26-11.6
Hospitals with 3 - 7.49 Predicted Infections - Critical Care Units and Wards						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
10190	DOYLESTOWN HOSPITAL	0	4.56	-4.56	0.00	0-0.8
11459	JEANES HOSPITAL	0	5.89	-5.89	0.00	0-0.62
11797	MOUNT NITTANY MEDICAL CENTER	0	6.28	-6.28	0.00	0-0.58
10178	ALTOONA REGIONAL HEALTH SYSTEM	1	7.16	-6.16	0.14	0-0.78
11946	MERCY PHILADELPHIA HOSPITAL	1	5.15	-4.15	0.19	0-1.08
11914	COMMUNITY MEDICAL CENTER	1	4.73	-3.73	0.21	0-1.18
11583	MEADVILLE MEDICAL CENTER	1	3.15	-2.15	0.32	0-1.77
11864	THE WESTERN PENNSYLVANIA HOSPITAL	1	3.07	-2.07	0.33	0-1.81
11929	EASTON HOSPITAL	2	6.00	-4.00	0.33	0.04-1.2
11847	GRAND VIEW HOSPITAL	2	4.75	-2.75	0.42	0.05-1.52
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER	3	6.68	-3.68	0.45	0.09-1.31
11973	HOLY REDEEMER HOSPITAL AND MEDICAL CENTER	2	3.96	-1.96	0.51	0.06-1.82
11460	THE WASHINGTON HOSPITAL	3	5.23	-2.23	0.57	0.12-1.68
11983	POTTSTOWN MEMORIAL MEDICAL CENTER	2	3.44	-1.44	0.58	0.07-2.1
11707	UPMC MCKEESPORT	4	6.70	-2.70	0.60	0.16-1.53
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	4	6.05	-2.05	0.66	0.18-1.69
10301	MAGEE WOMENS HOSPITAL OF UPMC HEALTH SYSTEM	5	6.99	-1.99	0.72	0.23-1.67
10441	UNIONTOWN HOSPITAL	3	4.16	-1.16	0.72	0.15-2.11
11750	MAIN LINE HOSPITAL --- PAOLI	3	3.84	-0.84	0.78	0.16-2.28
11731	RIDDLE MEMORIAL HOSPITAL	4	4.66	-0.66	0.86	0.23-2.2
11528	MOSES TAYLOR HOSPITAL	4	4.23	-0.23	0.95	0.25-2.42
11736	BUTLER MEMORIAL HOSPITAL	5	4.89	0.11	1.02	0.33-2.39
12533	REGIONAL HOSPITAL OF SCRANTON	6	5.24	0.76	1.15	0.42-2.49
11913	CHAMBERSBURG HOSPITAL	5	4.18	0.82	1.20	0.39-2.79
11772	POCONO MEDICAL CENTER	6	5.00	1.00	1.20	0.44-2.61
11069	MONONGAHELA VALLEY HOSPITAL	4	3.29	0.71	1.21	0.33-3.11
11712	THE GOOD SAMARITAN HOSPITAL	4	3.18	0.82	1.26	0.34-3.22
10237	JEFFERSON REGIONAL MEDICAL CENTER	8	6.06	1.94	1.32	0.57-2.6
11932	CROZER CHESTER MEDICAL CENTER TAYLOR	7	5.14	1.86	1.36	0.55-2.8
11952	MERCY SUBURBAN HOSPITAL NORRISTOWN	6	4.24	1.76	1.42	0.52-3.08
12387	HOLY SPIRIT HOSPITAL	10	6.73	3.27	1.49	0.71-2.73
10375	HERITAGE VALLEY SEWICKLEY	5	3.18	1.82	1.57	0.51-3.67
11651	EXCELA HEALTH LATROBE HOSPITAL	6	3.65	2.35	1.64	0.6-3.57
12290	ST. CHRISTOPHER'S HOSPITAL FOR CHILDREN	7	4.21	2.79	1.66	0.67-3.43
11683	MERCY FITZGERALD HOSPITAL	13	6.31	6.69	2.06	1.1-3.52

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12438	ST. JOSEPH'S HOSPITAL	16	4.93	11.07	3.24	1.85-5.27
11919	NAZARETH HOSPITAL	16	3.87	12.13	4.14	2.36-6.72
Hospitals with 7.5 - 14.99 Predicted Infections - Critical Care Units and Wards						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11898	LEHIGH VALLEY HOSPITAL --- MUHLENBERG	0	8.92	-8.92	0.00	0-0.41
10561	ST. CLAIR MEMORIAL HOSPITAL	1	9.16	-8.16	0.11	0-0.61
11561	UPMC ST MARGARET	4	10.69	-6.69	0.37	0.1-0.96
11242	UPMC PASSAVANT	7	11.61	-4.61	0.60	0.24-1.24
10183	LANCASTER GENERAL HOSPITAL	8	13.11	-5.11	0.61	0.26-1.2
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	6	8.74	-2.74	0.69	0.25-1.49
12016	CHESTER COUNTY HOSPITAL	6	8.73	-2.73	0.69	0.25-1.5
11699	ST. VINCENT HEALTH CENTER	8	9.94	-1.94	0.81	0.35-1.59
11839	CROZER CHESTER MEDICAL CENTER	12	13.10	-1.10	0.92	0.47-1.6
11265	FORBES REGIONAL HOSPITAL	8	8.53	-0.53	0.94	0.4-1.85
11448	PENNSYLVANIA HOSP OF THE UNIV OF PA HEALTH SYS	14	12.14	1.86	1.15	0.63-1.94
11961	ST. JOSEPH MEDICAL CENTER	9	7.71	1.29	1.17	0.53-2.22
11770	MAIN LINE HOSPITAL LANKENAU MEDICAL CENTER	14	11.93	2.07	1.17	0.64-1.97
11814	PENN PRESBYTERIAN MEDICAL CENTER	12	10.02	1.98	1.20	0.62-2.09
11753	MAIN LINE HOSPITAL BRYN MAWR	11	8.84	2.16	1.24	0.62-2.23
11831	HERITAGE VALLEY BEAVER	11	8.58	2.42	1.28	0.64-2.29
11916	WILKES-BARRE GENERAL HOSPITAL	10	7.61	2.39	1.31	0.63-2.42
11885	ST. MARY MEDICAL CENTER	12	8.30	3.70	1.44	0.75-2.52
12422	ROBERT PACKER HOSPITAL	13	8.18	4.82	1.59	0.85-2.72
12017	THOMAS JEFFERSON UNIV HOSP - METHODIST	16	7.57	8.43	2.11	1.21-3.43
Hospitals with 15 - 29.99 Predicted Infections - Critical Care Units and Wards						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
10384	UPMC MERCY	6	19.78	-13.78	0.30	0.11-0.66
11637	EXCELA HEALTH WESTMORELAND REGIONAL HOSPITAL	5	15.61	-10.61	0.32	0.1-0.75
11725	UPMC HAMOT	7	20.91	-13.91	0.33	0.13-0.69
10122	PINNACLE HEALTH HOSPITALS	13	27.11	-14.11	0.48	0.26-0.82
10108	YORK HOSPITAL	10	16.56	-6.56	0.60	0.29-1.11
12375	READING HOSPITAL AND MEDICAL CENTER	15	22.26	-7.26	0.67	0.38-1.11
11718	ST. LUKE'S HOSPITAL BETHLEHEM	20	25.16	-5.16	0.79	0.49-1.23
11838	ABINGTON MEMORIAL HOSPITAL	16	17.63	-1.63	0.91	0.52-1.47
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	18	15.28	2.72	1.18	0.7-1.86
11437	HAHNEMANN UNIVERSITY HOSPITAL	20	16.90	3.10	1.18	0.72-1.83
11388	ARIA HEALTH	22	15.50	6.50	1.42	0.89-2.15
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	31	18.41	12.59	1.68	1.14-2.39
11747	MILTON S HERSHEY MEDICAL CENTER	47	27.89	19.11	1.69	1.24-2.24

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11640	CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC	35	17.42	17.58	2.01	1.4-2.79
12382	TEMPLE UNIVERSITY HOSPITAL	45	22.21	22.79	2.03	1.48-2.71
10585	ALBERT EINSTEIN MEDICAL CENTER	34	16.27	17.73	2.09	1.45-2.92
11775	GEISINGER MEDICAL CENTER	58	21.17	36.83	2.74	2.08-3.54
Hospitals with 30+ Predicted Infections - Critical Care Units and Wards						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
10219	HOSPITAL OF THE UNIV OF PENNSYLVANIA	18	61.29	-43.29	0.29	0.17-0.46
10118	UPMC PRESBYTERIAN SHADYSIDE --- SHADYSIDE	21	33.85	-12.85	0.62	0.38-0.95
11506	THOMAS JEFFERSON UNIV HOSPITAL	35	36.72	-1.72	0.95	0.66-1.33
11884	LEHIGH VALLEY HOSPITAL	37	37.08	-0.08	1.00	0.7-1.38
10648	ALLEGHENY GENERAL HOSPITAL	36	34.84	1.16	1.03	0.72-1.43
10348	UPMC PRESBYTERIAN SHADYSIDE --- PRESBYTERIAN	79	76.15	2.85	1.04	0.82-1.29
NICU						
Hospitals with < 1 Predicted Infection – NICU						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11684	SACRED HEART HOSPITAL	0	0.00	0.00	0.00	0 - 1383.57
11929	EASTON HOSPITAL	0	0.02	-0.02	0.00	0 - 192.79
11885	ST. MARY MEDICAL CENTER	0	0.04	-0.04	0.00	0 - 86.23
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	0	0.05	-0.05	0.00	0 - 76.61
12390	LOWER BUCKS HOSPITAL	0	0.06	-0.06	0.00	0 - 61.48
11961	ST. JOSEPH MEDICAL CENTER	0	0.12	-0.12	0.00	0 - 31.34
11750	MAIN LINE HOSPITAL --- PAOLI	0	0.12	-0.12	0.00	0 - 30.79
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	0	0.14	-0.14	0.00	0 - 25.7
11772	POCONO MEDICAL CENTER	0	0.14	-0.14	0.00	0 - 25.38
11606	DUBOIS REGIONAL MEDICAL CENTER	0	0.24	-0.24	0.00	0 - 15.37
12387	HOLY SPIRIT HOSPITAL	0	0.32	-0.32	0.00	0 - 11.46
11764	EPHRATA COMMUNITY HOSPITAL	0	0.34	-0.34	0.00	0 - 10.67
11528	MOSES TAYLOR HOSPITAL	0	0.40	-0.40	0.00	0 - 9.28
12016	CHESTER COUNTY HOSPITAL	0	0.61	-0.61	0.00	0 - 5.99
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	0	0.90	-0.90	0.00	0 - 4.07
11973	HOLY REDEEMER HOSPITAL AND MEDICAL CENTER	1	0.96	0.04	1.04	0.01 - 5.8
12571	HEART OF LANCASTER REGIONAL MEDICAL CENTER	1	0.22	0.78	4.59	0.06 - 25.53
10384	UPMC MERCY	1	0.17	0.83	5.91	0.08 - 32.88
Hospitals with 1+ Predicted Infection – NICU						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11753	MAIN LINE HOSPITAL BRYN MAWR	0	1.15	-1.15	0.00	0 - 3.19
11718	ST. LUKE'S HOSPITAL BETHLEHEM	0	1.18	-1.18	0.00	0 - 3.1

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11770	MAIN LINE HOSPITAL LANKENAU MEDICAL CENTER	0	1.34	-1.34	0.00	0 - 2.74
11884	LEHIGH VALLEY HOSPITAL	0	2.50	-2.50	0.00	0 - 1.47
11640	CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC	3	8.71	-5.71	0.34	0.07 - 1.01
12290	ST. CHRISTOPHER'S HOSPITAL FOR CHILDREN	3	8.14	-5.14	0.37	0.07 - 1.08
10108	YORK HOSPITAL	1	1.81	-0.81	0.55	0.01 - 3.07
10122	PINNACLE HEALTH HOSPITALS	2	3.54	-1.54	0.57	0.06 - 2.04
12375	READING HOSPITAL AND MEDICAL CENTER	1	1.67	-0.67	0.60	0.01 - 3.34
10585	ALBERT EINSTEIN MEDICAL CENTER	2	3.30	-1.30	0.61	0.07 - 2.19
11775	GEISINGER MEDICAL CENTER	3	3.94	-0.94	0.76	0.15 - 2.23
10301	MAGEE WOMENS HOSPITAL OF UPMC HEALTH SYSTEM	4	5.22	-1.22	0.77	0.21 - 1.96
11839	CROZER CHESTER MEDICAL CENTER	1	1.20	-0.20	0.83	0.01 - 4.62
11864	THE WESTERN PENNSYLVANIA HOSPITAL	4	4.59	-0.59	0.87	0.23 - 2.23
11747	MILTON S HERSHEY MEDICAL CENTER	5	5.72	-0.72	0.87	0.28 - 2.04
11437	HAHNEMANN UNIVERSITY HOSPITAL	2	1.69	0.31	1.19	0.13 - 4.28
11699	ST. VINCENT HEALTH CENTER	2	1.45	0.55	1.38	0.16 - 4.99
11838	ABINGTON MEMORIAL HOSPITAL	3	1.90	1.10	1.58	0.32 - 4.63
10219	HOSPITAL OF THE UNIV OF PENNSYLVANIA	6	3.59	2.41	1.67	0.61 - 3.64
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	29	16.90	12.10	1.72	1.15 - 2.46
11506	THOMAS JEFFERSON UNIV HOSPITAL	7	3.96	3.04	1.77	0.71 - 3.64
10183	LANCASTER GENERAL HOSPITAL	2	1.10	0.90	1.82	0.2 - 6.59
11725	UPMC HAMOT	2	1.07	0.93	1.87	0.21 - 6.75
12382	TEMPLE UNIVERSITY HOSPITAL	4	2.02	1.98	1.98	0.53 - 5.07
11448	PENNSYLVANIA HOSP OF THE UNIV OF PA HEALTH SYS	6	2.99	3.01	2.01	0.73 - 4.37

Specialty Care Areas

Hospitals with < 7.5 Predicted Infection - Specialty Care Areas

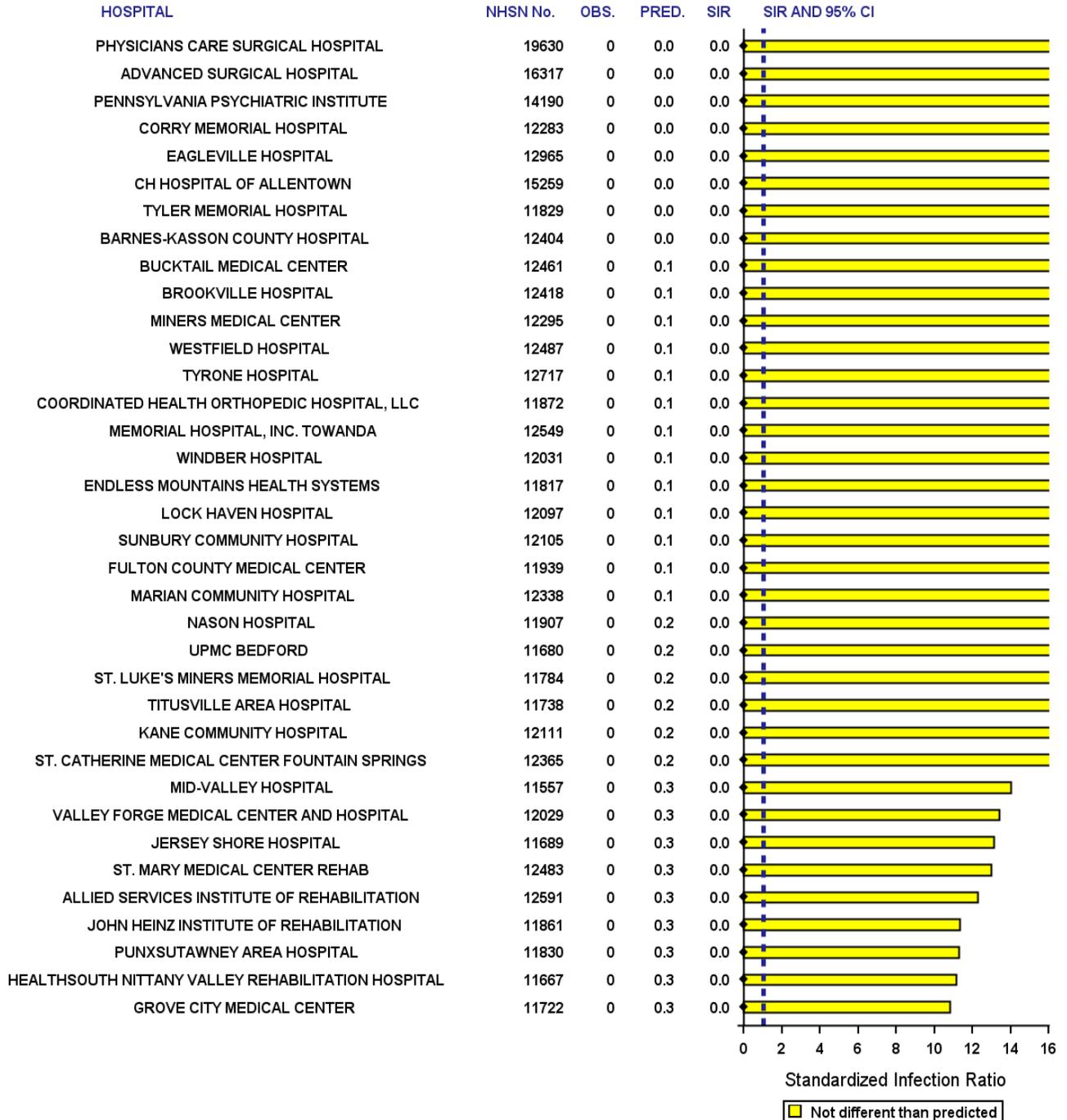
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
10237	JEFFERSON REGIONAL MEDICAL CENTER	0	1.60	-1.60	0.00	0-2.29
12290	ST. CHRISTOPHER'S HOSPITAL FOR CHILDREN	0	2.00	-2.00	0.00	0-1.83
12375	READING HOSPITAL AND MEDICAL CENTER	0	3.14	-3.14	0.00	0-1.17
11929	EASTON HOSPITAL	1	2.46	-1.46	0.41	0.01-2.26
11837	UPMC NORTHWEST	1	2.43	-1.43	0.41	0.01-2.29
11864	THE WESTERN PENNSYLVANIA HOSPITAL	4	5.63	-1.63	0.71	0.19-1.82
12382	TEMPLE UNIVERSITY HOSPITAL	3	3.93	-0.93	0.76	0.15-2.23
11838	ABINGTON MEMORIAL HOSPITAL	6	5.18	0.82	1.16	0.42-2.52
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	3	2.57	0.43	1.17	0.23-3.41
11651	EXCELA HEALTH LATROBE HOSPITAL	1	0.75	0.25	1.34	0.02-7.45
11265	FORBES REGIONAL HOSPITAL	3	2.06	0.94	1.46	0.29-4.26
12422	ROBERT PACKER HOSPITAL	6	3.08	2.92	1.95	0.71-4.25
12336	THE CHILDREN'S HOME OF PITTSBURGH	5	2.44	2.56	2.05	0.66-4.78

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11916	WILKES-BARRE GENERAL HOSPITAL	7	2.38	4.62	2.94	1.18-6.05
Hospitals with 7.5+ Predicted Infection - Specialty Care Areas						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
11506	THOMAS JEFFERSON UNIV HOSPITAL	4	11.55	-7.55	0.35	0.09-0.89
10118	UPMC PRESBYTERIAN SHADYSIDE --- SHADYSIDE	12	21.17	-9.17	0.57	0.29-0.99
12134	HOSPITAL OF FOX CHASE CANCER CENTER	9	12.75	-3.75	0.71	0.32-1.34
11437	HAHNEMANN UNIVERSITY HOSPITAL	8	8.24	-0.24	0.97	0.42-1.91
12348	EASTERN REGIONAL MEDICAL CENTER	18	17.52	0.48	1.03	0.61-1.62
11747	MILTON S HERSHEY MEDICAL CENTER	18	13.94	4.06	1.29	0.76-2.04
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	20	13.67	6.33	1.46	0.89-2.26
11640	CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC	22	12.51	9.49	1.76	1.1-2.66
Long Term Acute Care						
Hospitals with < 7.5 Predicted Infection - Long Term Acute Care						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12334	SELECT SPECIALITY HOSPITAL --- CENTRAL PENNSYLVANIA (YORK)	0	4.40	-4.40	0.00	0-0.83
18955	LIFECARE HOSPITALS OF PITTSBURGH --- ALLE-KISKI CAMPUS	1	5.87	-4.87	0.17	0-0.95
12296	KINDRED HOSPITAL PITTSBURGH --- NORTH SHORE	2	6.80	-4.80	0.29	0.03-1.06
12108	SELECT SPECIALTY HOSPITAL LAUREL HIGHLANDS, INC.	2	6.31	-4.31	0.32	0.04-1.14
12271	SELECT SPECIALTY HOSPITAL --- MCKEESPORT, INC.	3	5.98	-2.98	0.50	0.1-1.47
12007	KINDRED HOSPITAL EASTON	3	5.78	-2.78	0.52	0.1-1.52
12268	KINDRED HOSPITAL AT HERITAGE VALLEY	5	7.38	-2.38	0.68	0.22-1.58
12147	SELECT SPECIALTY HOSPITAL --- CENTRAL PENNSYLVANIA (CAMP HILL)	5	7.00	-2.00	0.71	0.23-1.67
12485	KINDRED HOSPITAL --- WYOMING VALLEY	7	6.79	0.21	1.03	0.41-2.13
12123	SELECT SPECIALTY HOSPITAL --- DANVILLE	4	3.84	0.16	1.04	0.28-2.67
12385	LIFECARE HOSPITALS OF PITTSBURGH --- SUBURBAN CAMPUS	8	5.81	2.19	1.38	0.59-2.71
12005	LIFECARE HOSPITALS OF CHESTER COUNTY	12	7.37	4.63	1.63	0.84-2.84
12009	SELECT SPECIALTY HOSPITAL --- PITTSBURGH/UPMC	12	6.75	5.25	1.78	0.92-3.1
12504	KINDRED HOSPITAL --- DELEWARE COUNTY	11	5.59	5.41	1.97	0.98-3.52
13929	GOOD SHEPHERD PENN PARTNERS	14	6.01	7.99	2.33	1.27-3.91
11940	KINDRED HOSPITAL SOUTH PHILADELPHIA	19	4.87	14.13	3.90	2.35-6.09
Hospitals with 7.5+ Predicted Infection - Long Term Acute Care						
orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12604	SPECIAL CARE HOSPITAL	1	9.70	-8.70	0.10	0-0.57
12388	LIFECARE HOSPITALS OF MECHANICSBURG	5	9.38	-4.38	0.53	0.17-1.24
11880	SELECT SPECIALITY HOSPITAL --- ERIE	5	7.87	-2.87	0.64	0.2-1.48
12299	SELECT SPECIALITY HOSPITAL --- JOHNSTOWN	5	7.64	-2.64	0.65	0.21-1.53
13921	SELECT MEDICAL AT POLYCLINIC MEDICAL CENTER	6	7.90	-1.90	0.76	0.28-1.65
12908	KINDRED HOSPITAL PHILADELPHIA --- HAVERTOWN	7	9.02	-2.02	0.78	0.31-1.6

orgID	Name	Observed	Expected	Difference	Adjusted SIR	Confidence Interval
12254	LIFECARE HOSPITALS OF PITTSBURGH --- MONROEVILLE	10	10.84	-0.84	0.92	0.44-1.7
11945	LIFECARE HOSPITALS OF PITTSBURGH	18	18.88	-0.88	0.95	0.56-1.51
11887	GOOD SHEPHERD SPECIALTY HOSPITAL	9	8.64	0.36	1.04	0.48-1.98
12358	KINDRED HOSPITAL --- PITTSBURGH	10	8.43	1.57	1.19	0.57-2.18
11832	KINDRED HOSPITAL --- PHILADELPHIA	21	10.17	10.83	2.06	1.28-3.16

Table 16 - Hospitals with <1 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
January 1, 2011 to December 31, 2011



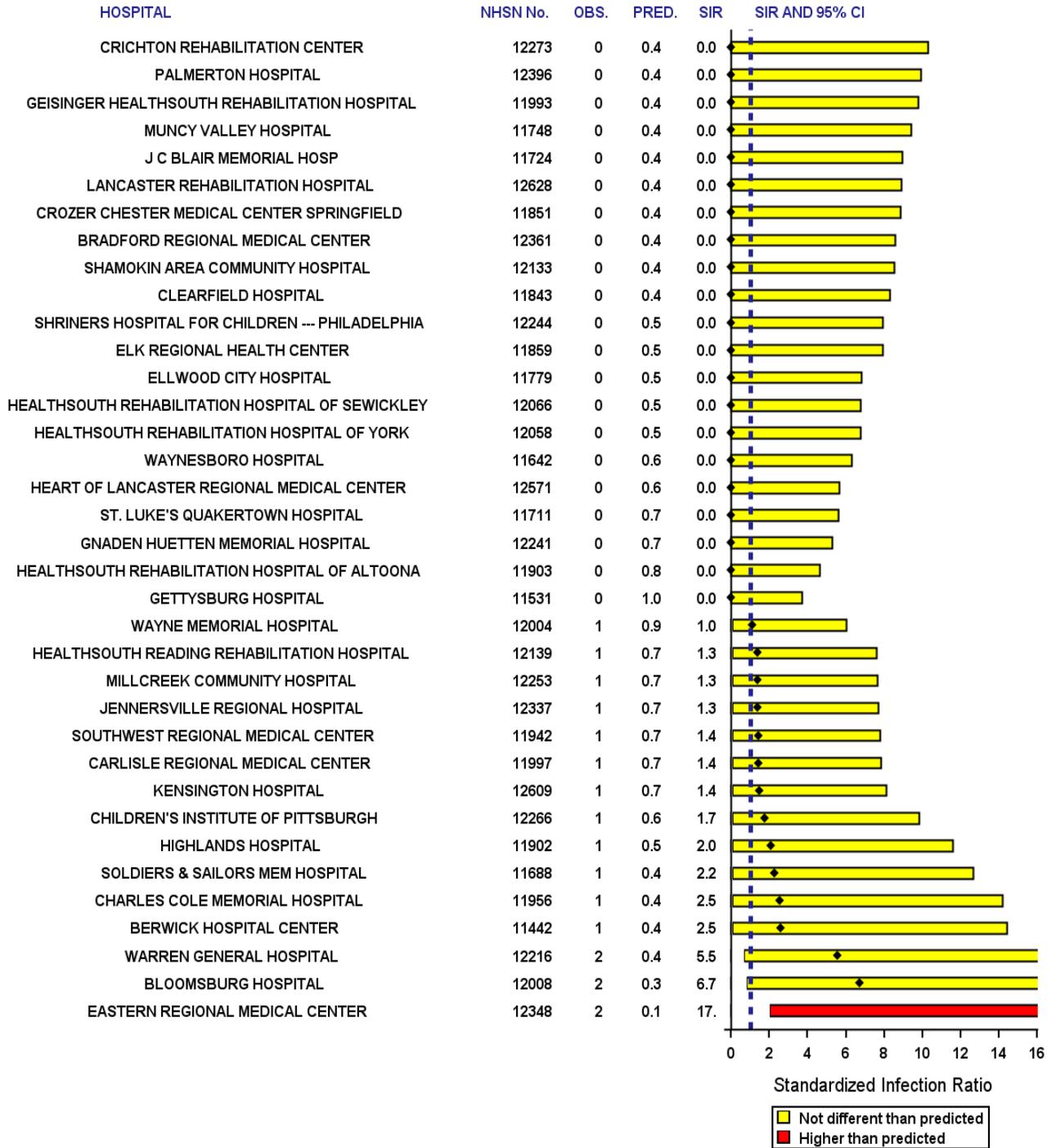
Obs. = observed number of CLABSI

Pred. = statistically 'predicted' number of CLABSI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 16 - Hospitals with <1 Predicted Infections

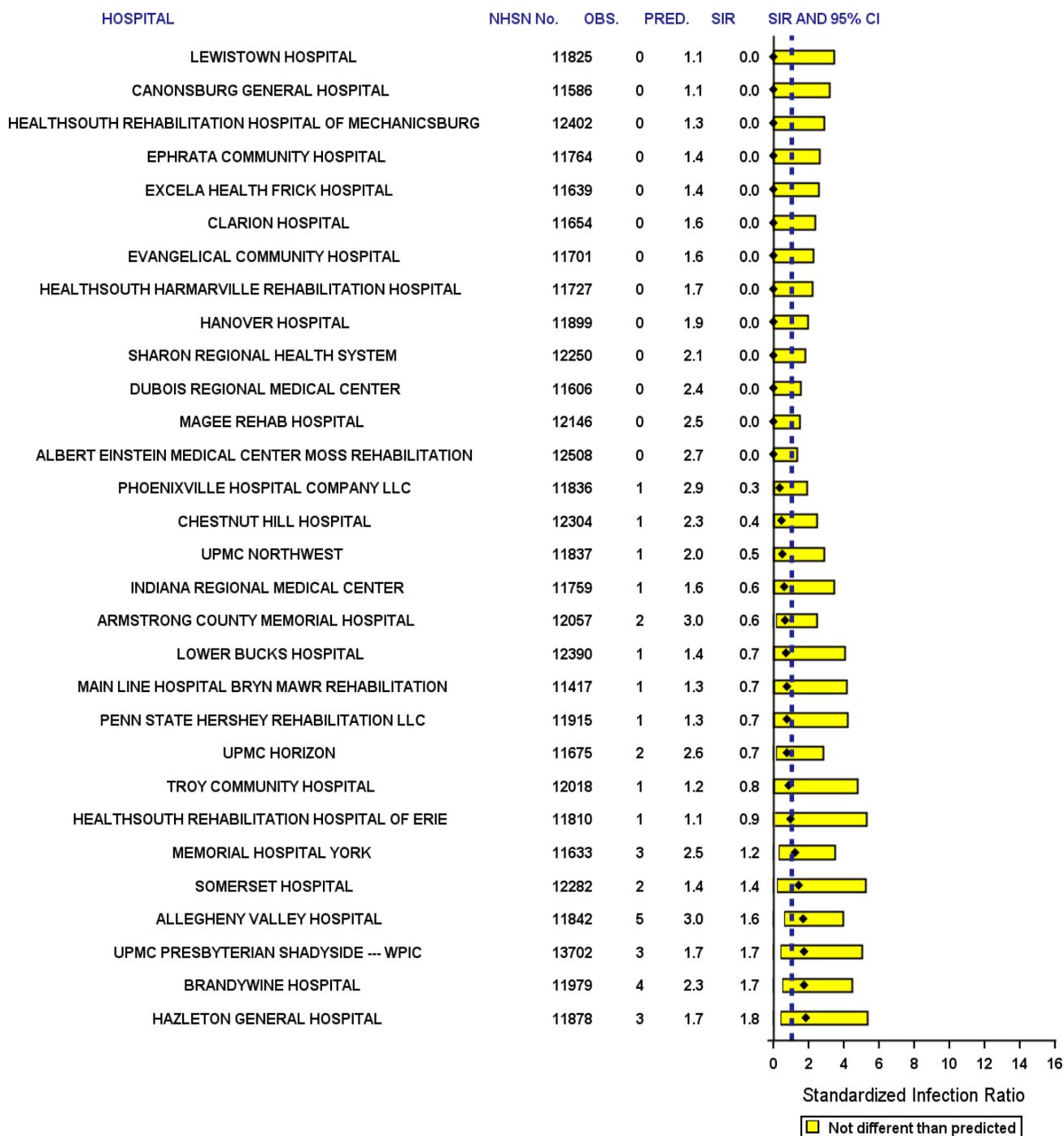
Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
January 1, 2011 to December 31, 2011



Obs. = observed number of CLABSI
 Pred. = statistically 'predicted' number of CLABSI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 16 - Hospitals with 1 - 2.99 Predicted Infections

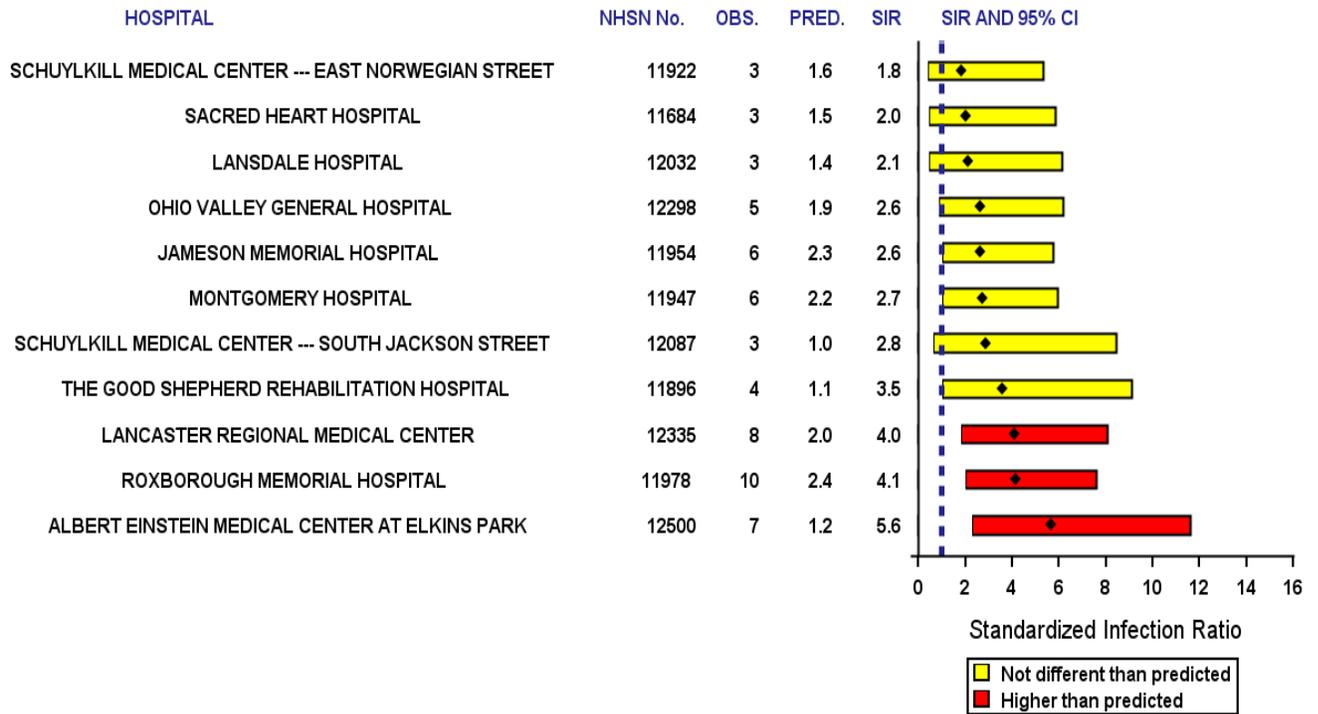
Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
January 1, 2011 to December 31, 2011



Obs. = observed number of CLABSI
 Pred. = statistically 'predicted' number of CLABSI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 16 - Hospitals with 1 - 2.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
January 1, 2011 to December 31, 2011



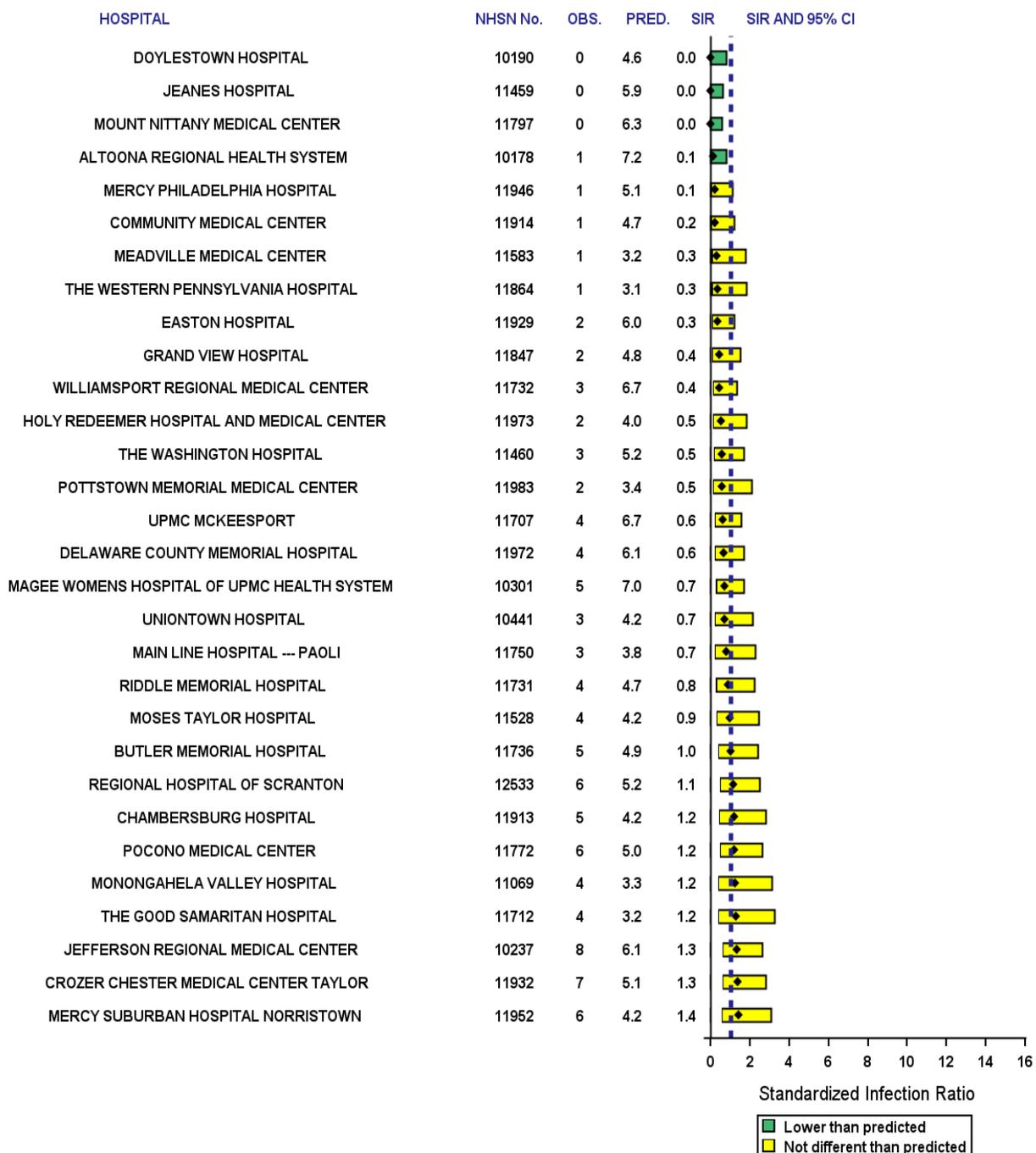
Obs. = observed number of CLABSI

Pred. = statistically 'predicted' number of CLABSI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 16 - Hospitals with 3 - 7.49 Predicted Infections

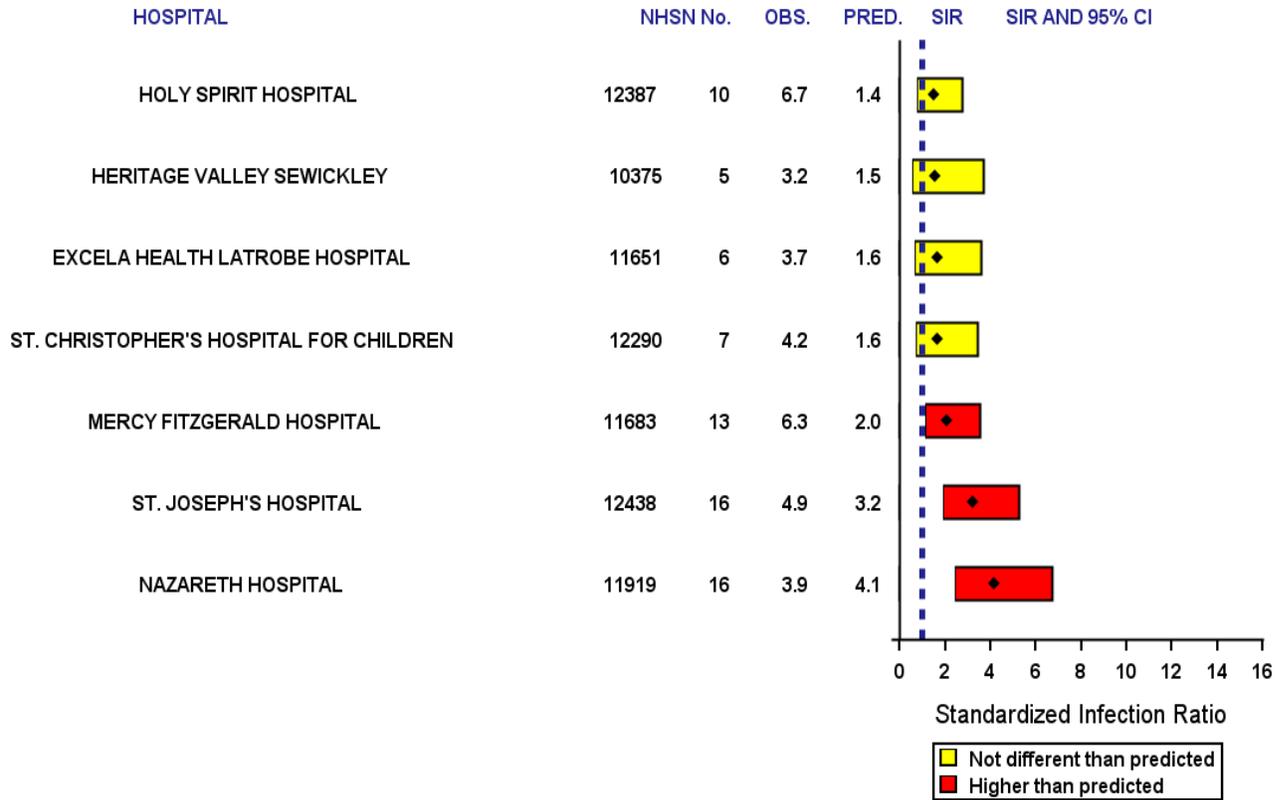
Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
January 1, 2011 to December 31, 2011



Obs. = observed number of CLABSI
 Pred. = statistically 'predicted' number of CLABSI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 16 - Hospitals with 3 - 7.49 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
 January 1, 2011 to December 31, 2011



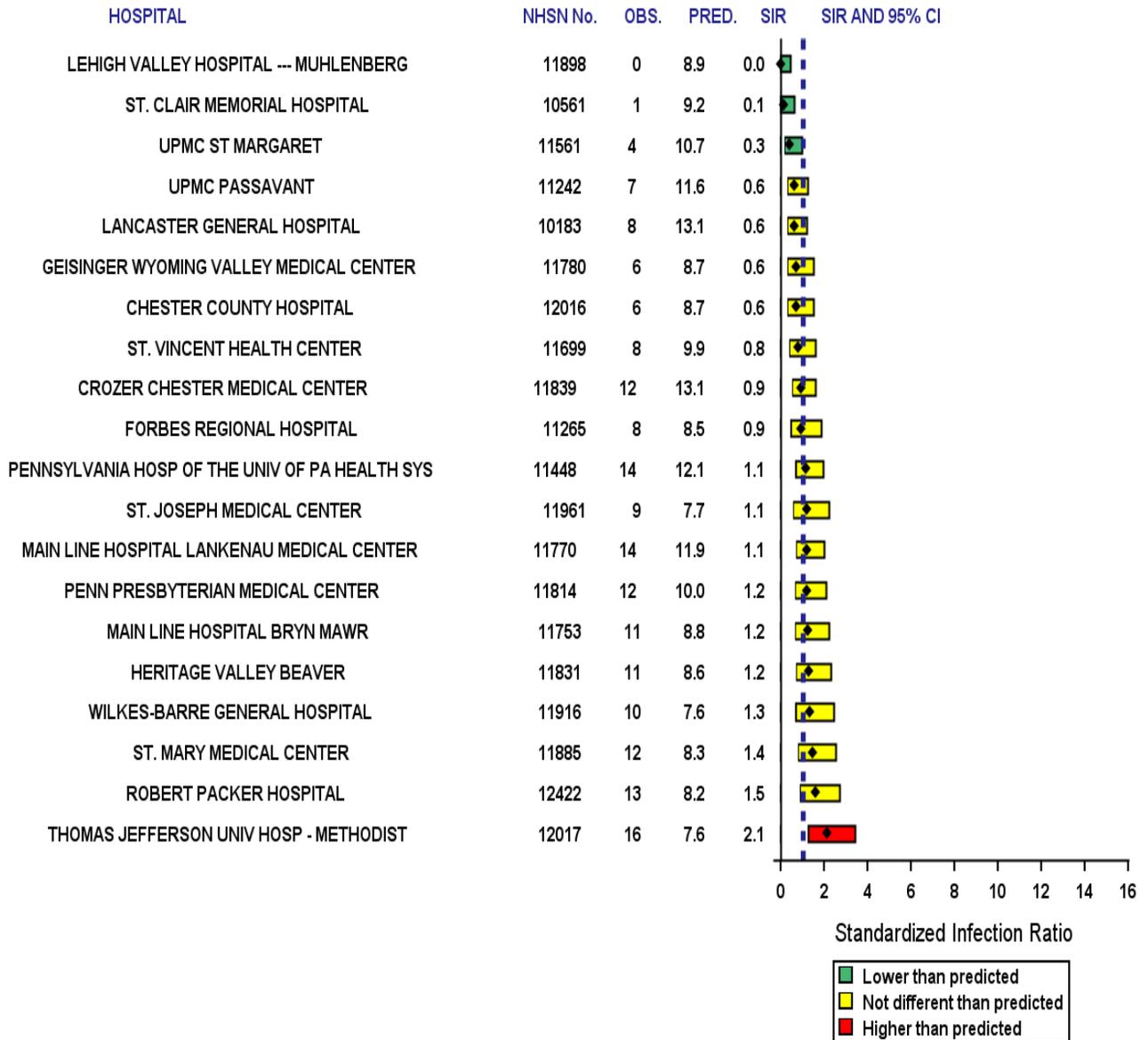
Obs. = observed number of CLABSI

Pred. = statistically 'predicted' number of CLABSI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 16 - Hospitals with 7.5 - 14.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
January 1, 2011 to December 31, 2011



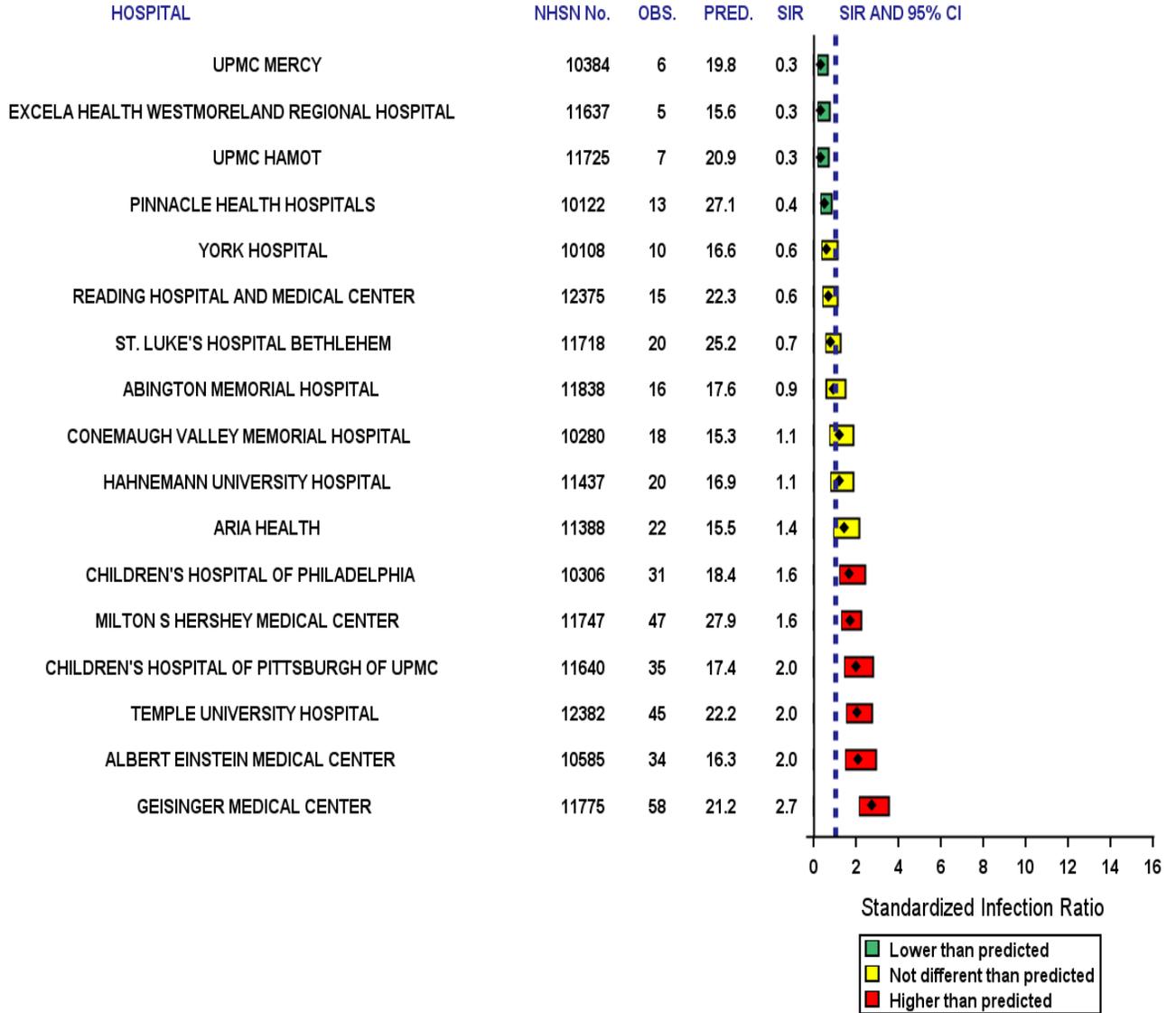
Obs. = observed number of CLABSIs

Pred. = statistically 'predicted' number of CLABSIs, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSIs)

Table 16 - Hospitals with 15 - 29.99 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards
 January 1, 2011 to December 31, 2011



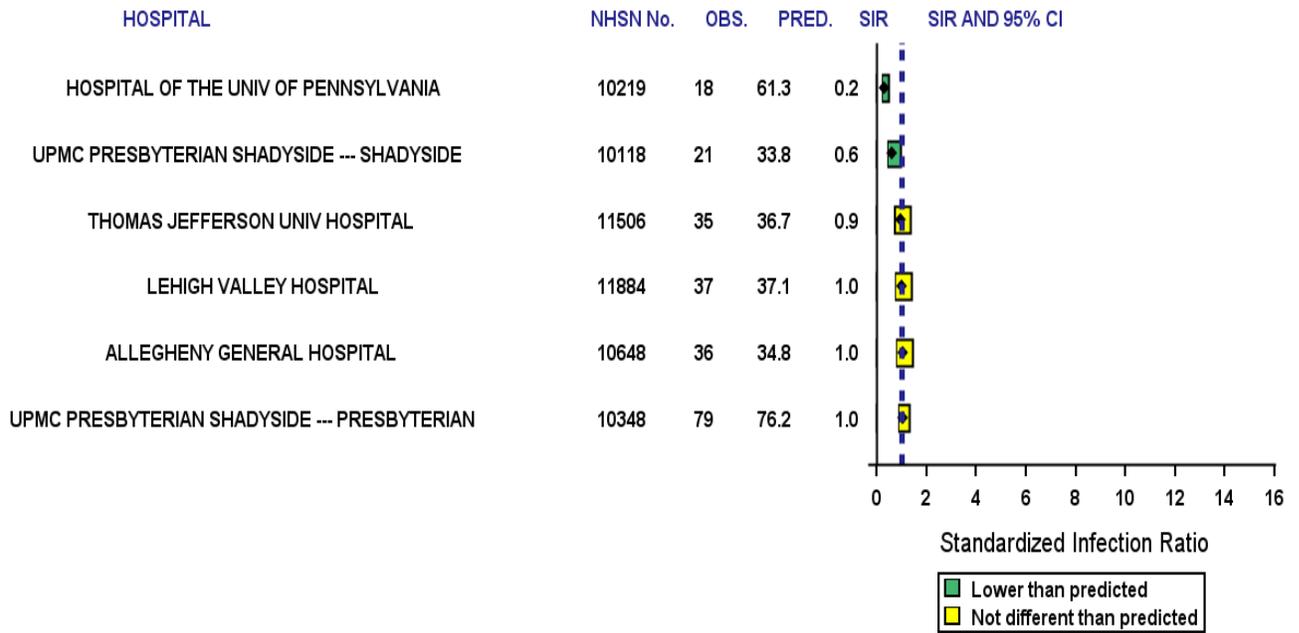
Obs. = observed number of CLABSI

Pred. = statistically 'predicted' number of CLABSI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 16 - Hospitals with 30+ Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - ICU and other Wards January 1, 2011 to December 31, 2011



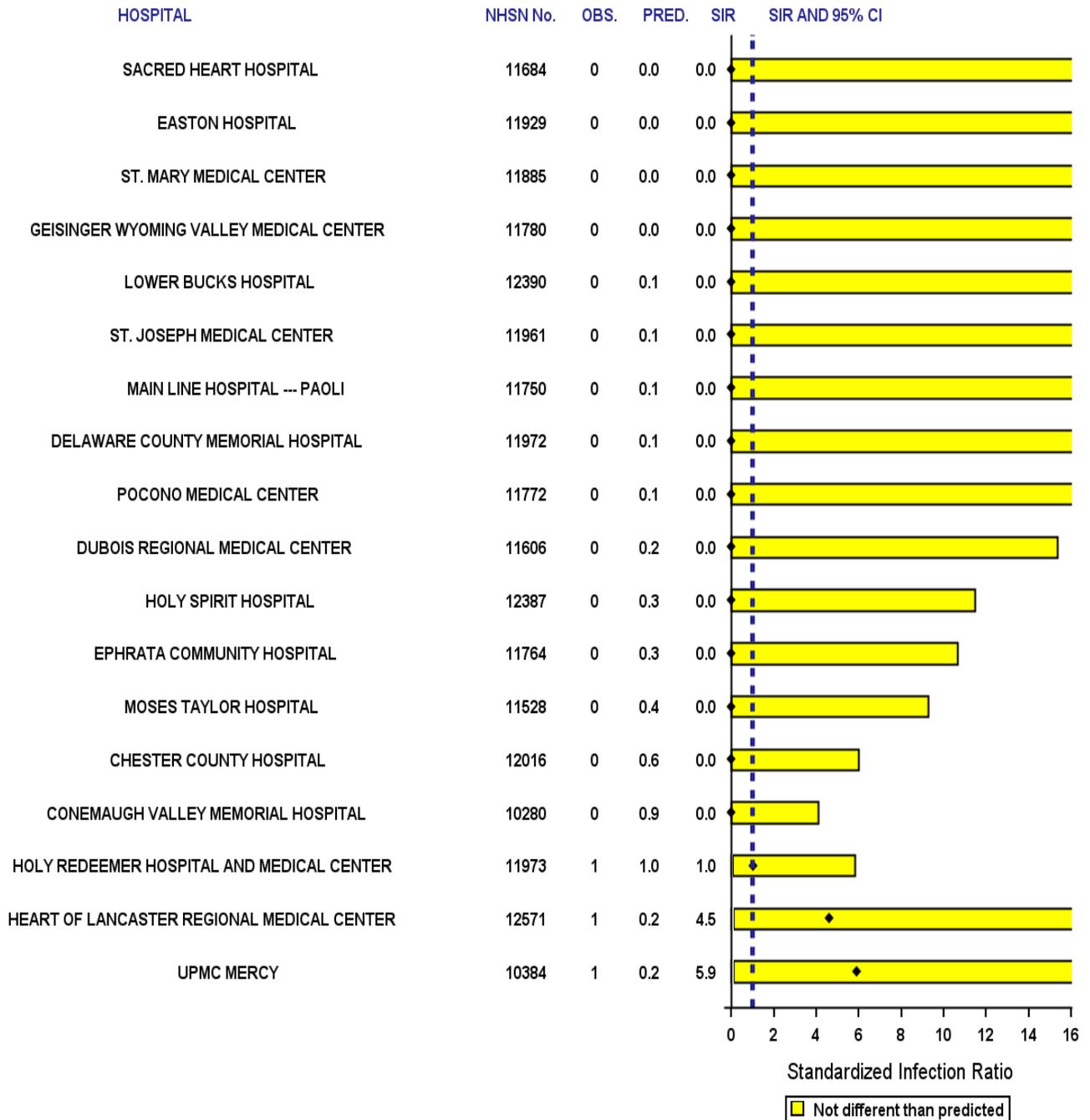
Obs. = observed number of CLABSIs

Pred. = statistically 'predicted' number of CLABSIs, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSIs)

Table 17 - Hospitals with <1 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - NICU
 January 1, 2011 to December 31, 2011



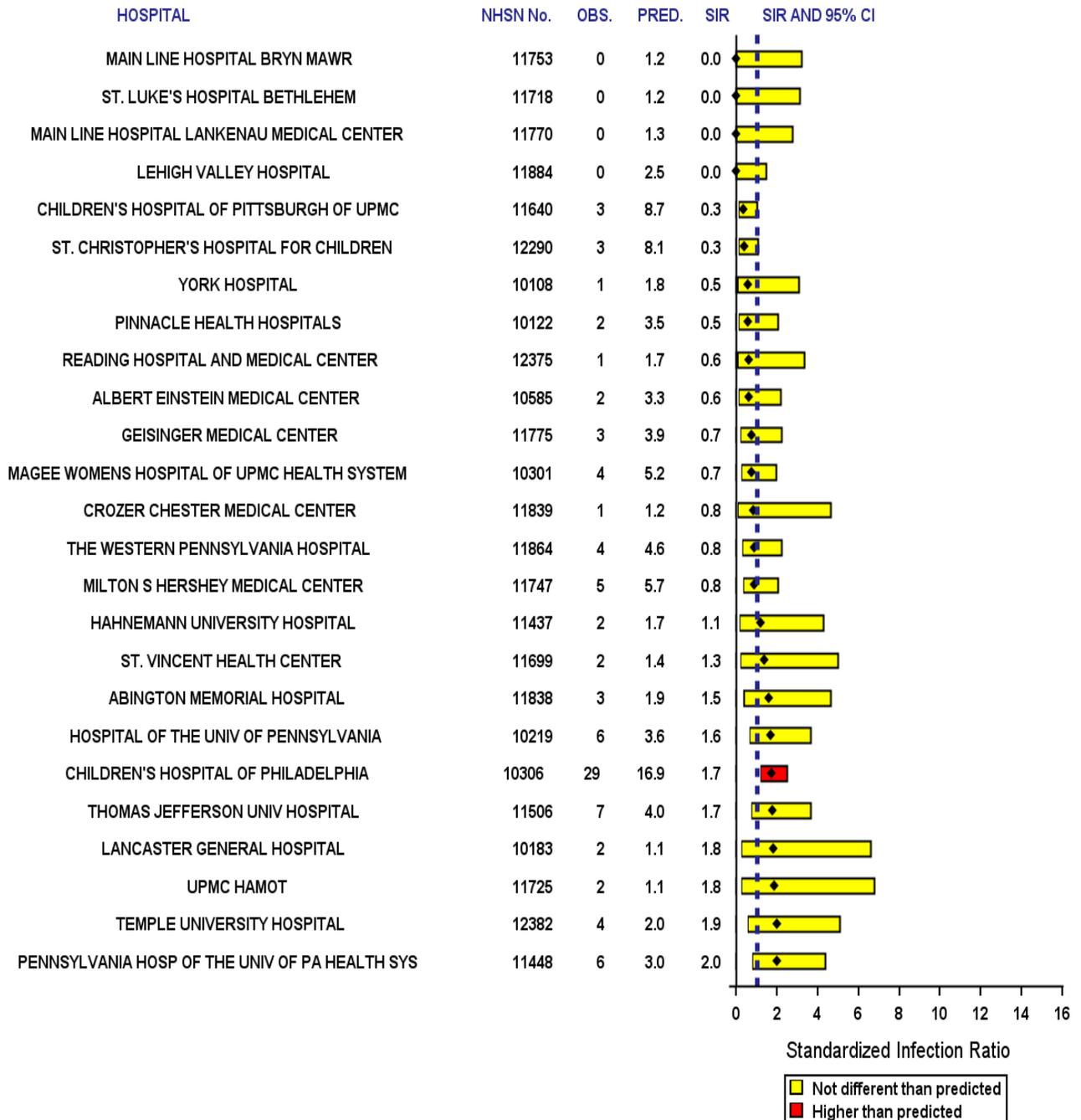
Obs. = observed number of CLABSI

Pred. = statistically 'predicted' number of CLABSI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 17 - Hospitals with 1+ Predicted Infections

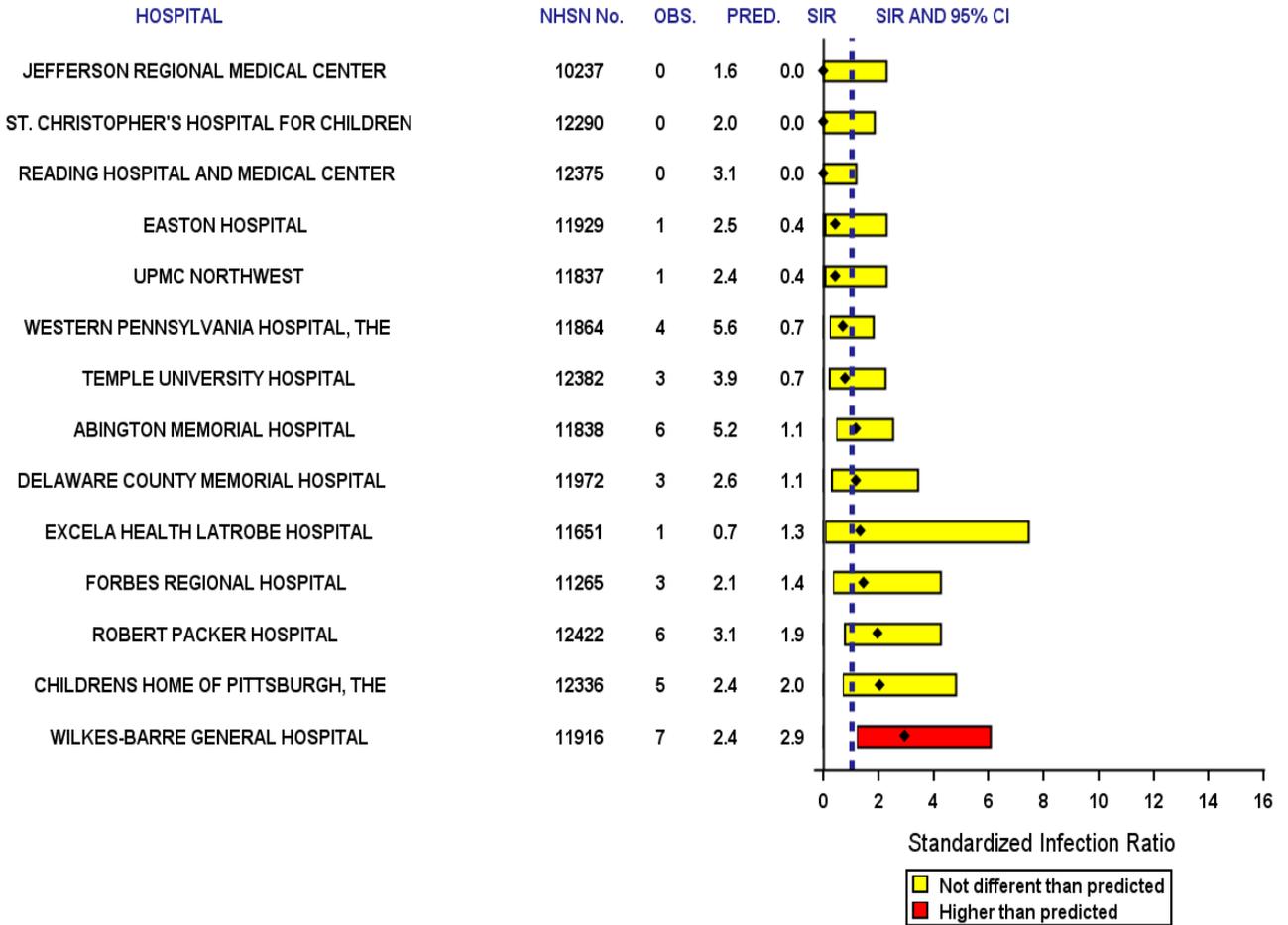
Ranking of PA Hospitals by Adjusted SIR for CLABSIs - NICU
January 1, 2011 to December 31, 2011



Obs. = observed number of CLABSI
 Pred. = statistically 'predicted' number of CLABSI, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 18 - Hospitals with <7.5 Predicted Infections

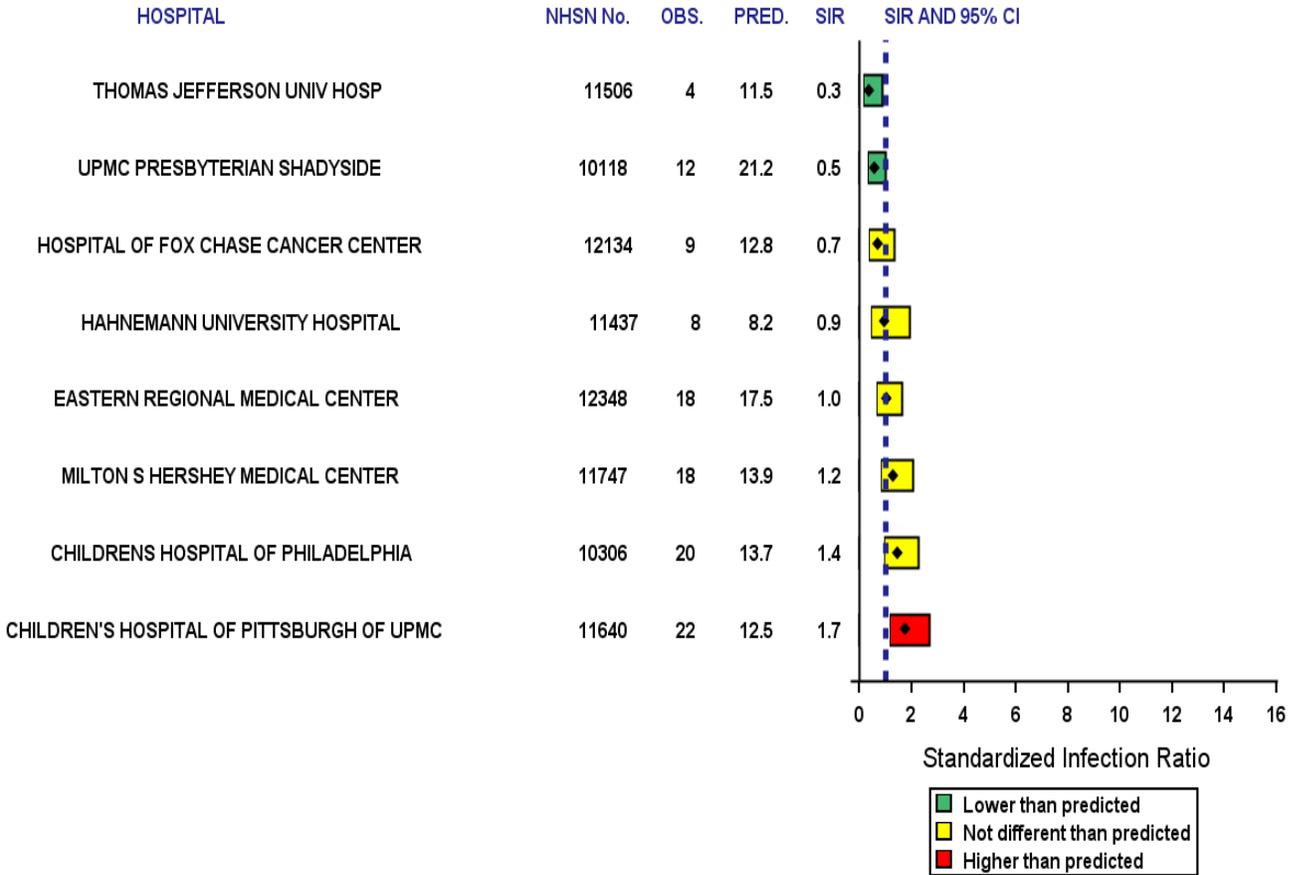
Ranking of PA Hospitals by Adjusted SIR for CLABSIs - SCA
January 1, 2011 to December 31, 2011



Obs. = observed number of CLABSIs
 Pred. = statistically 'predicted' number of CLABSIs, based on statewide model
 SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSIs)

Table 18 - Hospitals with 7.5+ Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - SCA
January 1, 2011 to December 31, 2011



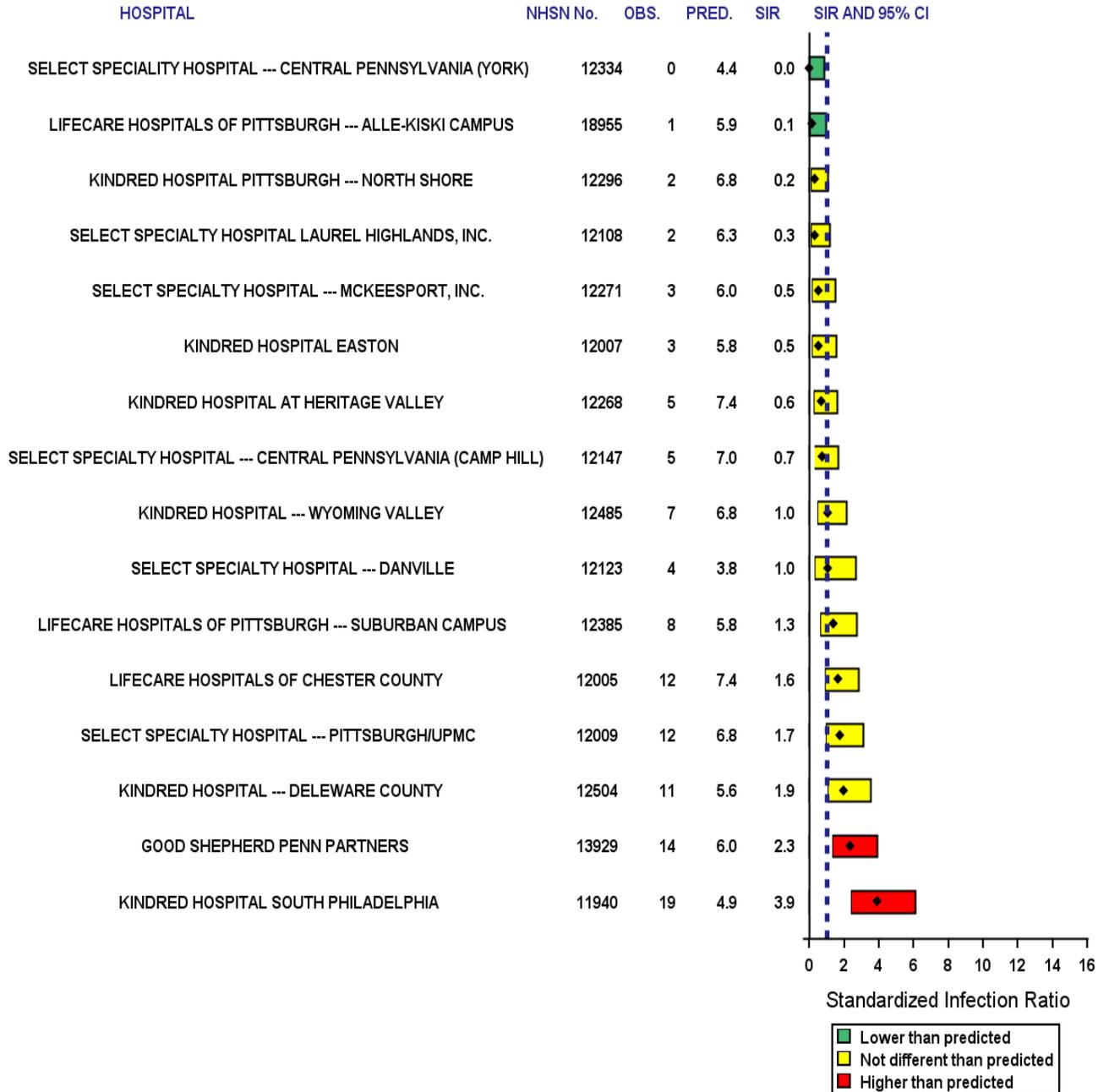
Obs. = observed number of CLABSI

Pred. = statistically 'predicted' number of CLABSI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Table 19 - Hospitals with <7.5 Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - LTAC
January 1, 2011 to December 31, 2011



Obs. = observed number of CLABSIs

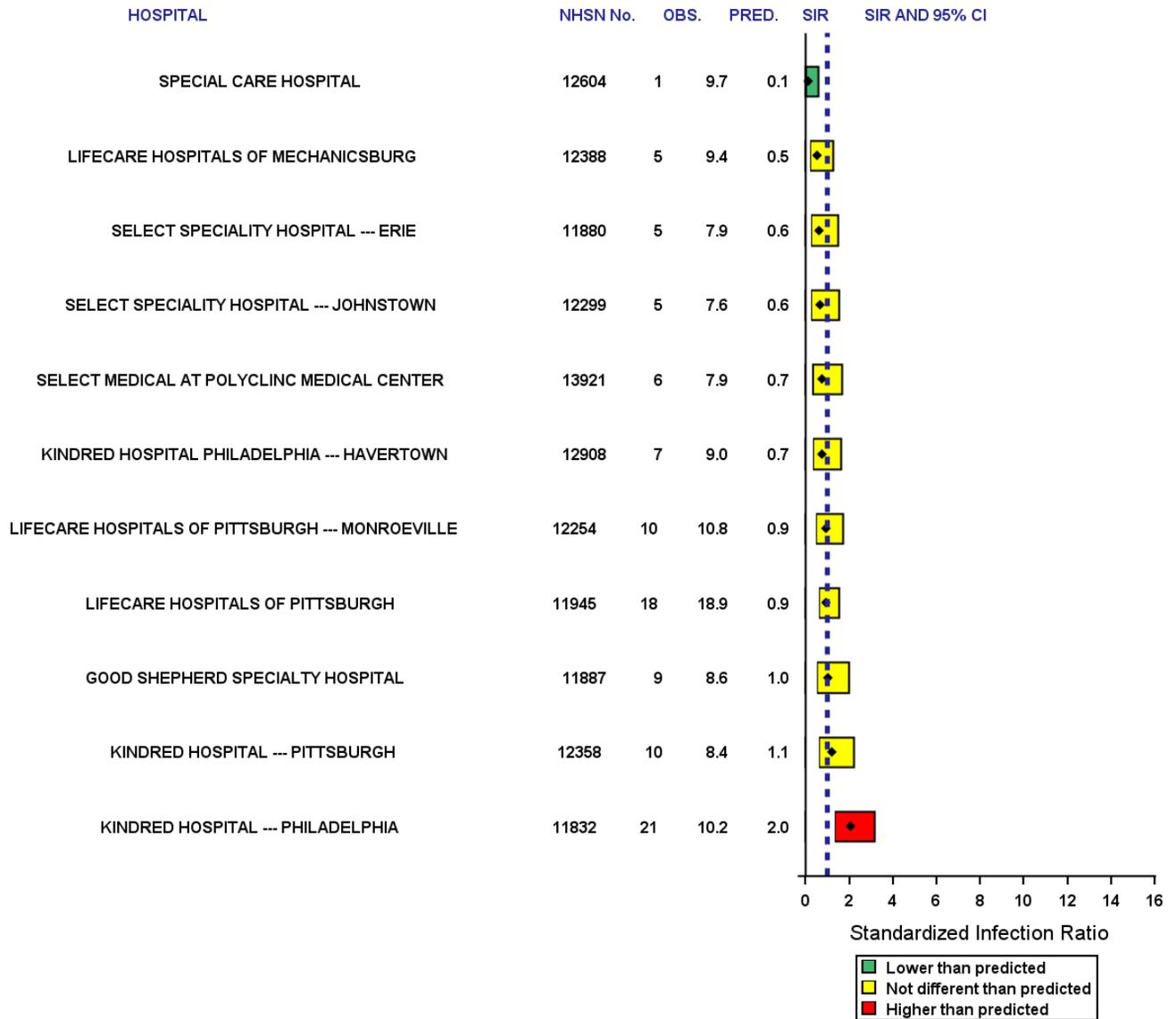
Pred. = statistically 'predicted' number of CLABSIs, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSIs)

Table 19 - Hospitals with 7.5+ Predicted Infections

Ranking of PA Hospitals by Adjusted SIR for CLABSIs - LTAC

January 1, 2011 to December 31, 2011



Obs. = observed number of CLABSI

Pred. = statistically 'predicted' number of CLABSI, based on statewide model

SIR = Standardized Infection Ratio (observed number / statistically 'predicted' number of CLABSI)

Surgical Site Infections (SSIs)

Surgical site infections (SSIs) are those HAIs that occur in association with an in-patient operation that involves at least one skin incision and complete closure of the incision site before the patient leaves the operating theater. Pennsylvania data show that SSIs are the single most common category of HAIs, and as other categories have declined in incidence, the proportion of HAIs in the SSI category has actually grown. SSIs are a substantial problem in the hospital, as they are very costly, are linked to excess deaths, increase the length of hospitalization, lead to hospital readmissions, and produce long-term consequences. There is a growing body of evidence that SSIs can be prevented through the use of science-based measures. These include the use of peri-operative prophylactic antibiotics, preparation of the surgical site (especially hair removal techniques and pre-operative skin disinfection) and post-operative wound care. A number of factors have been associated with the likelihood an SSI will develop. These include the type of surgical procedure, the underlying health status of the patient, whether the procedure is done emergently or electively, the condition and circumstances of the operative site (e.g., the cleanliness of the wound), duration of the surgical procedure, and the surgeon who performs the procedure.

This report focuses on those surgical procedures that have been selected in Pennsylvania for the purpose of benchmarking cardiac surgery (procedures on the valves or septum of the heart – CARD), coronary artery bypass graft (with two incision sites – the chest and donor site – CBGB, and with one incision site – the chest – CBGC), knee arthroplasty (prosthesis – KPRO), hip arthroplasty (prosthesis – HPRO) and abdominal hysterectomy (removal of the uterus through the abdomen – HYST). All but the last procedure can involve the use of implants (tissue implants or a mechanical device). Implant-associated infections have distinct features from other types of SSIs; they are often indolent and difficult to recognize. Therefore, the NHSN protocol requires a follow-up period of 12-months to identify an SSI for a patient undergoing an implant-associated procedure. For patients undergoing procedures in December 2010, this period ended in December 2011. This report therefore covers surgeries performed in 2010, a year earlier than all other data presented in the current report.

Beginning in 2012, the federal Centers for Medicare and Medicaid Services (CMS) required hospitals participating in the Inpatient Prospective Payment System (IPPS) to submit information on SSIs associated with abdominal hysterectomies and colon surgeries. Examination of Pennsylvania data shows that colon surgery is the procedure type most frequently reported with an SSI. In order to better categorize the performance of Pennsylvania hospitals with respect to SSIs and to align reporting requirements with those of CMS, in the fall of 2011 PADOH announced that colon surgery would be added as a seventh SSI for benchmarking purposes beginning in 2012. Colon surgery-related SSI data will be included in future annual reports.

Composite Data

During 2010, a total of 95,034 benchmark procedure in-patient operations were performed by 164 different Pennsylvania hospitals. This represents a 0.9 percent increase in the overall number of these six types of surgical procedures from the overall number in the previous year. Among the 164 hospitals performing at least one of these procedures, there were 54 (32.9 percent) that performed all six of them, seven (4.3 percent) that performed five of the six operations, three (1.8 percent) that performed four, 73 (44.5 percent) that performed three (usually hip and knee replacements and abdominal hysterectomies) of the operations, 19 (11.6 percent) that performed two of the operations and eight

(4.9 percent) that performed only one procedure type. For each procedure type, the total number of hospitals performing that procedure is shown in Table 20.

Among the 95,034 benchmark procedures, by the end of 2011 a total of 1,206 SSIs were identified and reported (Table 20). This represents a 5.0 percent decline from the number in 2010 (1,269) and results in an overall SSI rate for the six procedures of 1.27 infections per 100 procedures (a pooled infection rate of 1.27 percent) (Table 21). Combined with the increase in the number of procedures performed in 2010, this rate translates to an overall decline of 5.9 percent in the rate of SSIs compared to the previous year. The decline means there were 77 fewer SSIs in Pennsylvania than would have been the case if the 2009 baseline rate had persisted into 2010.

Table 20 shows the SSI rate for each of the six procedure types; the rates ranged from a low of 0.88 SSIs per 100 cardiac surgeries and per 100 knee arthroplasties to a high of 2.02 SSIs per 100 dual-incision cardiac bypass graft (CBGB) surgeries. Table 21 displays the side-by-side rates for 2009 and 2010 by procedure, and the percent change by procedure between the two time periods.

Table 20
Surgical Site Infections (SSIs) in Pennsylvania Hospitals, 2010

Procedure Type	No. of Hospitals	No. of Procedures	No. of Surgical Site Infections	Rate per 100 Procedures
Cardiac (CARD)	66	7,446	83	1.11
Cardiac Bypass Graft Surgery with two incisions (CBGB)	62	10,310	208	2.02
Cardiac Bypass Graft Surgery with one incision (CBGC)	57	1,419	19	1.34
Hip Prosthesis (HPRO)	155	22,519	333	1.48
Knee Prosthesis (KPRO)	153	39,762	350	0.88
Abdominal Hysterectomy (HYST)	143	13,578	213	1.57
Total	164*	95,034	1,206	1.27

* The total number of hospitals does not equal the combined number for each category because most hospitals perform surgeries in more than one procedure category. This number (164) represents how many hospitals in Pennsylvania performed *at least* one of the six benchmarked procedures.

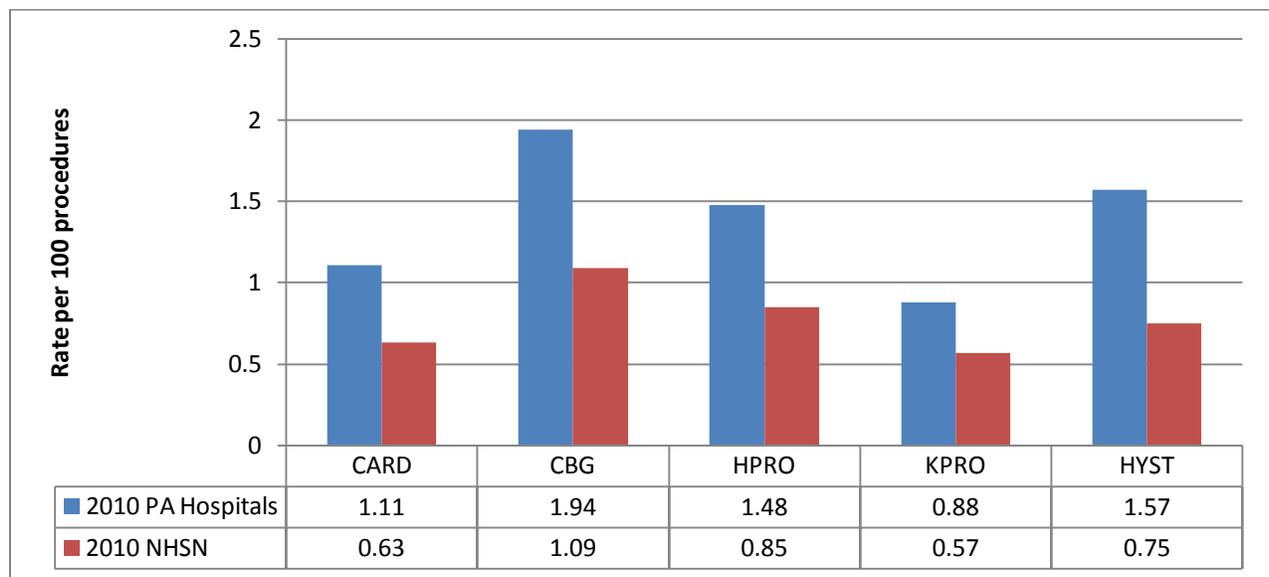
Table 21
Surgical Site Infections in Pennsylvania
Comparison of 2009 to 2010

Procedure Type	No. of Procedures 2009	No. of Procedures 2010	No. of SSIs 2009	No. of SSIs 2010	Rate 2009	Rate 2010	Percent Change in Rate
Cardiac (CARD)	7,046	7,446	83	83	1.18	1.11	-5.9
Cardiac Bypass Graft Surgery with two incisions (CBGB)	11,129	10,310	276	208	2.48	2.02	-18.5
Cardiac Bypass Graft Surgery with one incision (CBGC)	2,063	1,419	27	19	1.31	1.34	+2.3
Hip Prosthesis (HPRO)	21,871	22,519	304	333	1.39	1.48	+6.5
Knee Prosthesis (KPRO)	38,006	39,762	355	350	0.93	0.88	-5.4
Abdominal Hysterectomy (HYST)	14,064	13,578	224	213	1.59	1.57	-1.3
Total	94,179	95,034	1,269	1,206	1.35	1.27	-5.9

Comparison of Pennsylvania SSI rates with National Rates

In order to compare Pennsylvania’s identified procedure-specific SSI rates to national rates, information was obtained from the CDC’s National Healthcare Safety Network for 2010. Note that CDC does not separate CBGB and CBGC but instead reports out a single category for cardiac bypass grafts. In the figure below, this is depicted as cardiac bypass (CBG) and the CBGB and CBGC data from Pennsylvania were combined. Of note, Pennsylvania’s rates are consistently higher than those reported nationally. This may reflect more consistent application of the 12-month follow-up period by PA hospitals for implant-associated procedures than is found nationally. Better follow-up would increase the number of identified infections and raise the observed crude rate.

Figure 12. Surgical site infection (SSI) rates by operative procedure type – comparison between Pennsylvania hospitals and national data, 2010.



Source: National Healthcare Safety Network, Centers for Disease Control and Prevention, 2010.

Pathogen Data

Table 22 shows the pathogen data for surgical site infections occurring in 2010. The information is for all six procedures combined, and is not broken down by procedure as the number of SSIs is small for individual procedure categories. However, *S. aureus* was the most commonly reported pathogen in each procedure category. The total number is greater than the number of SSIs, as NHSN allows for reporting of more than one pathogen per infection.

Pathogen	Count	Percent
Staphylococcus aureus	495	37.50
Staphylococcus coagulase negative	99	7.50
Pseudomonas aeruginosa	72	5.45
Escherichia coli	72	5.45
Enterococcus faecalis	57	4.32
Proteus mirabilis	56	4.24
Others	469	35.53
TOTAL	1,320	100

Risk-adjusted rates

Since information is collected on all patients undergoing the benchmark operative procedures, it is possible to calculate SSI rates for patient characteristics that are used for SSI risk adjustment purposes. For this report, rates are adjusted by the risk index. The risk index is comprised of:

- American Society of Anesthesiology (ASA) score (a measure of the overall health of the patient)
- Wound classification (clean vs. unclean)
- Operative duration (below or above the median)

Each patient is assigned a risk index (RI) score of 0 to 3, with a possible single point given for each of the three criteria. For instance, a patient with a low ASA score (meaning they are a low-risk patient for surgical complications – i.e., they are in good health), a clean wound and a short operative duration would have a risk index of 0. A patient with a high ASA score (a person at high risk of surgical complications due to poor health), a contaminated operative site and long procedure duration would have a risk index score of 3. Patients can therefore have an assigned risk index of 0, 1, 2, or 3 based on whether or not a point is assigned for each factor that comprises the risk index.

Studies have shown that, in general, the SSI rate increases in concert with an increasing risk index. In general, this is true for the six benchmark procedures in Pennsylvania. However, as shown in Table 24, this is not always the case. This usually results because the number of procedures and/or SSIs in some of the risk index strata is small. For instance, in 2010, only five cardiac bypass (two incisions) procedures were done on patients with a risk index of 0, and a similar small number (seven procedures) were done on patients with a risk index of 3. Table 23 demonstrates the SSI rate for each benchmark procedure by risk index category in 2010.

To determine the risk-adjusted standardized infection ratio (SIR) for each hospital, the hospital's SSI rate for each risk index category (e.g. for their patients with a risk index of 0, 1, 2, and 3) is compared to the overall statewide rate for each risk index stratum. The number of predicted SSIs for each hospital is calculated based on the number of procedures they reported performing within each risk index category and the statewide rate for that stratum. The predicted number is then compared to the observed number. This is done for each risk index category to produce an overall predicted SSI number, and this is compared to the overall observed number to produce the risk adjusted SIR for each procedure. As with CAUTIs and CLABSIs, the confidence interval (CI) is then calculated to determine if the number of SSIs reported by the hospital is significantly better or worse than predicted, in comparison to the statewide rate. Hospitals with significantly better or worse than predicted SIRs are found in Tables 25 and 26.

Table 23
Surgical Site Infection Rates by Risk Index Category

Procedure Type	Risk Index	No. of SSIs in 2010	No. of procedures 2010	SSI rate per 100 procedures 2010
Cardiac (CARD)	0	2	125	1.60
	1	57	5,435	1.05
	2	24	1,854	1.29
	3	0	32	0.00
	Total	83	7,446	1.11
Cardiac Bypass -two incisions (CBGB)	0	1	56	1.79
	1	139	7,952	1.75
	2	68	2,288	2.97
	3	0	14	0.00
	Total	208	10,310	2.02
Cardiac Bypass – one incision (CBGC)	0	0	12	0.00
	1	15	1,089	1.38
	2	4	314	1.27
	3	0	4	0.00
	Total	19	1,419	1.34
Hip Prosthesis (HPRO)	0	71	7,983	0.89
	1	181	11,965	1.51
	2	81	2,512	3.22
	3	0	58	0.00
	Total	333	22,519	1.48
Knee Prosthesis (KPRO)	0	73	16,171	0.45
	1	197	19,853	0.99
	2	78	3,684	2.12
	3	2	54	3.70
	Total	350	39,762	0.88
Abdominal Hysterectomy (HYST)	0	75	7,088	1.08
	1	96	5,104	1.88
	2	42	1,361	3.09
	3	0	25	0.00
	Total	213	13,578	1.57
Total		1,206	95,034	1.27

Results

The SIRs by for each of the benchmark procedures by hospital are presented in Table 27. In this table, the hospitals are listed sequentially from lowest standardized infection ratio (SIR) to highest SIR. Table 28 presents the same information in alphabetical order by hospital. This enables the user to review a specific hospital's SIRs for each procedure together.

Cardiac Surgical Procedures

In 2010, among the 66 hospitals that performed cardiac surgery, the median number of reported SSIs was 0. In that year, 34 (51.5 percent) of these hospitals reported no cardiac surgery-related SSIs, and 38 (57.6 percent) had a predicted number of infections that was <1.00. Information regarding hospitals with <1 predicted cardiac surgical site infection is considered statistically unreliable (as evidenced by the extremely wide confidence intervals in the tables for these facilities). During 2010, 44 (66.7 percent) of the hospitals performing cardiac surgery had an adjusted SIR that was <1.00 (meaning the number of reported cardiac surgery-related SSIs was lower than predicted), while the remaining 22 (33.3 percent) had an SIR >1.00 (the number reported was higher than predicted). None of the hospitals had a significantly lower number of cardiac surgery-related SSIs than predicted, and only two hospitals (3.0 percent) had a significantly higher number than predicted. These hospitals are listed in Table 26.

Cardiac Bypass Graft – Two Incision Procedures (CBGB)

In 2010, among the 62 hospitals that performed two-incision (chest and donor site) cardiac bypass grafts, the median number of SSIs was 3, and 8 (12.9 percent) reported no CBGB-related SSIs. Among these hospitals, only 4 (6.5 percent) had <1 predicted infection. In 2010, there were 34 (54.8 percent) hospitals performing CBGBs that had a lower number of SSIs than predicted (their adjusted SIR was <1.00), 27 (43.5 percent) had a higher number of SSIs than predicted (SIR >1.00) and one (1.6 percent) had the same number as predicted (an SIR of 1.00). Among the 62 hospitals, none reported a significantly lower number of observed infections than predicted, while 3 (4.8 percent) reported a significantly higher number of infections than predicted. These hospitals are listed in Table 26.

Cardiac Bypass Graft – Single Incision Procedures (CBGC)

In 2010, among the 57 hospitals that reported performing single (chest) incision cardiac bypass grafts (CBGC), the median number of post-surgical SSIs was 0, and only 15 (26.3 percent) of the hospitals reported any CBGC-related SSIs. The remaining 42 (73.7 percent) reported none. In addition, 53 (93.0 percent) of the hospitals had <1 predicted infection in the CBGC category; for these hospitals the findings are considered to be statistically unreliable. Among all hospitals, 45 (78.9 percent) of the hospitals performing CBGCs had a reported number of SSIs that was less than predicted (an SIR <1.00) and only 12 (21.0 percent) reported more SSIs (an SIR >1.00) than predicted; none had significantly better SIRs than predicted while one (1.8 percent) had a significantly worse SIR than predicted. This hospital is listed in Table 26.

Hip Prostheses (HPRO)

In 2010, among the 155 hospitals performing hip arthroplasties (prostheses), the median number of SSIs was 1; a total of 60 (38.7 percent) reported no SSIs in this procedure category, and 68 (43.9 percent) had a predicted number of infections that was <1 (meaning the findings for these hospitals are statistically

unreliable). In 2010, there were 93 (60.0 percent) that had a fewer number (SIR <1.00) of SSIs reported than predicted, while the remaining 62 (40.0 percent) had a greater number (SIR >1.00) of SSIs reported than predicted. None of the hospitals had a significantly lower number of infections reported than predicted, but eight (5.2 percent) hospitals had a significantly higher (or worse) number of hip prosthesis-related SSIs than predicted. The eight hospitals with a significantly higher number of infections than predicted can be found in Table 26.

Knee Prostheses (KPRO)

In 2010, the median number of SSIs among the 153 hospitals performing knee arthroplasties (prostheses) was 1; a total of 58 (37.9 percent) reported no SSIs in this procedure category. Among the 153 hospitals, 64 (41.8 percent) had a predicted number of infections that was <1; for these hospitals the findings are considered statistically unreliable. In 2010, there were 97 (63.4 percent) that had a fewer number (SIR <1.00) of knee prosthesis-related SSIs reported than predicted, while 56 (36.6 percent) had a greater number (SIR >1.00) of SSIs reported than predicted. Only one hospital had a significantly lower number of infections reported than predicted in 2010, while six (3.9 percent) hospitals had a significantly higher number of SSIs reported than were predicted in that year. The hospitals with a significantly lower than, and higher than, predicted number of knee procedure related surgical site infections can be found in Tables 25 and 26.

Abdominal Hysterectomies (HYST)

In 2010, among the 143 hospitals that performed abdominal hysterectomies, the median number of SSIs was 1, and there were 66 (46.2 percent) that reported no SSIs associated with this procedure and 78 (54.5 percent) with a predicted number of SSIs that was <1 (the findings for hospitals with <1 predicted infection are considered statistically unreliable). In 2010, a total of 94 (65.7 percent) hospitals reported fewer SSIs than predicted (SIR <1.00), while the other 49 (34.3 percent) reported more SSIs than predicted (SIR >1.00). However, only one hospital had a significantly lower number of SSIs than predicted, and five (3.5 percent) hospitals had a significantly higher number of SSIs than predicted. These hospitals can be found in Tables 25 and 26.

Table 24
Summary Information on Surgical Site Infections Data, Pennsylvania 2010

Procedure Type	Median No. of SSIs	Hospitals with 0 SSIs Reported (%)	Hospitals with <1 Predicted SSI (%)	Hospitals with an Adjusted SIR <1.00 (%)	Hospitals with an Adjusted SIR >1.00 (%)	Hospitals with an Adjusted SIR Significantly Lower than Predicted (%)	Hospitals with an Adjusted SIR Significantly Higher than Predicted (%)
Cardiac (CARD) 2010	0	51.5	57.6	66.7	33.3	0	3.0
Cardiac Bypass-Dual (CBGB) 2010	3	12.9	6.5	54.8	43.5	0	4.8
Cardiac Bypass – Single (CBGC) 2010	0	73.7	93.0	78.9	21.0	0	1.8
Hip Prosthesis-2010	1	38.7	43.9	60.0	40.0	0	5.2
Knee Prosthesis-2010	1	37.9	41.8	63.4	36.6	0.7	3.9
Abdominal Hysterectomy 2010	1	46.2	54.5	65.7	34.3	0.7	3.5

Table 25

Hospitals with a Significantly **Better** Than Predicted Number of Surgical Site Infections, 2010

Knee Prosthesis

Heritage Valley Sewickley

Abdominal Hysterectomy

UPMC Passavant

Table 26

Hospitals with a Significantly **Worse** Than Predicted Number of Surgical Site Infections, 2010

Cardiac Procedures

Children’s Hospital of Philadelphia
UPMC Presbyterian Shadyside (10348)

Cardiac Bypass Surgery (Two Incisions)

Albert Einstein Medical Center
Heritage Valley Beaver
Pennsylvania Hospital of the
University of Pennsylvania

Cardiac Bypass Surgery (Single Incision)

Hospital of the University of Pennsylvania

Abdominal Hysterectomy

Hospital of the University of Pennsylvania
Jefferson Regional Medical Center
Pennsylvania Hospital of the
University of Pennsylvania
UPMC McKeesport
Western Pennsylvania Hospital (11864)

Hip Prosthesis

Chestnut Hill Hospital
Geisinger Medical Center
Hazleton General Hospital
Meadville Medical Center
Nason Hospital
Pinnacle Health Hospitals
Pocono Medical Center
Uniontown Hospital

Knee Prosthesis

Alle-Kiski Medical Center
Chambersburg Hospital
Easton Hospital
Geisinger Medical Center
Mercy Suburban Hospital
Uniontown Hospital

Table 27
2010 Hospital Specific Surgical Site Infection Standardized Infection Ratios (SIRs) by Procedure

Cardiac Surgical Procedures						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12298	OHIO VALLEY GENERAL HOSPITAL	0	0.01	-0.01	0.00	0-349.34
11712	THE GOOD SAMARITAN HOSPITAL	0	0.02	-0.02	0.00	0-156.76
10375	HERITAGE VALLEY SEWICKLEY	0	0.04	-0.04	0.00	0-87.34
12390	LOWER BUCKS HOSPITAL	0	0.06	-0.06	0.00	0-59.07
11979	BRANDYWINE HOSPITAL	0	0.15	-0.15	0.00	0-23.68
11914	COMMUNITY MEDICAL CENTER	0	0.23	-0.23	0.00	0-15.72
12250	SHARON REGIONAL HEALTH SYSTEM	0	0.25	-0.25	0.00	0-14.61
11683	MERCY FITZGERALD HOSPITAL	0	0.27	-0.27	0.00	0-13.69
11836	PHOENIXVILLE HOSPITAL	0	0.27	-0.27	0.00	0-13.49
11459	JEANES HOSPITAL	0	0.35	-0.35	0.00	0-10.57
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER	0	0.41	-0.41	0.00	0-9.05
11265	FORBES REGIONAL HOSPITAL	0	0.49	-0.49	0.00	0-7.56
11448	PENNSYLVANIA HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	0	0.51	-0.51	0.00	0-7.15
11606	DUBOIS REGIONAL MEDICAL CENTER	0	0.52	-0.52	0.00	0-7.06
11839	CROZER CHESTER MEDICAL CENTER	0	0.54	-0.54	0.00	0-6.85
11585	ALBERT EINSTEIN MEDICAL CENTER	0	0.54	-0.54	0.00	0-6.76
11388	ARIA HEALTH	0	0.56	-0.56	0.00	0-6.60
12016	CHESTER COUNTY HOSPITAL	0	0.60	-0.60	0.00	0-6.11
11437	HAHNEMANN UNIVERSITY HOSPITAL	0	0.65	-0.65	0.00	0-5.63
10561	ST CLAIR MEMORIAL HOSPITAL	0	0.74	-0.74	0.00	0-4.94
11898	LEHIGH VALLEY HOSPITAL - MUHLENBERG	0	0.75	-0.75	0.00	0-4.89
12375	READING HOSPITAL AND MEDICAL CENTER	0	0.87	-0.87	0.00	0-4.20
12387	HOLY SPIRIT HOSPITAL	0	0.96	-0.96	0.00	0-3.83
12382	TEMPLE UNIVERSITY HOSPITAL	0	0.98	-0.98	0.00	0-3.74
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	0	1.10	-1.10	0.00	0-3.34
10178	ALTOONA REGIONAL HEALTH SYSTEM	0	1.16	-1.16	0.00	0-3.17
11637	EXCELA HEALTH WESTMORELAND	0	1.16	-1.16	0.00	0-3.17
11838	ABINGTON MEMORIAL HOSPITAL	0	1.19	-1.19	0.00	0-3.08
10190	DOYLESTOWN HOSPITAL	0	1.20	-1.20	0.00	0-3.07

Cardiac Surgical Procedures (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10108	YORK HOSPITAL	0	1.34	-1.34	0.00	0-2.73
11718	ST LUKE'S HOSPITAL BETHLEHEM	0	1.37	-1.37	0.00	0-2.69
11699	SAINT VINCENT HEALTH CENTER	0	1.72	-1.72	0.00	0-2.14
10648	ALLEGHENY GENERAL HOSPITAL	0	2.37	-2.37	0.00	0-1.55
10118	UPMC PRESBYTERIAN SHADYSIDE	0	3.01	-3.01	0.00	0-1.22
11775	GEISINGER MEDICAL CENTER	1	2.98	-1.98	0.00	0-1.87
10219	HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	5	10.26	-5.26	0.49	0.16-1.14
11640	CHILDREN'S HOSPITAL OF PITTSBURGH	1	1.87	-0.87	0.54	0.01-2.98
11814	PENN PRESBYTERIAN MEDICAL CENTER	2	3.59	-1.59	0.56	0.06-2.01
10237	JEFFERSON REGIONAL MEDICAL CENTER	1	1.64	-0.64	0.61	0.01-3.39
11884	LEHIGH VALLEY HOSPITAL	2	2.87	-0.87	0.70	0.08-2.51
11506	THOMAS JEFFERSON UNIVERSITY HOSPITAL	1	1.41	-0.41	0.71	0.01-3.94
12422	ROBERT PACKER HOSPITAL	1	1.33	-0.33	0.75	0.01-4.20
11242	UPMC PASSAVANT	2	2.30	-0.30	0.87	0.10-3.14
10384	UPMC MERCY	1	1.12	-0.12	0.89	0.01-4.97
11725	UPMC HAMOT	1	0.89	0.11	1.13	0.01-6.28
11460	THE WASHINGTON HOSPITAL	1	0.75	0.25	1.33	0.02-7.38
12290	ST CHRISTOPHER'S HOSPITAL FOR CHILDREN	1	0.72	0.28	1.39	0.02-7.71
10122	PINNACLE HEALTH HOSPITALS	2	1.39	0.61	1.44	0.16-5.21
11747	MILTON S HERSHEY MEDICAL CENTER	6	3.83	2.17	1.57	0.57-3.41
11736	BUTLER MEMORIAL HOSPITAL	1	0.56	0.44	1.80	0.02-10.00
11916	WILKES-BARRE GENERAL HOSPITAL	1	0.53	0.47	1.88	0.02-10.45
11753	MAIN LINE HOSPITAL BRYN MAWR	1	0.49	0.51	2.03	0.03-11.30
11929	EASTON HOSPITAL	1	0.49	0.51	2.05	0.03-11.42
11770	MAIN LINE HOSPITAL LANKENAU	5	2.34	2.66	2.13	0.69-4.98
10183	LANCASTER GENERAL HOSPITAL	3	1.37	1.63	2.19	0.44-6.40
11864	WESTERN PENNSYLVANIA HOSPITAL	2	0.88	1.12	2.28	0.26-8.23
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	2	0.88	1.12	2.28	0.26-8.25
12533	REGIONAL HOSPITAL OF SCRANTON	4	1.64	2.36	2.44	0.66-6.26
11831	HERITAGE VALLEY BEAVER	3	1.10	1.90	2.72	0.55-7.93
11961	ST JOSEPH MEDICAL CENTER	1	0.36	0.64	2.81	0.04-15.64
10885	ST MARY MEDICAL CENTER	2	0.65	1.35	3.08	0.35-11.12

Cardiac Surgical Procedures (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10348	UPMC PRESBYTERIAN SHADYSIDE	8	2.46	5.54	3.25	1.40-6.41
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	17	5.17	11.83	3.29	1.92-5.27
12335	LANCASTER REGIONAL MEDICAL CENTER	1	0.29	0.71	3.41	0.04-18.96
11750	MAIN LINE HOSPITAL PAOLI	2	0.32	1.69	6.35	0.71-22.92
11772	POCONO MEDICAL CENTER	1	0.14	0.86	7.33	0.10-40.76

Cardiac Bypass Graft Dual Incision (CBGB)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	0	0.02	-0.02	0.00	0-209.61
11683	MERCY FITZGERALD HOSPITAL	0	0.83	-0.83	0.00	0-4.42
12250	SHARON REGIONAL HEALTH SYSTEM	0	1.23	-1.23	0.00	0-2.97
11753	MAIN LINE HOSPITAL BRYN MAWR	0	1.26	-1.26	0.00	0-2.93
11459	JEANES HOSPITAL	0	1.41	-1.41	0.00	0-2.61
11437	HAHNEMANN UNIVERSITY HOSPITAL	0	1.75	-1.75	0.00	0-2.09
12422	ROBERT PACKER HOSPITAL	0	2.26	-2.26	0.00	0-1.62
11712	THE GOOD SAMARITAN HOSPITAL	0	2.57	-2.57	0.00	0-1.43
11916	WILKES-BARRE GENERAL HOSPITAL	1	4.22	-3.22	0.24	0-1.32
12375	READING HOSPITAL AND MEDICAL CENTER	1	3.95	-2.95	0.25	0-1.41
10237	JEFFERSON REGIONAL MEDICAL CENTER	2	6.48	-4.48	0.31	0.03-1.11
11388	ARIA HEALTH	1	3.15	-2.15	0.32	0-1.76
10561	ST CLAIR MEMORIAL HOSPITAL	1	2.88	-1.88	0.35	0-1.93
11814	PENN PRESBYTERIAN MEDICAL CENTER	2	4.71	-2.71	0.42	0.05-1.53
10648	ALLEGHENY GENERAL HOSPITAL	2	4.24	-2.24	0.47	0.05-1.70
11839	CROZER CHESTER MEDICAL CENTER	1	1.80	-0.80	0.56	0.01-3.10
11242	UPMC PASSAVANT	3	5.24	-2.24	0.57	0.11-1.67
11884	LEHIGH VALLEY HOSPITAL	5	8.55	-3.55	0.58	0.19-1.36
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	2	3.09	-1.09	0.65	0.07-2.34
12387	HOLY SPIRIT HOSPITAL	3	4.60	-1.60	0.65	0.13-1.91
11836	PHOENIXVILLE HOSPITAL COMPANY	1	1.49	-0.49	0.67	0.01-3.74
11750	MAIN LINE HOSPITAL PAOLI	1	1.39	-0.39	0.72	0.01-4.00

Cardiac Bypass Graft – Dual Incision (cont'd)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11758	ST LUKES HOSPITAL BETHLEHEM	2	2.77	-0.77	0.72	0.08-2.61
11265	FORBES REGIONAL HOSPITAL	2	2.65	-0.65	0.76	0.08-2.73
10219	HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	5	6.59	-1.59	0.76	0.24-1.77
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER	1	1.29	-0.29	0.78	0.01-4.32
12016	CHESTER COUNTY HOSPITAL	1	1.28	-0.28	0.78	0.01-4.36
11898	LEHIGH VALLEY HOSPITAL MUHLENBERG	2	2.53	-0.53	0.79	0.09-2.85
10118	UPMC PRESBYTERIAN SHADYSIDE	7	8.84	-1.84	0.79	0.32-1.63
12533	REGIONAL HOSPITAL OF SCRANTON	3	3.67	-0.67	0.82	0.16-2.39
11460	THE WASHINGTON HOSPITAL	2	2.39	-0.39	0.84	0.09-3.02
10108	YORK HOSPITAL	4	4.54	-0.54	0.88	0.24-2.26
10183	LANCASTER GENERAL HOSPITAL	7	7.53	-0.53	0.93	0.37-1.92
11699	SAINT VINCENT HEALTH CENTER	7	7.46	-0.46	0.94	0.38-1.93
12335	LANCASTER REGIONAL MEDICAL CENTER	1	1.00	0	1.00	0.01-5.55
11772	POCONO MEDICAL CENTER	3	2.98	0.02	1.01	0.20-2.94
11736	BUTLER MEMORIAL HOSPITAL	6	5.93	0.07	1.01	0.37-2.20
12390	LOWER BUCKS HOSPITAL	1	0.97	0.03	1.03	0.01-5.75
11929	EASTON HOSPITAL	4	3.77	0.23	1.06	0.29-2.71
11838	ABINGTON MEMORIAL HOSPITAL	3	2.83	0.17	1.06	0.21-3.10
11770	MAIN LINE HOSPITAL - LANKENAU	5	4.50	0.50	1.11	0.36-2.60
10122	PINNACLE HEALTH HOSPITALS	9	8.00	1.00	1.12	0.51-2.14
10384	UPMC MERCY	4	3.49	0.51	1.15	0.31-2.94
11747	MILTON S HERSHEY MEDICAL CENTER	5	4.12	0.88	1.21	0.39-2.83
10190	DOYLESTOWN HOSPITAL	3	2.44	0.56	1.23	0.25-3.59
11979	BRANDYWINE HOSPITAL	1	0.81	0.19	1.23	0.02-6.83
11725	UPMC HAMOT	6	4.74	1.26	1.27	0.46-2.76
11864	WESTERN PENNSYLVANIA HOSPITAL	3	2.36	0.64	1.27	0.26-3.72
11885	ST MARY MEDICAL CENTER	4	3.00	1.00	1.33	0.36-3.41
10348	UPMC PRESBYTERIAN SHADYSIDE	8	5.98	2.02	1.34	0.58-2.64
12382	TEMPLE UNIVERSITY HOSPITAL	4	2.97	1.03	1.35	0.36-3.45
11775	GEISINGER MEDICAL CENTER	7	4.68	2.32	1.49	0.60-3.08
11606	DUBOIS REGIONAL MEDICAL CENTER	4	2.56	1.44	1.57	0.42-4.01
11914	COMMUNITY MEDICAL CENTER	2	1.15	0.85	1.74	0.20-6.28
11961	ST JOSEPH MEDICAL CENTER	3	1.65	1.35	1.82	0.37-5.32

Cardiac Bypass Graft – Dual Incision (cont'd)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11637	EXCELA HEALTH WESTMORELAND REGIONAL MEDICAL CENTER	10	5.06	4.94	1.97	0.95-3.63
10178	ALTOONA REGIONAL HEALTH SYSTEM	7	3.21	3.79	2.18	0.87-4.50
11506	THOMAS JEFFERSON UNIVERSITY HOSPITAL	6	2.50	3.50	2.40	0.88-5.23
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	5	2.05	2.95	2.44	0.78-5.68
11448	PENNSYLVANIA HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	8	2.65	5.35	3.01	1.30-5.94
10585	ALBERT EINSTEIN MEDICAL CENTER	5	1.28	3.72	3.90	1.26-9.09
11831	HERITAGE VALLEY BEAVER	12	2.79	9.21	4.30	2.22-7.52

Cardiac Bypass Graft – Single Incision (CBGC)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11712	THE GOOD SAMARITAN HOSPITAL	0	0.01	-0.01	0.00	0-288.83
10178	ALTOONA REGIONAL HEALTH SYSTEM	0	0.01	-0.01	0.00	0-265.80
11961	ST JOSEPH MEDICAL CENTER	0	0.01	-0.01	0.00	0-265.80
12250	SHARON REGIONAL HEALTH SYSTEM	0	0.01	-0.01	0.00	0-265.80
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER	0	0.04	-0.04	0.00	0-91.02
11898	LEHIGH VALLEY HOSPITAL - MUHLENBERG	0	0.05	-0.05	0.00	0-67.80
10561	ST CLAIR MEMORIAL HOSPITAL	0	0.06	-0.06	0.00	0-66.45
11448	PENNSYLVANIA HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	0	0.07	-0.07	0.00	0-54.02
12390	LOWER BUCKS HOSPITAL	0	0.08	-0.08	0.00	0-48.14
11750	MAIN LINE HOSPITAL PAOLI	0	0.08	-0.08	0.00	0-44.30
11864	WESTERN PENNSYLVANIA HOSPITAL	0	0.10	-0.10	0.00	0-38.41
11718	ST LUKE'S HOSPITAL BETHLEHEM	0	0.10	-0.10	0.00	0-37.97
11753	MAIN LINE HOSPITAL - BRYN MAWR	0	0.10	-0.10	0.00	0-37.97
12422	ROBERT PACKER HOSPITAL	0	0.10	-0.10	0.00	0-37.97
10237	JEFFERSON REGIONAL MEDICAL CENTER	0	0.11	-0.11	0.00	0-33.90
11916	WILKES-BARRE GENERAL HOSPITAL	0	0.11	-0.11	0.00	0-33.23
11265	FORBES REGIONAL HOSPITAL	0	0.12	-0.12	0.00	0-29.80
11979	BRANDYWINE HOSPITAL	0	0.12	-0.12	0.00	0-29.53

Cardiac Bypass Graft – Sgl Incision (cont'd)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12382	TEMPLE UNIVERSITY HOSPITAL	0	0.12	-0.12	0.00	0-29.53
11747	MILTON S HERSHEY MEDICAL CENTER	0	0.16	-0.16	0.00	0-22.63
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	0	0.15	-0.15	0.00	0-24.89
11736	BUTLER MEMORIAL HOSPITAL	0	0.15	-0.15	0.00	0-24.52
10585	ALBERT EINSTEIN MEDICAL CENTER	0	0.16	-0.16	0.00	0-22.30
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	0	0.17	-0.17	0.00	0-22.15
11506	THOMAS JEFFERSON UNIVERSITY HOSPITAL	0	0.18	-0.18	0.00	0-20.96
11683	MERCY FITZGERALD HOSPITAL	0	0.18	-0.18	0.00	0-20.70
11836	PHOENIXVILLE HOSPITAL COMPANY	0	0.18	-0.18	0.00	0-20.46
11437	HAHNEMANN UNIVERSITY HOSPITAL	0	0.21	-0.21	0.00	0-17.48
12375	READING HOSPITAL AND MEDICAL CENTER	0	0.21	-0.21	0.00	0-17.12
11460	THE WASHINGTON HOSPITAL	0	0.22	-0.22	0.00	0-16.78
12335	LANCASTER REGIONAL MEDICAL CENTER	0	0.23	-0.23	0.00	0-15.82
11838	ABINGTON MEMORIAL HOSPITAL	0	0.23	-0.23	0.00	0-15.78
10348	UPMC PRESBYTERIAN SHADYSIDE	0	0.35	-0.35	0.00	0-10.41
12533	REGIONAL HOSPITAL OF SCRANTON	0	0.41	-0.41	0.00	0-9.03
12387	HOLY SPIRIT HOSPITAL	0	0.45	-0.45	0.00	0-8.08
10648	ALLEGHENY GENERAL HOSPITAL	0	0.49	-0.49	0.00	0-7.50
11242	UPMC PASSAVANT	0	0.54	-0.54	0.00	0-6.75
11884	LEHIGH VALLEY HOSPITAL	0	0.64	-0.64	0.00	0-5.75
11388	ARIA HEALTH	0	0.66	-0.66	0.00	0-5.58
11831	HERITAGE VALLEY BEAVER	0	0.67	-0.67	0.00	0-5.48
11839	CROZER CHESTER MEDICAL CENTER	0	0.68	-0.68	0.00	0-5.37
10122	PINNACLE HEALTH HOSPITALS	0	0.85	-0.85	0.00	0-4.32
11914	COMMUNITY MEDICAL CENTER	1	1.94	-0.94	0.51	0.01-2.86
11770	MAIN LINE HOSPITAL LANKENAU	1	1.37	-0.37	0.73	0.01-4.07
10384	UPMC MERCY	1	1.07	-0.07	0.94	0.01-5.21
11725	UPMC HAMOT	3	1.99	1.01	1.51	0.30-4.41
10118	UPMC PRESBYTERIAN SHADYSIDE	1	0.62	0.38	1.62	0.02-8.99
12016	CHESTER COUNTY HOSPITAL	1	0.41	0.59	2.42	0.03-13.46
10183	LANCASTER GENERAL HOSPITAL	1	0.41	0.59	2.45	0.03-13.62
11775	GEISINGER MEDICAL CENTER	1	0.32	0.68	3.11	0.04-17.32

Cardiac Bypass Graft Sgl Incision (cont'd)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11637	EXCELA HEALTH WESTMORELAND REGIONAL MEDICAL CENTER	1	0.23	0.77	4.32	0.06-24.05
11814	PENN PRESBYTERIAN MEDICAL CENTER	2	0.46	1.54	4.36	0.49-15.76
11885	ST MARY MEDICAL CENTER	1	0.16	0.84	6.08	0.08-33.82
11699	SAINT VINCENT MEDICAL CENTER	1	0.12	0.88	8.20	0.11-45.61
11606	DUBOIS REGIONAL MEDICAL CENTER	1	0.11	0.89	9.06	0.12-50.40
10219	HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	2	0.19	1.81	10.72	1.20-38.70
10190	DOYLESTOWN HOSPITAL	1	0.07	0.93	14.49	0.19-80.64

Hip Prosthesis

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12097	LOCK HAVEN HOSPITAL	0	0.02	-0.02	0.00	0-242.92
12418	BROOKVILLE HOSPITAL	0	0.02	-0.02	0.00	0-206.07
11829	TYLER MEMORIAL HOSPITAL	0	0.05	-0.05	0.00	0-80.97
12365	SAINT CATHERINE MEDICAL CENTER	0	0.05	-0.05	0.00	0-80.97
11978	ROXBOROUGH HOSPITAL	0	0.06	-0.06	0.00	0-58.78
12717	TYRONE HOSPITAL	0	0.07	-0.07	0.00	0-55.75
11784	ST LUKE'S MINERS MEMORIAL HOSPITAL	0	0.09	-0.09	0.00	0-39.32
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	0	0.09	-0.09	0.00	0-38.77
11738	TITUSVILLE AREA HOSPITAL	0	0.12	-0.12	0.00	0-30.93
11680	UPMC BEDFORD	0	0.12	-0.12	0.00	0-30.75
11689	JERSEY SHORE HOSPITAL	0	0.13	-0.13	0.00	0-27.44
11902	HIGHLANDS HOSPITAL	0	0.18	-0.18	0.00	0-20.96
11942	SOUTHWEST REGIONAL MEDICAL CENTER	0	0.18	-0.18	0.00	0-20.82
11779	ELLWOOD CITY HOSPITAL	0	0.20	-0.20	0.00	0-18.01
11825	LEWISTOWN HOSPITAL	0	0.21	-0.21	0.00	0-17.78
11946	MERCY PHILADELPHIA HOSPITAL	0	0.23	-0.23	0.00	0-15.82
11830	PUNXSUTAWNEY AREA HOSPITAL	0	0.23	-0.23	0.00	0-15.68
11817	ENDLESS MOUNTAINS HEALTH SYSTEMS	0	0.27	-0.27	0.00	0-13.69
12552	EDGEWOOD SURGICAL HOSPITAL	0	0.27	-0.27	0.00	0-13.69
11688	SOLDIERS AND SAILORS MEMORIAL HOSPITAL	0	0.28	-0.28	0.00	0-13.28
12338	MARIAN COMMUNITY HOSPITAL	0	0.30	-0.30	0.00	0-12.03

Hip Prosthesis (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12361	BRADFORD REGIONAL MEDICAL CENTER	0	0.31	-0.31	0.00	0-11.97
11722	GROVE CITY MEDICAL CENTER	0	0.38	-0.38	0.00	0-9.55
12337	JENNERSVILLE REGIONAL HOSPITAL	0	0.39	-0.39	0.00	0-9.52
12253	MILLCREEK COMMUNITY HOSPITAL	0	0.40	-0.40	0.00	0-9.24
12282	SOMERSET HOSPITAL	0	0.43	-0.43	0.00	0-8.53
12396	PALMERTON HOSPITAL	0	0.44	-0.44	0.00	0-8.33
11711	ST LUKE'S QUAKERTOWN	0	0.49	-0.49	0.00	0-7.56
11684	SACRED HEART HOSPITAL	0	0.58	-0.58	0.00	0-6.32
12032	LANSDALE HOSPITAL	0	0.58	-0.58	0.00	0-6.31
12004	WAYNE MEMORIAL HOSPITAL	0	0.59	-0.59	0.00	0-6.22
11442	BERWICK HOSPITAL CENTER	0	0.63	-0.63	0.00	0-5.81
11642	WAYNESBORO HOSPITAL	0	0.63	-0.63	0.00	0-5.78
10585	ALBERT EINSTEIN MEDICAL CENTER	0	0.65	-0.65	0.00	0-5.64
11683	MERCY FITZGERALD HOSPITAL	0	0.68	-0.68	0.00	0-5.36
11956	CHARLES COLE MEMORIAL HOSPITAL	0	0.75	-0.75	0.00	0-4.91
11864	WESTERN PENNSYLVANIA HOSPITAL	0	0.81	-0.81	0.00	0-4.54
12087	SCHUYLKILL MEDICAL CENTER – SOUTH JACKSON STREET	0	0.81	-0.81	0.00	0-4.51
11859	ELK REGIONAL HEALTH CENTER	0	0.81	-0.81	0.00	0-4.51
15259	CH HOSPITAL OF ALLENTOWN	0	0.83	-0.83	0.00	0-4.41
11843	CLEARFIELD HOSPITAL	0	0.87	-0.87	0.00	0-4.23
12216	WARREN GENERAL HOSPITAL	0	0.88	-0.88	0.00	0-4.16
11922	SCHUYLKILL MEDICAL CENTER - EAST NORWEGIAN STREET	0	0.92	-0.92	0.00	0-3.97
11932	CROZER CHESTER MEDICAL CENTER – TAYLOR	0	0.96	-0.96	0.00	0-3.84
15202	BUCKS COUNTY SPECIALTY HOSPITAL	0	1.02	-1.02	0.00	0-3.59
11836	PHOENIXVILLE HOSPITAL CORPORATION	0	1.03	-1.03	0.00	0-3.57
11459	JEANES HOSPITAL	0	1.11	-1.11	0.00	0-3.29
11633	MEMORIAL HOSPITAL YORK	0	1.18	-1.18	0.00	0-3.12
12535	SURGICAL INSTITUTE OF READING	0	1.18	-1.18	0.00	0-3.11
11712	GOOD SAMARITAN HOSPITAL	0	1.39	-1.39	0.00	0-2.64
11437	HAHNEMANN UNIVERSITY HOSPITAL	0	1.60	-1.60	0.00	0-2.29
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	0	1.68	-1.68	0.00	0-2.19

Hip Prosthesis (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12533	REGIONAL HOSPITAL OF SCRANTON	0	2.01	-2.01	0.00	0-1.82
11388	ARIA HEALTH	0	2.02	-2.02	0.00	0-1.82
10190	DOYLESTOWN HOSPITAL	0	2.27	-2.27	0.00	0-1.61
11847	GRANDVIEW HOSPITAL	0	2.32	-2.32	0.00	0-1.58
12250	SHARON REGIONAL HEALTH CENTER	0	2.53	-2.53	0.00	0-1.45
12016	CHESTER COUNTY HOSPITAL	0	2.58	-2.58	0.00	0-1.42
11699	SAINT VINCENT HEALTH CENTER	0	3.28	-3.28	0.00	0-1.12
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER	0	3.67	-3.67	0.00	0-1.00
11561	UPMC ST MARGARET	1	5.36	-4.36	0.19	0-1.04
12422	ROBERT PACKER HOSPITAL	1	4.72	-3.72	0.21	0-1.18
11797	MOUNT NITTANY MEDICAL CENTER	1	4.52	-3.52	0.22	0-1.23
11242	UPMC PASSAVANT	1	4.17	-3.17	0.24	0-1.33
10237	JEFFERSON REGIONAL MEDICAL CENTER	1	3.66	-2.66	0.27	0-1.52
11885	ST MARY MEDICAL CENTER	1	3.26	-2.26	0.31	0-1.71
11637	EXCELA HEALTH WESTMORELAND REGIONAL MEDICAL CENTER	1	2.92	-1.92	0.34	0-1.91
12375	READING HOSPITAL AND MEDICAL CENTER	2	5.71	-3.71	0.35	0.04-1.27
10384	UPMC MERCY	1	2.82	-1.82	0.35	0-1.97
11899	HANOVER HOSPITAL	1	2.10	-1.10	0.48	0.01-2.65
12335	LANCASTER REGIONAL MEDICAL CENTER	1	2.05	-1.05	0.49	0.01-2.72
11838	ABINGTON MEMORIAL HOSPITAL	4	8.18	-4.18	0.49	0.13-1.25
11872	COORDINATED HEALTH ORTHOPEDIC	1	2.03	-1.03	0.49	0.01-2.74
10375	HERITAGE VALLEY SEWICKLEY	2	4.06	-2.06	0.49	0.06-1.78
11759	INDIANA REGIONAL MEDICAL CENTER	1	1.82	-0.82	0.55	0.01-3.07
11898	LEHIGH VALLEY HOSPITAL - MUHLENBERG	1	1.77	-0.77	0.56	0.01-3.14
11914	COMMUNITY MEDICAL CENTER	2	3.50	-1.50	0.57	0.06-2.06
11983	POTTSTOWN MEMORIAL HOSPITAL	1	1.71	-0.71	0.59	0.01-3.26
10183	LANCASTER GENERAL HOSPITAL	5	8.14	-3.14	0.61	0.20-1.43
11839	CROZER CHESTER MEDICAL CENTER	1	1.53	-0.53	0.65	0.01-3.63
10118	UPMC PRESBYTERIAN SHADYSIDE	9	13.59	-4.59	0.66	0.30-1.26
12057	ARMSTRONG COUNTY MEMORIAL HOSPITAL	1	1.46	-0.46	0.68	0.01-3.81

Hip Prosthesis (continued)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10301	MAGEE WOMENS HOSPITAL OF UPMC HEALTH SYSTEM	4	5.67	-1.67	0.71	0.19-1.81
10108	YORK HOSPITAL	4	5.43	-1.43	0.74	0..20-1.89
11651	EXCELA HEALTH LATROBE	1	1.28	-0.28	0.78	0.01-4.33
11506	THOMAS JEFFERSON UNIVERSITY HOSPITAL	11	13.90	-2.90	0.79	0.39-1.42
11531	GETTYSBURG HOSPITAL	1	1.23	-0.23	0.81	0.01-4.53
11961	ST JOSEPH MEDICAL CENTER	1	1.21	-0.21	0.82	0.01-4.58
10178	ALTOONA REGIONAL HEALTH SYSTEM	4	4.64	-0.64	0.86	0.23-2.21
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	4	4.42	-0.42	0.90	0.24-2.31
11947	MONTGOMERY HOSPITAL	1	1.05	-0.05	0.95	0.01-5.28
11707	UPMC MCKEESPORT	1	1.04	-0.04	0.96	0.01-5.35
11913	CHAMBERSBURG HOSPITAL	4	4.10	-0.10	0.98	0.26-2.50
11884	LEHIGH VALLEY HOSPITAL	9	8.95	0.05	1.01	0.46-1.91
11997	CARLISLE REGIONAL MEDICAL CENTER	2	1.99	0.01	1.01	0.11-3.64
11586	CANONSBURG GENERAL HOSPITAL	2	1.95	0.05	1.03	0.12-3.71
11973	HOLY REDEEMER HOSPITAL AND MEDICAL CENTER	2	1.89	0.11	1.06	0.12-3.81
11770	MAIN LINE HOSPITAL LANKENAU	3	2.83	0.17	1.06	0.21-3.09
12008	BLOOMSBURG HOSPITAL	1	0.90	0.10	1.12	0.01-6.21
11606	DUBOIS REGIONAL MEDICAL CENTER	1	0.89	0.11	1.12	0.01-6.23
11747	MILTON S HERSHEY MEDICAL CENTER	8	7.12	0.88	1.12	0.48-2.21
12387	HOLY SPIRIT HOSPITAL	3	2.62	0.38	1.14	0.23-3.35
11753	MAIN LINE HOSPITAL - BRYN MAWR	7	5.91	1.09	1.18	0.47-2.44
11528	MOSES TAYLOR HOSPITAL	2	1.64	0.36	1.22	0.14-4.40
11718	ST LUKE'S HOSPITAL BETHLEHEM	5	4.06	0.94	1.23	0.40-2.87
12390	LOWER BUCKS HOSPITAL	1	0.80	0.20	1.25	0.02-6.96
12105	SUNBURY COMMUNITY HOSPITAL	1	0.78	0.22	1.28	0.02-7.09
11814	PENN PRESBYTERIAN MEDICAL CENTER	10	7.55	2.45	1.32	0.63-2.44
11764	EPHRATA COMMUNITY HOSPITAL	2	1.46	0.54	1.37	0.15-4.94
12382	TEMPLE UNIVERSITY HOSPITAL	3	2.15	0.85	1.39	0.28-4.07
11460	THE WASHINGTON HOSPITAL	3	2.13	0.87	1.41	0.28-4.12
11916	WILKES-BARRE GENERAL HOSPITAL	4	2.82	1.18	1.42	0.38-3.63
11448	PENNSYLVANIA HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	12	8.42	3.58	1.42	0.74-2.49

Hip Prosthesis (continued)

OrgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11654	CLARION HOSPITAL	1	0.70	0.30	1.44	0.02-8.00
11831	HERITAGE VALLEY BEAVER	4	2.75	1.25	1.45	0.39-3.72
11837	UPMC NORTHWEST	1	0.69	0.31	1.46	0.02-8.11
11701	EVANGELICAL COMMUNITY HOSPITAL	3	2.05	0.95	1.46	0.29-4.28
11675	UPMC HORIZON	3	2.00	1.00	1.50	0.30-4.38
12500	ALBERT EINSTEIN MEDICAL CENTER – ELKINS PARK	2	1.23	0.77	1.62	0.18-5.85
11265	FORBES REGIONAL HOSPITAL	5	3.07	1.93	1.63	0.52-3.80
10122	PINNACLE HEALTH HOSPITALS	21	12.83	8.17	1.64	1.01-2.50
11736	BUTLER MEMORIAL HOSPITAL	4	2.44	1.56	1.64	0.44-4.20
11731	RIDDLE MEMORIAL HOSPITAL	9	5.39	3.61	1.67	0.76-3.17
10648	ALLEGHENY GENERAL HOSPITAL	12	7.16	4.84	1.68	0.87-2.93
12017	THOMAS JEFFERSON UNIVERSITY HOSPITAL - METHODIST	1	0.57	0.44	1.77	0.02-9.85
11725	UPMC HAMOT	8	4.46	3.54	1.79	0.77-3.54
11954	JAMESON MEMORIAL HOSPITAL	2	1.11	0.89	1.81	0.20-6.53
12571	HEART OF LANCASTER REGIONAL MEDICAL CENTER	1	0.53	0.47	1.88	0.02-10.47
11842	ALLEGHENY VALLEY HOSPITAL	3	1.55	1.45	1.93	0.39-5.65
11750	MAIN LINE HOSPITAL PAOLI	6	3.08	2.92	1.95	0.71-4.24
11775	GEISINGER MEDICAL CENTER	12	5.90	6.10	2.03	1.05-3.55
11780	GEISINGER WYOMING VALLEY	7	3.38	3.62	2.07	0.83-4.27
11919	NAZARETH HOSPITAL	4	1.86	2.14	2.15	0.58-5.49
12298	OHIO VALLEY GENERAL HOSPITAL	2	0.93	1.07	2.15	0.24-7.77
10561	ST CLAIR MEMORIAL HOSPITAL	8	3.67	4.33	2.18	0.94-4.19
10348	UPMC PRESBYTERIAN SHADYSIDE	4	1.82	2.18	2.19	0.59-5.62
12133	SHAMOKIN AREA COMMUNITY HOSPITAL	1	0.45	0.55	2.24	0.03-12.48
11929	EASTON HOSPITAL	4	1.75	2.25	2.29	0.62-5.86
11069	MONONGAHELA VALLEY HOSPITAL	6	2.25	3.75	2.67	0.97-5.81
10441	UNIONTOWN HOSPITAL	7	2.52	4.48	2.78	1.11-5.73
11952	MERCY SUBURBAN HOSPITAL - NORRISTOWN	2	0.70	1.30	2.86	0.32-10.31
12241	GNADEN HUETTEN MEMORIAL HOSPITAL	1	0.33	0.67	3.06	0.04-17.00
11583	MEADVILLE MEDICAL CENTER	7	2.28	4.72	3.07	1.23-6.32
11979	BRANDYWINE HOSPITAL	3	0.91	2.09	3.29	0.66-9.63
10219	HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	2	0.51	1.49	3.92	0.44-14.14
11878	HAZLETON GENERAL HOSPITAL	4	0.93	3.07	4.31	1.16-11.03
12304	CHESTNUT HILL HOSPITAL	3	0.54	2.46	5.58	1.12-16.30

Hip Prosthesis (continued)

orgID	Hospital Name	Observe	Predicted	Difference	Adjusted SIR	Confidence Interval
11772	POCONO MEDICAL CENTER	5	0.80	4.20	6.25	2.02-14.59
12295	MINERS MEDICAL CENTER	1	0.12	0.88	8.01	0.10-44.58
11907	NASON HOSPITAL	2	0.21	1.79	9.62	1.08-34.73
12348	EASTERN REGIONAL MEDICAL CENTER	1	0.09	0.91	10.57	0.14-58.81
11639	EXCELA HEALTH FRICK HOSPITAL	1	0.09	0.91	11.14	0.15-61.96
11851	CROZER CHESTER MEDICAL CENTER - SPRINGFIELD	1	0.08	0.92	12.90	0.17-71.79
12031	WINDBER HOSPITAL	1	0.06	0.94	16.03	0.21-89.16
11557	MID-VALLEY HOSPITAL	1	0.02	0.98	66.23	0.87-368.47

Knee Prosthesis

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12487	WESTFIELD HOSPITAL	0	0.01	-0.01	0.00	0-254.73
12717	TYRONE HOSPITAL	0	0.02	-0.02	0.00	0-203.78
12404	BARNES-KASSON COUNTY HOSPITAL	0	0.03	-0.03	0.00	0-117.95
11851	CROZER CHESTER MEDICAL CENTER - SPRINGFIELD	0	0.04	-0.04	0.00	0-89.47
12097	LOCK HAVEN HOSPITAL	0	0.04	-0.04	0.00	0-83.18
12295	MINERS MEDICAL CENTER	0	0.06	-0.06	0.00	0-58.97
10585	ALBERT EINSTEIN MEDICAL CENTER	0	0.07	-0.07	0.00	0-54.99
12365	ST CATHERINE MEDICAL CENTER	0	0.08	-0.08	0.00	0-44.46
11829	TYLER MEMORIAL HOSPITAL	0	0.08	-0.08	0.00	0-44.30
12337	JENNERSVILLE REGIONAL HOSPITAL	0	0.09	-0.09	0.00	0-39.32
12361	BRADFORD REGIONAL MEDICAL CENTER	0	0.10	-0.10	0.00	0-35.58
11738	TITUSVILLE AREA HOSPITAL	0	0.10	-0.10	0.00	0-35.10
12418	BROOKVILLE HOSPITAL	0	0.14	-0.14	0.00	0-27.15
11902	HIGHLANDS HOSPITAL	0	0.14	-0.14	0.00	0-26.64
11689	JERSEY SHORE HOSPITAL	0	0.15	-0.15	0.00	0-24.24
11942	SOUTHWEST REGIONAL MEDICAL CENTER	0	0.15	-0.15	0.00	0-24.24
12031	WINDBER HOSPITAL	0	0.15	-0.15	0.00	0-23.94
11639	EXCELA HEALTH FRICK	0	0.15	-0.15	0.00	0-23.76
11946	MERCY PHILADELPHIA HOSPITAL	0	0.19	-0.19	0.00	0-19,16
12304	CHESTNUT HILL HOSPITAL	0	0.25	-0.25	0.00	0-14.78
11978	ROXBOROUGH MEMORIAL HOSPITAL	0	0.26	-0.26	0.00	0-13.92

Knee Prosthesis (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11779	ELLWOOD CITY HOSPITAL	0	0.31	-0.31	0.00	0-11.99
11722	GROVE CITY MEDICAL CENTER	0	0.35	-0.35	0.00	0-10.37
11907	NASON HOSPITAL	0	0.37	-0.37	0.00	0-9.96
11830	PUNXSUTAWNEY AREA HOSPITAL	0	0.40	-0.40	0.00	0-9.07
11843	CLEARFIELD HOSPITAL	0	0.43	-0.43	0.00	0-8.50
12253	MILLCREEK COMMUNITY HOSPITAL	0	0.43	-0.43	0.00	0-8.47
12032	LANSDALE HOSPITAL	0	0.45	-0.45	0.00	0-8.22
11642	WAYNESBORO HOSPITAL	0	0.46	-0.46	0.00	0-8.05
12282	SOMERSET HOSPITAL	0	0.50	-0.50	0.00	0-7.41
12396	PALMERTON HOSPITAL	0	0.52	-0.52	0.00	0-7.03
12241	GNADEN HUETTEN MEMORIAL HOSPITAL	0	0.53	-0.53	0.00	0-6.89
11772	POCONO MEDICAL CENTER	0	0.54	-0.54	0.00	0-6.80
12133	SHAMOKIN AREA COMMUNITY HOSPITAL	0	0.56	-0.56	0.00	0-6.56
11878	HAZLETON GENERAL HOSPITAL	0	0.56	-0.56	0.00	0-6.53
11825	LEWISTOWN HOSPITAL	0	0.57	-0.57	0.00	0-6.46
11442	BERWICK HOSPITAL CENTER	0	0.57	-0.57	0.00	0-6.42
12338	MARIAN COMMUNITY HOSPITAL	0	0.62	-0.62	0.00	0-5.91
11817	ENDLESS MOUNTAINS HEALTH SYSTEMS	0	0.65	-0.65	0.00	0-5.65
11837	UPMC NORTHWEST SENECA	0	0.70	-0.70	0.00	0-5.22
11654	CLARION HOSPITAL	0	0.71	-0.71	0.00	0-5.18
15202	BUCKS COUNTY SPECIALTY HOSPITAL	0	0.71	-0.71	0.00	0-5.18
11932	CROZER CHESTER MEDICAL CENTER – TAYLOR	0	0.73	-0.73	0.00	0-5.05
12552	EDGEWOOD SURGICAL HOSPITAL	0	0.82	-0.82	0.00	0-4.46
12216	WARREN GENERAL HOSPITAL	0	0.86	-0.86	0.00	0-4.25
11859	ELK REGIONAL HEALTH CENTER	0	0.98	-0.98	0.00	0-3.75
11437	HAHNEMANN UNIVERSITY HOSPITAL	0	0.99	-0.98	0.00	0-3.71
12008	BLOOMSBURG HOSPITAL	0	1.20	-1.20	0.00	0-3.06
12500	ALBERT EINSTEIN MEDICAL CENTER –ELKINS PARK	0	1.26	-1.26	0.00	0-2.91
11651	EXCELA HEALTH LATROBE	0	1.29	-1.29	0.00	0-2.84
11459	JEANES HOSPITAL	0	1.43	-1.43	0.00	0-2.57
12057	ARMSTRONG COUNTY MEMORIAL HOSPITAL	0	1.79	-1.79	0.00	0-2.05
11759	INDIANA REGIONAL MEDICAL CENTER	0	2.02	-2.02	0.00	0-1.81
12535	SURGICAL INSTITUTE OF READING	0	2.13	-2.13	0.00	0-1.72

Knee Prosthesis (continued)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11712	GOOD SAMARITAN HOSPITAL	0	2.35	-2.35	0.00	0-1.56
11528	MOSES TAYLOR HOSPITAL	0	2.38	-2.38	0.00	0-1.54
11637	EXCELA HEALTH WESTMORELAND	0	2.91	-2.91	0.00	0-1.26
12422	ROBERT PACKER HOSPITAL	0	3.30	-3.30	0.00	0-1.11
10375	HERITAGE VALLEY SEWICKLEY	1	5.75	-4.75	0.17	0-0.97
11770	MAIN LINE HOSPITAL LANKENAU	1	3.53	-2.53	0.28	0-1.58
11916	WILKES BARRE GENERAL HOSPITAL	1	3.33	-2.33	0.30	0-1.67
11699	SAINT VINCENT HEALTH CENTER	1	3.29	-2.29	0.30	0-1.69
11973	HOLY REDEEMER HOSPITAL & MEDICAL CENTER	1	3.15	-2.15	0.32	0-1.77
12375	READING HOSPITAL AND MEDICAL CENTER	2	5.67	-3.67	0.36	0.04-1.27
11736	BUTLER MEMORIAL HOSPITAL	1	2.65	-1.65	0.38	0-2.10
10301	MAGEE WOMENS HOSPITAL OF UPMC	2	5.27	-3.27	0.38	0.04-1.37
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	2	5.21	-3.21	0.38	0.04-1.39
15259	CH HOSPITAL OF ALLENTOWN	1	2.49	-1.49	0.40	0.01-2.24
10190	DOYLESTOWN HOSPITAL	1	2.42	-1.42	0.41	0.01-2.30
12387	HOLY SPIRIT HOSPITAL	1	2.30	-1.30	0.43	0.01-2.42
12016	CHESTER COUNTY HOSPITAL	1	2.12	-1.12	0.47	0.01-2.62
10108	YORK HOSPITAL	2	4.14	-2.14	0.48	0.05-1.74
11242	UPMC PASSAVANT	2	4.06	-2.06	0.49	0.06-1.78
11732	WILLIAMSPORT HOSPITAL AND MEDICAL CENTER	3	5.67	-2.67	0.53	0.11-1.55
11954	JAMESON MEMORIAL HOSPITAL	1	1.78	-0.78	0.56	0.01-3.12
10118	UPMC PRESBYTERIAN SHADYSIDE	6	10.07	-4.07	0.60	0.22-1.30
11919	NAZARETH HOSPITAL	1	1.56	-0.56	0.64	0.01-3.57
10178	ALTOONA REGIONAL HEALTH SYSTEM	3	4.65	-1.65	0.65	0.13-1.89
10183	LANCASTER GENERAL HOSPITAL	7	10.45	-3.45	0.67	0.27-1.38
11838	ABINGTON MEMORIAL HOSPITAL	4	5.88	-1.88	0.68	0.18-1.74
10648	ALLEGHENY GENERAL HOSPITAL	5	7.33	-2.33	0.68	0.22-1.59
12382	TEMPLE UNIVERSITY HOSPITAL	2	2.92	-0.92	0.68	0.08-2.47
11561	UPMC ST MARGARET	5	7.19	-2.19	0.70	0.22-1.62
11531	GETTYSBURG HOSPITAL	1	1.37	-0.37	0.73	0.01-4.07
11265	FORBES REGIONAL HOSPITAL	2	2.64	-0.64	0.76	0.09-2.74
11448	PENNSYLVANIA HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	8	10.42	-2.42	0.77	0.33-1.51
11836	PHOENIXVILLE HOSPITAL COMPANY	1	1.23	-0.23	0.81	0.01-4.51
11961	ST JOSEPH MEDICAL CENTER	1	1.22	-0.22	0.82	0.01-4.55

Knee Prosthesis (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11460	THE WASHINGTON HOSPITAL	2	2.43	-0.43	0.82	0.09-2.98
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER	2	2.34	-0.34	0.85	0.10-3.08
11847	GRAND VIEW HOSPITAL	2	2.34	-0.34	0.86	0.10-3.09
11753	MAIN LINE HOSPITAL BRYN MAWR	6	6.97	-0.97	0.86	0.31-1.87
12250	SHARON REGIONAL HEALTH SYSTEM	2	2.32	-0.32	0.86	0.10-3.11
11784	ST LUKE'S MINERS MEMORIAL HOSPITAL	1	1.12	-0.12	0.89	0.01-4.96
11884	LEHIGH VALLEY HOSPITAL	8	8.87	-0.87	0.90	0.39-1.78
12533	REGIONAL HOSPITAL OF SCRANTON	3	3.25	-0.25	0.92	0.19-2.70
12335	LANCASTER REGIONAL MEDICAL CENTER	2	2.02	-0.02	0.99	0.11-3.57
11864	WESTERN PENNSYLVANIA HOSPITAL	1	0.94	0.06	1.06	0.01-5.89
12298	OHIO VALLEY GENERAL HOSPITAL	1	0.94	0.06	1.07	0.01-5.93
11983	POTTSTOWN MEMORIAL MEDICAL CENTER	3	2.77	0.23	1.08	0.22-3.17
10561	ST CLAIR MEMORIAL HOSPITAL	5	4.50	0.50	1.11	0.36-2.59
11914	COMMUNITY MEDICAL CENTER	5	4.48	0.52	1.12	0.36-2.60
11885	ST MARY MEDICAL CENTER	4	3.52	0.48	1.14	0.31-2.91
11872	COORDINATED HEALTH ORTHOPEDIC	5	4.37	0.63	1.15	0.37-2.67
11947	MONTGOMERY HOSPITAL	2	1.71	0.29	1.17	0.13-4.21
10122	PINACLE HEALTH HOSPITALS	17	14.51	2.49	1.17	0.68-1.88
11814	PENN PRESBYTERIAN MEDICAL CENTER	8	6.77	1.23	1.18	0.51-2.33
11718	ST LUKE'S HOSPITAL BETHLEHEM	4	3.36	0.64	1.19	0.32-3.05
11839	CROZER CHESTER MEDICAL CENTER	2	1.67	0.33	1.20	0.13-4.32
11725	UPMC HAMOT	5	4.08	0.92	1.23	0.39-2.86
11583	MEADVILLE MEDICAL CENTER	6	4.74	1.26	1.27	0.46-2.76
10237	JEFFERSON REGIONAL MEDICAL CENTER	7	5.52	1.48	1.27	0.51-2.61
11997	CARLISLE REGIONAL MEDICAL CENTER	3	2.36	0.64	1.27	0.26-3.72
12087	SCHUYLKILL MEDICAL CENTER – SOUTH JACKSON STREET	1	0.77	0.23	1.29	0.02-7.19
11633	MEMORIAL HOSPITAL YORK	2	1.52	0.48	1.32	0.15-4.75
11747	MILTON S HERSHEY MEDICAL CENTER	9	6.66	2.34	1.36	0.62-2.56
11922	SCHUYLKILL MEDICAL CENTER – EAST NORWEGIAN STREET	1	0.73	0.27	1.36	0.02-7.57
11731	RIDDLE MEMORIAL HOSPITAL	7	4.90	2.10	1.43	0.57-2.94

Knee Prosthesis (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11675	UPMC HORIZON	5	3.41	1.59	1.47	0.47-3.42
11899	HANOVER HOSPITAL	4	2.69	1.31	1.49	0.40-3.81
12390	LOWER BUCKS HOSPITAL	1	0.64	0.36	1.57	0.02-8.74
11506	THOMAS JEFFERSON UNIVERSITY HOSPITAL	15	8.96	6.04	1.67	0.94-2.76
11586	CANONSBURG GENERAL HOSPITAL	5	2.97	2.03	1.68	0.54-3.93
11750	MAIN LINE HOSPITAL PAOLI	5	2.93	2.07	1.71	0.55-3.98
11979	BRANDYWINE HOSPITAL	1	0.58	0.42	1.72	0.02-9.59
11956	CHARLES COLE MEMORIAL HOSPITAL	2	1.16	0.84	1.73	0.19-6.23
11606	DUBOIS REGIONAL MEDICAL CENTER	1	0.57	0.43	1.76	0.02-9.80
11797	MOUNT NITTANY MEDICAL CENTER	12	6.72	5.28	1.79	0.92-3.12
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	4	2.22	1.78	1.80	0.48-4.61
11701	EVANGELICAL COMMUNITY HOSPITAL	6	3.09	2.91	1.94	0.71-4.23
11069	MONONGAHELA VALLEY HOSPITAL	3	1.53	1.47	1.96	0.39-5.74
11831	HERITAGE VALLEY BEAVER	4	2.02	1.98	1.98	0.53-5.07
11898	LEHIGH VALLEY HOSPITAL – MUHLENBERG	3	1.51	1.49	1.98	0.40-5.79
10384	UPMC MERCY	6	2.70	3.30	2.22	0.81-4.83
11707	UPMC MCKEESPORT	1	0.44	0.56	2.25	0.03-12.54
11913	CHAMBERSBURG HOSPITAL	13	5.42	7.58	2.40	1.28-4.10
11680	UPMC BEDFORD	1	0.38	0.62	2.60	0.03-14.48
11764	EPHRATA COMMUNITY HOSPITAL	5	1.89	3.11	2.65	0.85-6.19
11388	ARIA HEALTH	4	1.42	2.58	2.82	0.76-7.23
10441	UNIONTOWN HOSPITAL	7	2.36	4.64	2.96	1.19-6.10
11711	ST LUKE’S QUAKERTOWN HOSPITAL	1	0.32	0.68	3.11	0.04-17.28
11842	ALLEGHENY VALLEY HOSPITAL	5	1.54	3.46	3.25	1.05-7.58
12017	THOMAS JEFFERSON UNIVERSITY HOSPITAL - METHODIST	1	0.31	0.69	3.27	0.04-18.21
11775	GEISINGER MEDICAL CENTER	15	4.23	10.77	3.54	1.98-5.85
12004	WAYNE MEMORIAL HOSPITAL	2	0.56	1.44	3.59	0.40-12.97
11684	SACRED HEART HOSPITAL	4	1.08	2.92	3.72	1.00-9.52
10348	UPMC PRESBYTERIAN SHADYSIDE	1	0.26	0.74	3.79	0.05-21.10
11952	MERCY SUBURBAN HOSPITAL NORRISTOWN	4	1.00	3.00	4.02	1.08-10.29
11929	EASTON HOSPITAL	6	1.48	4.52	4.05	1.48-8.82
11683	MERCY FITZGERALD HOSPITAL	2	0.41	1.59	4.91	0.55-17.74

Knee Prosthesis (continued)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11688	SOLDIERS & SAILORS MEMORIAL HOSPITAL	2	0.35	1.65	5.66	0.64-20.44
12105	SUNBURY COMMUNITY HOSPITAL	2	0.25	1.75	8.08	0.91-29.18
12571	HEART OF LANCASTER REGIONAL MEDICAL CENTER	1	0.05	0.95	19.12	0.25-106.38

Abdominal Hysterectomy

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA	0	0.01	-0.01	0.00	0-346.05
12295	MINERS MEDICAL CENTER	0	0.01	-0.01	0.00	0-346.05
12133	SHAMOKIN AREA COMMUNITY HOSPITAL	0	0.01	-0.01	0.00	0-346.05
12717	TYRONE HOSPITAL	0	0.01	-0.01	0.00	0-346.05
10348	UPMC PRESBYTERIAN SHADYSIDE	0	0.02	-0.02	0.00	0-195.11
11922	SCHUYLKILL MEDICAL CENTER – EAST NORWEGIAN STREET	0	0.03	-0.03	0.00	0-118.71
12018	TROY COMMUNITY HOSPITAL	0	0.04	-0.04	0.00	0-91.70
12404	BARNES-KASSON COUNTY HOSPITAL	0	0.04	-0.04	0.00	0-86.51
11947	MONTGOMERY HOSPITAL	0	0.05	-0.05	0.00	0-72.49
12535	SURGICAL INSTITUTE OF READING	0	0.06	-0.06	0.00	0-62.38
12348	EASTERN REGIONAL MEDICAL CENTER	0	0.07	-0.07	0.00	0-53.55
12533	REGIONAL HOSPITAL OF SCRANTON	0	0.08	-0.08	0.00	0-47.27
11711	ST LUKE'S QUAKERTOWN HOSPITAL	0	0.08	-0.08	0.00	0-45.85
12283	CORRY MEMORIAL HOSPITAL	0	0.08	-0.08	0.00	0-45.01
11586	CANONSBURG GENERAL HOSPITAL	0	0.09	-0.09	0.00	0-41.59
12418	BROOKVILLE HOSPITAL	0	0.10	-0.10	0.00	0-37.13
11942	SOUTHWEST REGIONAL MEDICAL CENTER	0	0.10	-0.10	0.00	0-35.72
11851	CROZER CHESTER MEDICAL CENTER - SPRINGFIELD	0	0.12	-0.12	0.00	0-31.02
12365	ST CATHERINE MEDICAL CENTER	0	0.12	-0.12	0.00	0-30.57
12008	BLOOMSBURG HOSPITAL	0	0.13	-0.13	0.00	0-28,61
11978	ROXBOROUGH MEMORIAL HOSPITAL	0	0.14	-0.14	0.00	0-27.07
11907	NASON HOSPITAL	0	0.15	-0.15	0.00	0-24.70
12298	OHIO VALLEY GENERAL HOSPITAL	0	0.16	-0.16	0.00	0-22.59

Abd hysterectomy (continued)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11814	PENN PRESBYTERIAN MEDICAL CENTER	0	0.17	-0.17	0.00	0-21.54
11830	PUNXSUTAWNEY AREA HOSPITAL	0	0.17	-0.17	0.00	0-21.50
12017	THOMAS JEFFERSON UNIVERSITY HOSPITAL - METHODIST	0	0.22	-0.22	0.00	0-16.92
11784	ST LUKE'S MINERS MEMORIAL HOSPITAL	0	0.18	-0.18	0.00	0-20.79
12057	ARMSTRONG COUNTY MEMORIAL HOSPITAL	0	0.20	-0.20	0.00	0-18.42
11583	MEADVILLE MEDICAL CENTER	0	0.20	-0.20	0.00	0-18.42
12549	MEMORIAL HOSPITAL TOWANDA	0	0.21	-0.21	0.00	0-17.57
11722	GROVE CITY MEDICAL CENTER	0	0.29	-0.29	0.00	0-12.67
12337	JENNERVILLE REGIONAL HOSPITAL	0	0.29	-0.29	0.00	0-12.49
12250	SHARON REGIONAL HEALTH SYSTEM	0	0.34	-0.34	0.00	0-10.90
12361	BRADFORD REGIONAL MEDICAL CENTER	0	0.36	-0.36	0.00	0-10.27
12031	WINDBER HOSPITAL	0	0.36	-0.36	0.00	0-10.13
11688	SOLDIERS & SAILORS MEMORIAL HOSPITAL	0	0.41	-0.41	0.00	0-8.87
12282	SOMERSET HOSPITAL	0	0.42	-0.42	0.00	0-8.83
11997	CARLISLE REGIONAL MEDICAL CENTER	0	0.42	-0.42	0.00	0-8.74
11956	CHARLES COLE MEMORIAL HOSPITAL	0	0.49	-0.49	0.00	0-7.49
12253	MILLCREEK COMMUNITY HOSPITAL	0	0.51	-0.51	0.00	0-7.21
11983	POTTSTOWN MEMORIAL MEDICAL CENTER	0	0.55	-0.55	0.00	0-6.73
11954	JAMESON MEMORIAL HOSPITAL	0	0.67	-0.67	0.00	0-5.49
11946	MERCY PHILADELPHIA HOSPITAL	0	0.67	-0.67	0.00	0-5.49
12387	HOLY SPIRIT HOSPITAL	0	0.70	-0.70	0.00	0-5.23
11764	EPHRATA COMMUNITY HOSPITAL	0	0.71	-0.71	0.00	0-5.18
11531	GETTYSBURG HOSPITAL	0	0.73	-0.73	0.00	0-5.04
11442	BERWICK HOSPITAL CENTER	0	0.75	-0.75	0.00	0-4.90
11725	UPMC HAMOT	0	0.75	-0.75	0.00	0-4.90
11837	UPMC NORTHWEST SENECA	0	0.76	-0.76	0.00	0-4.85
11759	INDIANA REGIONAL MEDICAL CENTER	0	0.78	-0.78	0.00	0-4.69
11972	DELAWARE COUNTY MEMORIAL HOSPITAL	0	0.89	-0.89	0.00	0-4.10
11712	GOOD SAMARITAN HOSPITAL	0	0.95	-0.95	0.00	0-3.86
12422	ROBERT PACKER HOSPITAL	0	1.05	-1.05	0.00	0-3.48

Abd hysterectomy (continued)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11459	JEANES HOSPITAL	0	1.06	-1.06	0.00	0-3.45
12390	LOWER BUCKS HOSPITAL	0	1.13	-1.13	0.00	0-3.26
11637	EXCELA HEALTH WESTMORELAND	0	1.14	-1.14	0.00	0-3.23
10375	HERITAGE VALLEY SEWICKLEY	0	1.14	-1.14	0.00	0-3.21
10190	DOYLESTOWN HOSPITAL	0	1.17	-1.17	0.00	0-3.13
12216	WARREN GENERAL HOSPITAL	0	1.25	-1.25	0.00	0-2.94
11973	HOLY REDEEMER HOSPITAL	0	1.26	-1.26	0.00	0-2.90
11747	MILTON S HERSHEY MEDICAL CENTER	0	1.59	-1.59	0.00	0-2.31
11633	MEMORIAL HOSPITAL YORK	0	1.62	-1.62	0.00	0-2.27
11847	GRAND VIEW HOSPITAL	0	2.17	-2.17	0.00	0-1.69
12016	CHESTER COUNTY HOSPITAL	0	2.44	-2.4	0.00	0-1.51
11437	HAHNEMANN UNIVERSITY HOSPITAL	0	2.47	-2.47	0.00	0-1.49
11242	UPMC PASSAVANT	0	3.88	-3.88	0.00	0-0.95
11884	LEHIGH VALLEY HOSPITAL	1	4.58	-3.58	0.22	0-1.22
11770	MAIN LINE HOSPITAL LANKENAU	1	4.34	-3.34	0.23	0-1.28
12375	READING HOSPITAL AND MEDICAL CENTER	2	6.62	-4.62	0.30	0.03-1.09
11839	CROZER CHESTER MEDICAL CENTER	1	3.10	-2.10	0.32	0-1.79
12304	CHESTNUT HILL HOSPITAL	1	2.39	-1.39	0.42	0.01-2.33
10585	ALBERT EINSTEIN MEDICAL CENTER	1	2.32	-1.32	0.43	0.01-2.39
11750	MAIN LINE HOSPITAL PAOLI	1	2.15	-1.15	0.47	0.01-2.59
11772	POCONO MEDICAL CENTER	1	1.93	-0.93	0.52	0.01-2.88
12382	TEMPLE UNIVERSITY HOSPITAL	3	5.50	-2.50	0.55	0.11-1.59
11718	ST LUKE'S HOSPITAL BETHLEHEM	1	1.78	-0.78	0.56	0.01-3.12
11528	MOSES TAYLOR HOSPITAL	2	3.52	-1.52	0.57	0.06-2.05
11825	LEWISTOWN HOSPITAL	2	3.07	-1.07	0.65	0.07-2.35
11701	EVANGELICAL COMMUNITY HOSPITAL	1	1.44	-0.44	0.69	0.01-3.86
11913	CHAMBERSBURG HOSPITAL	1	1.42	-0.42	0.70	0.01-3.91
12134	HOSPITAL OF FOX CHASE CANCER CENTER	3	4.24	-1.24	0.71	0.14-2.07
11885	ST MARY MEDICAL CENTER	1	1.38	-0.38	0.73	0.01-4.04
11651	EXCELA HEALTH LATROBE	1	1.34	-0.34	0.75	0.01-4.15
11731	RIDDLE MEMORIAL HOSPITAL	1	1.31	-0.31	0.76	0.01-4.25
11838	ABINGTON MEMORIAL HOSPITAL	6	7.64	-1.64	0.79	0.29-1.71
12004	WAYNE MEMORIAL HOSPITAL	1	1.26	-0.26	0.79	0.01-4.42
10122	PINNACLE HEALTH HOSPITALS	4	4.74	-0.74	0.84	0.23-2.16

Abd hysterectomy (continued)

orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11753	MAIN LINE HOSPITAL BRYN MAWR	1	1.14	-0.14	0.88	0.01-4.89
11684	SACRED HEART HOSPITAL	3	3.38	-0.38	0.89	0.18-2.59
11732	WILLIAMSPORT HOSPITAL AND MEDICAL CENTER	2	2.14	-0.14	0.94	0.18-2.59
11675	UPMC HORIZON	1	1.06	-0.06	0.95	0.01-5.27
11699	SAINT VINCENT HEALTH CENTER	3	3.13	-0.03	0.96	0.19-2.80
11506	THOMAS JEFFERSON UNIVERSITY HOSPITAL	4	4.10	-0.10	0.98	0.26-2.50
10280	CONEMAUGH VALLEY MEMORIAL HOSPITAL	1	1.01	-0.01	0.99	0.01-5.48
10301	MAGEE WOMENS HOSPITAL OF UPMC	19	18.87	0.13	1.01	0.61-1.57
10183	LANCASTER GENERAL HOSPITAL	4	3.96	0.04	1.01	0.27-2.59
11680	UPMC BEDFORD	1	0.98	0.02	1.02	0.01-5.69
11842	ALLEGHENY VALLEY HOSPITAL	1	0.94	0.06	1.07	0.01-5.93
11929	EASTON HOSPITAL	2	1.87	0.13	1.07	0.12-3.87
11606	DUBOIS REGIONAL MEDICAL CENTER	2	1.80	0.20	1.11	0.12-4.01
10108	YORK HOSPITAL	9	7.94	1.06	1.13	0.52-2.15
10178	ALTOONA REGIONAL HEALTH SYSTEM	3	2.56	0.44	1.17	0.24-3.42
11265	FORBES REGIONAL HOSPITAL	1	0.85	0.15	1.18	0.02-6.57
10648	ALLEGHENY GENERAL HOSPITAL	2	1.59	0.41	1.26	0.14-4.55
11859	ELK REGIONAL HEALTH CENTER	1	0.79	0.21	1.27	0.02-7.04
10561	ST CLAIR MEMORIAL HOSPITAL	3	2.37	0.63	1.27	0.25-3.70
11797	MOUNT NITTANY MEDICAL CENTER	2	1.46	0.54	1.37	0.15-4.95
11898	LEHIGH VALLEY HOSPITAL - MUHLENBERG	1	0.69	0.31	1.45	0.02-8.08
11878	HAZLETON GENERAL HOSPITAL	1	0.67	0.33	1.49	0.02-8.31
11916	WILKES BARRE GENERAL HOSPITAL	3	1.97	1.03	1.52	0.31-4.44
11683	MERCY FITZGERALD HOSPITAL	1	0.56	0.44	1.78	0.02-9.88
11775	GEISINGER MEDICAL CENTER	8	4.46	3.54	1.79	0.77-3.54
11864	WESTERN PENNSYLVANIA HOSPITAL	14	7.47	6.53	1.87	1.02-3.15
11736	BUTLER MEMORIAL HOSPITAL	3	1.55	1.45	1.94	0.39-5.66
11460	THE WASHINGTON HOSPITAL	3	1.54	1.46	1.95	0.39-5.70
11561	UPMC ST MARGARET	1	0.50	0.50	2.02	0.03-11.22
11899	HANOVER HOSPITAL	2	0.98	1.02	2.05	0.23-7.39
10384	UPMC MERCY	10	4.88	5.12	2.05	0.98-3.77
12087	SCHUYLKILL MEDICAL CENTER – SOUTH JACKSON STREET	3	1.44	1.56	2.08	0.42-6.08
11642	WAYNESBORO HOSPITAL	1	0.48	0.52	2.09	0.03-11.62

Abd hysterectomy (continued)						
orgID	Hospital Name	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10441	UNIONTOWN HOSPITAL	5	2.39	2.61	2.09	0.67-4.88
11831	HERITAGE VALLEY BEAVER	3	1.39	1.61	2.15	0.43-6.29
11961	ST JOSEPH MEDICAL CENTER	3	1.31	1.69	2.28	0.46-6.67
11843	CLEARFIELD HOSPITAL	1	0.42	0.58	2.41	0.03-13.39
11836	PHOENIXVILLE HOSPITAL CORPORATION	2	0.78	1.22	2.56	0.29-9.25
11654	CLARION HOSPITAL	2	0.77	1.23	2.61	0.29-9.43
11448	PENNSYLVANIA HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	7	2.55	4.45	2.74	1.10-5.65
10219	HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA	7	2.40	4.60	2.92	1.17-6.01
12571	HEART OF LANCASTER REGIONAL MEDICAL CENTER	2	0.67	1.33	2.97	0.33-10.73
10118	UPMC PRESBYTERIAN SHADYSIDE	4	1.18	2.82	3.40	0.91-8.70
11780	GEISINGER WYOMING VALLEY	4	1.14	2.86	3.50	0.94-8.97
12487	WESTFIELD HOSPITAL	1	0.27	0.73	3.68	0.05-20.47
11738	TITUSVILLE AREA HOSPITAL	2	0.51	1.49	3.93	0.44-14.20
11388	ARIA HEALTH	2	0.49	1.51	4.09	0.46-14.78
11069	MONONGAHELA VALLEY HOSPITAL	1	0.20	0.80	5.00	0.07-27.82
11952	MERCY SUBURBAN HOSPITAL NORRISTOWN	2	0.40	1.60	5.03	0.56-18.16
12335	LANCASTER REGIONAL MEDICAL CENTER	2	0.38	1.62	5.21	0.59-18.81
12097	LOCK HAVEN HOSPITAL	1	0.18	0.82	5.42	0.07-30.14
11707	UPMC MCKEESPORT	3	0.49	2.51	6.15	1.24-17.97
12438	ST JOSEPH'S HOSPITAL	2	0.31	1.69	6.37	0.72-23.00
11779	ELLWOOD CITY HOSPITAL	1	0.15	0.85	6.59	0.09-36.65
12241	GNADEN HUETTEN MEMORIAL HOSPITAL	2	0.23	1.77	8.68	0.97-31.34
10237	JEFFERSON REGIONAL MEDICAL CENTER	2	0.21	1.79	9.62	1.08-34.73

Table 28
2010 Hospital Specific Surgical Site Infection Standardized Infection Ratios by Facility

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11838 Abington Memorial Hospital					
Cardiac Procedures	0	1.19	-1.19	0.00	0-3.08
Cardiac Bypass – Dual Incision	3	2.83	0.17	1.06	0.21-3.10
Cardiac Bypass – Single Incision	0	0.23	-0.23	0.00	0-15.78
Hip Prosthesis	4	8.18	-4.18	0.49	0.13-1.25
Knee Prosthesis	4	5.88	-1.88	0.68	0.18-1.74
Abdominal Hysterectomy	6	7.64	-1.64	0.79	0.29-1.71
10585 Albert Einstein Medical Center					
Cardiac Procedures	0	0.54	-0.54	0.00	0-6.76
Cardiac Bypass – Dual Incision	5	1.28	3.72	3.90	1.26-9.09
Cardiac Bypass – Single Incision	0	0.16	-0.16	0.00	0-22.30
Hip Prosthesis	0	0.65	-0.65	0.00	0-5.64
Knee Prosthesis	0	0.07	-0.07	0.00	0-54.99
Abdominal Hysterectomy	1	2.32	-1.32	0.43	0.01-2.39
12500 Albert Einstein Medical Center – Elkins Park					
Hip Prosthesis	2	1.23	0.77	1.62	0.18-5.85
Knee Prosthesis	0	1.26	-1.26	0.00	0-2.91
11842 Allegheny Valley Hospital					
Hip Prosthesis	3	1.55	1.45	1.93	0.39-5.65
Knee Prosthesis	5	1.54	3.46	3.25	1.05-7.58
Abdominal Hysterectomy	1	0.94	0.06	1.07	0.01-5.93
10648 Allegheny General Hospital					
Cardiac Procedures	0	2.37	-2.37	0.00	0-1.55
Cardiac Bypass – Dual Incision	2	4.24	-2.24	0.47	0.05-1.70
Cardiac Bypass – Single Incision	0	0.49	-0.49	0.00	0-7.50
Hip Prosthesis	12	7.16	4.84	1.68	0.87-2.93
Knee Prosthesis	5	7.33	-2.33	0.68	0.22-1.59
Abdominal Hysterectomy	2	1.59	0.41	1.26	0.14-4.55
10178 Altoona Regional Health System					
Cardiac Procedures	0	1.16	-1.16	0.00	0-3.17
Cardiac Bypass – Dual Incision	7	3.21	3.79	2.18	0.87-4.50
Cardiac Bypass – Single Incision	0	0.01	-0.01	0.00	0-265.80
Hip Prosthesis	4	4.64	-0.64	0.86	0.23-2.21
Knee Prosthesis	3	4.65	-1.65	0.65	0.13-1.89
Abdominal Hysterectomy	3	2.56	0.44	1.17	0.24-3.42

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11388 Aria Health					
Cardiac Procedures	0	0.56	-0.56	0.00	0-6.60
Cardiac Bypass – Dual Incision	1	3.15	-2.15	0.32	0-1.76
Cardiac Bypass – Single Incision	0	0.66	-0.66	0.00	0-5.58
Hip Prosthesis	0	2.02	-2.02	0.00	0-1.82
Knee Prosthesis	4	1.42	2.58	2.82	0.76-7.23
Abdominal Hysterectomy	2	0.49	1.51	4.09	0.46-14.78
12057 Armstrong County Medical Center					
Hip Prosthesis	1	1.46	-0.46	0.68	0.01-3.81
Knee Prosthesis	0	1.79	-1.79	0.00	0-2.05
Abdominal Hysterectomy	0	0.20	-0.20	0.00	0-18.42
12404 Barnes Kasson County Hospital					
Knee Prosthesis	0	0.03	-0.03	0.00	0-117.95
Abdominal Hysterectomy	0	0.04	-0.04	0.00	0-86.51
11442 Berwick Hospital Center					
Hip Prosthesis	0	0.63	-0.63	0.00	0-5.81
Knee Prosthesis	0	0.57	-0.57	0.00	0-6.42
Abdominal Hysterectomy	0	0.75	-0.75	0.00	0-4.90
12008 Bloomsburg Hospital					
Hip Prosthesis	1	0.90	0.10	1.12	0.01-6.21
Knee Prosthesis	0	1.20	-1.20	0.00	0-3.06
Abdominal Hysterectomy	0	0.36	-0.36	0.00	0-10.27
12361 Bradford Regional Medical Center					
Hip Prosthesis	0	0.31	-0.31	0.00	0-11.97
Knee Prosthesis	0	0.10	-0.10	0.00	0-35.58
Abdominal Hysterectomy	0	0.29	-0.29	0.00	0-12.58
11979 Brandywine Hospital					
Cardiac Procedures	0	0.15	-0.15	0.00	0-23.68
Cardiac Bypass – Dual Incision	1	0.81	0.19	1.23	0.02-6.83
Cardiac Bypass – Single Incision	0	0.12	-0.12	0.00	0-29.53
Hip Prosthesis	3	0.91	2.09	3.29	0.66-9.63
Knee Prosthesis	1	0.58	0.42	1.72	0.02-9.59
12418 Brookville Hospital					
Hip Prosthesis	0	0.02	-0.02	0.00	0-206.07
Knee Prosthesis	0	0.14	-0.14	0.00	0-27.15
Abdominal Hysterectomy	0	0.10	-0.10	0.00	0-37.13
15202 Bucks County Specialty Hospital					
Hip Prosthesis	0	1.02	-1.02	0.00	0-3.59

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
15202 Bucks County Specialty Hospital					
Knee Prosthesis	0	0.71	-0.71	0.00	0-5.18
11736 Butler Memorial Hospital					
Cardiac Procedures	1	0.56	0.44	1.80	0.02-10.00
Cardiac Bypass – Dual Incision	6	5.93	0.07	1.01	0.37-2.20
Cardiac Bypass – Single Incision	0	0.15	-0.15	0.00	0-24.52
Hip Prosthesis	4	2.44	1.56	1.64	0.44-4.20
Knee Prosthesis	1	2.65	-1.65	0.38	0-2.10
Abdominal Hysterectomy	3	1.55	1.45	1.94	0.39-5.66
11586 Canonsburg General Hospital					
Hip Prosthesis	2	1.95	0.05	1.03	0.12-3.71
Knee Prosthesis	5	2.97	2.03	1.68	0.54-3.93
Abdominal Hysterectomy	0	0.09	-0.09	0.00	0-41.59
11997 Carlisle Regional Medical Center					
Hip Prosthesis	2	1.99	0.01	1.01	0.11-3.64
Knee Prosthesis	3	2.36	0.64	1.27	0.26-3.72
Abdominal Hysterectomy	0	0.42	-0.42	0.00	0-8.74
15259 CH Hospital of Allentown					
Hip Prosthesis	0	0.83	-0.83	0.00	0-4.41
Knee Prosthesis	1	2.49	-1.49	0.40	0.01-2.24
11913 Chambersburg Hospital					
Hip Prosthesis	4	4.10	-0.10	0.98	0.26-2.50
Knee Prosthesis	13	5.42	7.58	2.40	1.28-4.10
Abdominal Hysterectomy	1	1.42	-0.42	0.70	0.01-3.91
11956 Charles Cole Memorial Hospital					
Hip Prosthesis	0	0.75	-0.75	0.00	0-4.91
Knee Prosthesis	2	1.16	0.84	1.73	0.19-6.23
Abdominal Hysterectomy	0	0.49	-0.49	0.00	0-7.49
12016 Chester County Hospital					
Cardiac Procedures	0	0.60	-0.60	0.00	0-6.11
Cardiac Bypass – Dual Incision	1	1.28	-0.28	0.78	0.01-4.36
Cardiac Bypass – Single Incision	1	0.41	0.59	2.42	0.03-13.46
Hip Prosthesis	0	2.58	-2.58	0.00	0-1.42
Knee Prosthesis	1	2.12	-1.12	0.47	0.01-2.62
Abdominal Hysterectomy	0	2.44	-2.44	0.00	0-1.51
12304 Chestnut Hill Hospital					
Hip Prosthesis	3	0.54	2.46	5.58	1.12-16.30
Knee Prosthesis	0	0.25	-0.25	0.00	0-14.78
Abdominal Hysterectomy	1	2.39	-1.39	0.42	0.01-2.33

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10306 Children’s Hospital of Philadelphia					
Cardiac Procedures	17	5.17	11.83	3.29	1.92-5.27
Cardiac Bypass – Dual Incision	0	0.02	-0.02	0.00	0-209.61
Hip Prosthesis	0	0.09	-0.09	0.00	0-38.77
Abdominal Hysterectomy	0	0.01	-0.01	0.00	0-346.05
11640 Children’s Hospital of Pittsburgh					
Cardiac Procedures	1	1.87	-0.87	0.54	0.01-2.98
11654 Clarion Hospital					
Hip Prosthesis	1	0.70	-0.30	1.44	0.02-8.00
Knee Prosthesis	0	0.71	-0.71	0.00	0-5.18
Abdominal Hysterectomy	2	0.77	1.23	2.61	0.29-9.43
11843 Clearfield Hospital					
Hip Prosthesis	0	0.87	-0.87	0.00	0-4.23
Knee Prosthesis	0	0.43	-0.43	0.00	0-8.50
Abdominal Hysterectomy	1	0.42	0.58	2.41	0.03-13.39
11914 Community Medical Center					
Cardiac Procedures	0	0.23	-0.23	0.00	0-15.72
Cardiac Bypass – Dual Incision	2	1.15	0.85	1.74	0.20-6.28
Cardiac Bypass – Single Incision	1	1.94	-0.94	0.51	0.01-2.86
Hip Prosthesis	2	3.50	-1.50	0.57	0.06-2.06
Knee Prosthesis	5	4.48	0.52	1.12	0.36-2.60
10280 Conemaugh Valley Medical Center					
Cardiac Procedures	0	1.10	-1.10	0.00	0-3.34
Cardiac Bypass – Dual Incision	2	3.09	-1.09	0.65	0.07-2.34
Cardiac Bypass – Single Incision	0	0.17	-0.17	0.00	0-22.15
Hip Prosthesis	4	4.42	-0.42	0.90	0.24-2.31
Knee Prosthesis	2	5.21	-3.21	0.38	0.04-1.39
Abdominal Hysterectomy	1	1.01	-0.01	0.99	0.01-5.48
11872 Coordinated Health Orthopedic					
Hip Prosthesis	1	2.03	-1.03	0.49	0.01-2.74
Knee Prosthesis	5	4.37	0.63	1.15	0.37-2.67
12283 Corry Memorial Hospital					
Abdominal Hysterectomy	0	0.08	-0.08	0.00	0-45.01
11839 Crozer Chester Medical Center					
Cardiac Procedures	0	0.54	-0.54	0.00	0-6.85
Cardiac Bypass – Dual Incision	1	1.80	-0.80	0.56	0.01-3.10
Cardiac Bypass – Single Incision	0	0.68	-0.68	0.00	0-5.37
Hip Prosthesis	1	1.53	-0.53	0.65	0.01-3.63

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11839 Crozer Chester Medical Center					
Knee Prosthesis	2	1.67	0.33	1.20	0.13-4.32
Abdominal Hysterectomy	1	3.10	-2.10	0.32	0-1.79
11851 Crozer Chester Medical Center – Springfield					
Hip Prosthesis	1	0.08	-0.92	12.90	0.17-71.79
Knee Prosthesis	0	0.04	-0.04	0.00	0-89.47
Abdominal Hysterectomy	0	0.12	-0.12	0.00	0-31.03
11932 Crozer Chester Medical Center – Taylor					
Hip Prosthesis	0	0.96	-0.96	0.00	0-3.84
Knee Prosthesis	0	0.73	-0.73	0.00	0-5.05
11972 Delaware County Memorial Hospital					
Hip Prosthesis	0	1.68	-1.68	0.70	0-2.19
Knee Prosthesis	4	2.22	1.78	1.80	0.48-4.61
Abdominal Hysterectomy	0	0.89	-0.89	0.00	0-4.10
10190 Doylestown Hospital					
Cardiac Procedures	0	1.20	-1.20	0.00	0-3.07
Cardiac Bypass – Dual Incision	3	2.44	0.56	1.23	0.25-3.59
Cardiac Bypass – Single Incision	1	0.07	0.93	14.49	0.19-80.64
Hip Prosthesis	0	2.27	-2.27	0.00	0-1.61
Knee Prosthesis	1	2.42	-1.42	0.41	0.01-2.30
Abdominal Hysterectomy	0	1.17	-1.17	0.00	0-3.13
11606 Dubois Regional Medical Center					
Cardiac Procedures	0	0.52	-0.52	0.00	0-7.06
Cardiac Bypass – Dual Incision	4	2.56	1.44	1.57	0.42-4.01
Cardiac Bypass – Single Incision	1	0.11	0.89	9.06	0.12-50.40
Hip Prosthesis	1	0.89	0.11	1.12	0.01-6.23
Knee Prosthesis	1	0.57	0.43	1.76	0.02-9.80
Abdominal Hysterectomy	2	1.80	0.20	1.11	0.12-4.01
12348 Eastern Regional Medical Center					
Hip Prosthesis	1	0.09	0.91	10.57	0.14-58.81
Abdominal Hysterectomy	0	0.07	-0.07	0.00	0-53.55
11929 Easton Hospital					
Cardiac Procedures	1	0.49	0.51	2.05	0.03-11.42
Cardiac Bypass – Dual Incision	4	3.77	0.23	1.06	0.29-2.71
Hip Prosthesis	4	1.75	2.25	2.29	0.62-5.86
Knee Prosthesis	6	1.48	4.52	4.05	1.48-8.82
Abdominal Hysterectomy	2	1.87	0.13	1.07	0.12-3.87

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12552 Edgewood Surgical Hospital					
Hip Prosthesis	0	0.27	-0.27	0.00	0-13.40
Knee Prosthesis	0	0.82	-0.82	0.00	0-4.46
11859 Elk Regional Health Center					
Hip Prosthesis	0	0.81	-0.81	0.00	0-4.51
Knee Prosthesis	0	0.98	-0.98	0.00	0-3.75
Abdominal Hysterectomy	1	0.79	0.21	1.27	0.02-7.04
11779 Ellwood City Hospital					
Hip Prosthesis	0	0.20	-0.20	0.00	0-18.01
Knee Prosthesis	0	0.31	-0.31	0.00	0-11.99
Abdominal Hysterectomy	1	0.15	0.85	6.59	0.09-36.65
11817 Endless Mountains Health Systems					
Hip Prosthesis	0	0.27	-0.27	0.00	0-13.69
Knee Prosthesis	0	0.65	-0.65	0.00	0-5.65
11764 Ephrata Community Hospital					
Hip Prosthesis	2	1.46	0.54	1.37	0.15-4.94
Knee Prosthesis	5	1.89	3.11	2.65	0.85-6.19
Abdominal Hysterectomy	0	0.71	-0.71	0.00	0-5.18
11701 Evangelical Community Hospital					
Hip Prosthesis	3	2.05	0.95	1.46	0.29-4.28
Knee Prosthesis	6	3.09	2.91	1.94	0.71-4.23
Abdominal Hysterectomy	1	1.44	-0.44	0.69	0.01-3.86
11639 Excelsa Health Frick					
Hip Prosthesis	1	0.09	0.91	11.14	0.15-61.96
Knee Prosthesis	0	0.15	-0.15	0.00	0-23.76
11651 Excelsa Health Latrobe					
Hip Prosthesis	1	1.28	-0.28	0.78	0.01-4.33
Knee Prosthesis	0	1.29	-1.29	0.00	0-2.84
Abdominal Hysterectomy	1	1.34	-0.34	0.75	0.01-4.15
11637 Excelsa Health Westmoreland					
Cardiac Procedures	0	1.16	-1.16	0.00	0-3.17
Cardiac Bypass – Dual Incision	10	5.06	4.94	1.97	0.95-3.63
Cardiac Bypass – Single Incision	1	0.23	0.77	4.32	0.06-24.05
Hip Prosthesis	1	2.92	-1.92	0.34	0-1.91
Knee Prosthesis	0	2.91	-2.91	0.00	0-1.26
Abdominal Hysterectomy	0	1.14	-1.14	0.00	0-3.23
11265 Forbes Regional Hospital					
Cardiac Procedures	0	0.49	-0.49	0.00	0-7.56
Cardiac Bypass – Dual Incision	2	2.65	-0.65	0.76	0.08-2.73

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11265 Forbes Regional Hospital					
Cardiac Bypass – Single Incision	0	0.12	-0.12	0.00	0-29.80
Hip Prosthesis	5	3.07	1.93	1.63	0.52-3.80
Knee Prosthesis	2	2.64	-0.64	0.76	0.09-2.74
Abdominal Hysterectomy	1	0.85	0.15	1.18	0.02-6.57
11775 Geisinger Medical Center					
Cardiac Procedures	1	2.98	-1.98	0.34	0-1.87
Cardiac Bypass – Dual Incision	7	4.68	2.32	1.49	0.60-3.08
Cardiac Bypass – Single Incision	1	0.32	0.68	3.11	0.04-17.32
Hip Prosthesis	12	5.90	6.10	2.03	1.05-3.55
Knee Prosthesis	15	4.23	10.77	3.54	1.98-5.85
Abdominal Hysterectomy	8	4.46	3.54	1.79	0.77-3.54
11780 Geisinger Wyoming Valley					
Cardiac Procedures	2	0.88	1.12	2.28	0.26-8.25
Cardiac Bypass – Dual Incision	5	2.05	2.95	2.44	0.78-5.68
Cardiac Bypass – Single Incision	0	0.15	-0.15	0.00	0-24.89
Hip Prosthesis	7	3.38	3.62	2.07	0.83-4.27
Knee Prosthesis	2	2.34	-0.34	0.85	0.10-3.08
Abdominal Hysterectomy	4	1.14	2.86	3.50	0.94-8.97
11531 Gettysburg Hospital					
Hip Prosthesis	1	1.23	-0.23	0.81	0.01-4.53
Knee Prosthesis	1	1.37	-0.37	0.73	0.01-4.07
Abdominal Hysterectomy	0	0.73	-0.73	0.00	0-5.04
12241 Gaden Huetten Memorial Hospital					
Hip Prosthesis	1	0.33	0.67	3.06	0.04-17.00
Knee Prosthesis	0	0.53	-0.53	0.00	0-6.89
Abdominal Hysterectomy	2	0.23	1.77	8.68	0.97-31.34
11712 Good Samaritan Hospital					
Cardiac Procedures	0	0.02	-0.02	0.00	0-156.76
Cardiac Bypass – Dual Incision	0	2.57	-2.57	0.00	0-1.43
Cardiac Bypass – Single Incision	0	0.01	-0.01	0.00	0-288.83
Hip Prosthesis	0	1.39	-1.39	0.00	0-2.64
Knee Prosthesis	0	2.35	-2.35	0.00	0-1.56
Abdominal Hysterectomy	0	0.95	-0.95	0.00	0-3.86
11847 Grand View Hospital					
Hip Prosthesis	0	2.32	-2.32	0.00	0-1.58
Knee Prosthesis	2	2.34	-0.34	0.86	0.10-3.09
Abdominal Hysterectomy	0	2.17	-2.17	0.00	0-1.69

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11722 Grove City Medical Center					
Hip Prosthesis	0	0.38	-0.38	0.00	0-9.55
Knee Prosthesis	0	0.35	-0.35	0.00	0-10.37
Abdominal Hysterectomy	0	0.29	-0.29	0.00	0-12.67
11437 Hahnemann University Hospital					
Cardiac Procedures	0	0.65	-0.65	0.00	0-5.63
Cardiac Bypass – Dual Incision	0	1.75	-1.75	0.00	0-2.09
Cardiac Bypass – Single Incision	0	0.21	-0.21	0.00	0-17.48
Hip Prosthesis	0	1.60	-1.60	0.00	0-2.29
Knee Prosthesis	0	0.99	-0.99	0.00	0-3.71
Abdominal Hysterectomy	0	2.47	-2.47	0.00	0-1.49
11899 Hanover Hospital					
Hip Prosthesis	1	2.10	-1.10	0.48	0.01-2.65
Knee Prosthesis	4	2.69	1.31	1.49	0.40-3.81
Abdominal Hysterectomy	2	0.98	1.02	2.05	0.23-7.39
11878 Hazleton General Hospital					
Hip Prosthesis	4	0.93	3.07	4.31	1.16-11.03
Knee Prosthesis	0	0.56	-0.56	0.00	0-6.53
Abdominal Hysterectomy	1	0.67	0.33	1.49	0.02-8.31
12571 Heart of Lancaster Regional Medical Center					
Hip Prosthesis	1	0.53	0.47	1.88	0.02-10.47
Knee Prosthesis	1	0.05	0.95	19.12	0.25-106.38
Abdominal Hysterectomy	2	0.67	1.33	2.97	0.33-10.73
11831 Heritage Valley Beaver					
Cardiac Procedures	3	1.10	1.90	2.72	0.55-7.93
Cardiac Bypass – Dual Incision	12	2.79	9.21	4.30	2.22-7.52
Cardiac Bypass – Single Incision	0	0.67	-0.67	0.00	0-5.48
Hip Prosthesis	4	2.75	1.25	1.45	0.39-3.72
Knee Prosthesis	4	2.02	1.98	1.98	0.53-5.07
Abdominal Hysterectomy	3	1.39	1.61	2.15	0.43-6.29
10375 Heritage Valley Sewickley					
Cardiac Procedures	0	0.04	-0.04	0.00	0-87.34
Hip Prosthesis	2	4.06	-2.06	0.49	0.06-1.78
Knee Prosthesis	1	5.75	-4.75	0.17	0-0.97
Abdominal Hysterectomy	0	1.14	-1.14	0.00	0-3.21
11902 Highlands Hospital					
Hip Prosthesis	0	0.18	-0.18	0.00	0-20.96
Knee Prosthesis	0	0.14	-0.14	0.00	0-26.64

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11973 Holy Redeemer Hospital					
Hip Prosthesis	2	1.89	0.11	1.06	0.12-3.81
Knee Prosthesis	1	3.15	-2.15	0.32	0-1.77
Abdominal Hysterectomy	0	1.26	-1.26	0.00	0-2.90
12387 Holy Spirit Hospital					
Cardiac Procedures	0	0.96	-0.96	0.00	0-3.83
Cardiac Bypass – Dual Incision	3	4.60	-1.60	0.65	0.13-1.91
Cardiac Bypass – Single Incision	0	0.45	-0.45	0.00	0-8.08
Hip Prosthesis	3	2.62	0.38	1.14	0.23-3.35
Knee Prosthesis	1	2.30	-1.30	0.43	0.01-2.42
Abdominal Hysterectomy	0	0.70	-0.70	0.00	0-5.23
10219 Hospital of the University of Pennsylvania					
Cardiac Procedures	5	10.26	-5.26	0.49	0.16-1.14
Cardiac Bypass – Dual Incision	5	6.59	-1.59	0.76	0.24-1.77
Cardiac Bypass – Single Incision	2	0.19	1.81	10.72	1.20-38.70
Hip Prosthesis	2	0.51	1.49	3.92	0.44-14.14
Abdominal Hysterectomy	7	2.40	4.60	2.92	1.17-6.01
12134 Hospital of Fox Chase Cancer Center					
Abdominal Hysterectomy	3	4.24	-1.24	0.71	0.14-2.07
11759 Indiana Regional Medical Center					
Hip Prosthesis	1	1.82	-0.82	0.55	0.01-3.07
Knee Prosthesis	0	2.02	-2.02	0.00	0-1.81
Abdominal Hysterectomy	0	0.78	-0.78	0.00	0-4.69
11954 Jameson Memorial Hospital					
Hip Prosthesis	2	1.11	0.89	1.81	0.20-6.53
Knee Prosthesis	1	1.78	-0.78	0.56	0.01-3.12
Abdominal Hysterectomy	0	0.67	-0.67	0.00	0-5.49
11459 Jeanes Hospital					
Cardiac Procedures	0	0.35	-0.35	0.00	0-10.57
Cardiac Bypass – Dual Incision	0	1.41	-1.41	0.00	0-2.61
Hip Prosthesis	0	1.11	-1.11	0.00	0-3.29
Knee Prosthesis	0	1.43	-1.43	0.00	0-2.57
Abdominal Hysterectomy	0	1.06	-1.06	0.00	0-3.45
10237 Jefferson Regional Medical Center					
Cardiac Procedures	1	1.64	-0.64	0.61	0.01-3.39
Cardiac Bypass – Dual Incision	2	6.48	-4.48	0.31	0.03-1.11
Cardiac Bypass – Single Incision	0	0.11	-0.11	0.00	0-33.90
Hip Prosthesis	1	3.66	-2.66	0.27	0-1.52

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
10237 Jefferson Regional Medical Center					
Knee Prosthesis	7	5.52	1.48	1.27	0.51-2.61
Abdominal Hysterectomy	2	0.21	1.79	9.62	1.08-34.73
12337 Jennersville Regional Hospital					
Hip Prosthesis	0	0.39	-0.39	0.00	0-9.52
Knee Prosthesis	0	0.09	-0.09	0.00	0-39.32
Abdominal Hysterectomy	0	0.29	-0.29	0.00	0-12.49
11689 Jersey Shore Hospital					
Hip Prosthesis	0	0.13	-0.13	0.00	0-27.44
Knee Prosthesis	0	0.15	-0.15	0.00	0-24.24
10183 Lancaster General Hospital					
Cardiac Procedures	3	1.37	1.63	2.19	0.44-6.40
Cardiac Bypass – Dual Incision	7	7.53	-0.53	0.93	0.37-1.92
Cardiac Bypass – Single Incision	1	0.41	0.59	2.45	0.03-13.62
Hip Prosthesis	5	8.14	-3.14	0.61	0.20-1.43
Knee Prosthesis	7	10.45	-3.45	0.67	0.27-1.38
Abdominal Hysterectomy	4	3.96	0.04	1.01	0.27-2.59
12335 Lancaster Regional Medical Center					
Cardiac Procedures	1	0.29	0.71	3.41	0.04-18.96
Cardiac Bypass – Dual Incision	1	1.00	0	1.00	0.01-5.55
Cardiac Bypass – Single Incision	0	0.23	-0.23	0.00	0-15.82
Hip Prosthesis	1	2.05	-1.05	0.49	0.01-2.72
Knee Prosthesis	2	2.02	-0.02	0.99	0.11-3.57
Abdominal Hysterectomy	2	0.38	1.62	5.21	0.59-18.81
12032 Lansdale Hospital					
Hip Prosthesis	0	0.58	-0.58	0.00	0-6.31
Knee Prosthesis	0	0.45	-0.45	0.00	0-8.22
11884 Lehigh Valley Hospital					
Cardiac Procedures	2	2.87	-0.87	0.70	0.08-2.51
Cardiac Bypass – Dual Incision	5	8.55	-3.55	0.58	0.19-1.36
Cardiac Bypass – Single Incision	0	0.64	-0.64	0.00	0-5.75
Hip Prosthesis	9	8.95	0.05	1.01	0.46-1.91
Knee Prosthesis	8	8.87	-0.87	0.90	0.39-1.78
Abdominal Hysterectomy	1	4.58	-3.58	0.22	0-1.22
11898 Lehigh Valley Hospital – Muhlenberg					
Cardiac Procedures	0	0.75	-0.75	0.00	0-4.89
Cardiac Bypass – Dual Incision	2	2.53	-0.53	0.79	0.09-2.85
Cardiac Bypass – Single Incision	0	0.05	-0.05	0.00	0-67.80

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11898 Lehigh Valley Hospital – Muhlenberg					
Hip Prosthesis	1	1.77	-0.77	0.56	0.01-3.14
Knee Prosthesis	3	1.51	1.49	1.98	0.40-5.79
Abdominal Hysterectomy	1	0.69	0.31	1.45	0.02-8.08
11825 Lewistown Hospital					
Hip Prosthesis	0	0.21	-0.21	0.00	0-17.78
Knee Prosthesis	0	0.57	-0.57	0.00	0-6.46
Abdominal Hysterectomy	2	3.07	-1.07	0.65	0.07-2.35
12097 Lock Haven Hospital					
Hip Prosthesis	0	0.02	-0.02	0.00	0-242.92
Knee Prosthesis	0	0.04	-0.04	0.00	0-83.18
Abdominal Hysterectomy	1	0.18	0.82	5.42	0.07-30.14
12390 Lower Bucks Hospital					
Cardiac Procedures	0	0.06	-0.06	0.00	0-59.07
Cardiac Bypass – Dual Incision	1	0.97	0.03	1.03	0.01-5.75
Cardiac Bypass – Single Incision	0	0.08	-0.08	0.00	0-48.14
Hip Prosthesis	1	0.80	0.20	1.25	0.02-6.96
Knee Prosthesis	1	0.64	0.36	1.57	0.02-8.74
Abdominal Hysterectomy	0	1.13	-1.13	0.00	0-3.26
10301 Magee Womens Hospital of UPMC					
Hip Prosthesis	4	5.67	-1.67	0.71	0.19-1.81
Knee Prosthesis	2	5.27	-3.27	0.38	0.04-1.37
Abdominal Hysterectomy	19	18.87	0.13	1.01	0.61-1.57
11753 Main Line Hospital Bryn Mawr					
Cardiac Procedures	1	0.49	-0.51	2.03	0.03-11.30
Cardiac Bypass – Dual Incision	0	1.25	-1.25	0.00	0-2.93
Cardiac Bypass – Single Incision	0	0.10	-0.10	0.00	0-37.97
Hip Prosthesis	7	5.91	1.09	1.18	0.47-2.44
Knee Prosthesis	6	6.97	-0.97	0.86	0.31-1.87
Abdominal Hysterectomy	1	1.14	-0.14	0.88	0.01-4.89
11770 Main Line Hospital Lankenau					
Cardiac Procedures	5	2.34	2.66	2.13	0.69-4.98
Cardiac Bypass – Dual Incision	5	4.50	0.51	1.11	0.36-2.60
Cardiac Bypass – Single Incision	1	1.37	-0.37	0.73	0.01-4.07
Hip Prosthesis	3	2.83	0.17	1.06	0.21-3.09
Knee Prosthesis	1	3.53	-2.53	0.28	0-1.58
Abdominal Hysterectomy	1	4.34	-3.34	0.23	0-1.28

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11750 Main Line Hospital Paoli					
Cardiac Procedures	2	0.32	1.69	6.35	0.71-22.92
Cardiac Bypass – Dual Incision	1	1.39	-0.39	0.72	0.01-4.00
Cardiac Bypass – Single Incision	0	0.08	-0.08	0.00	0-44.30
Hip Prosthesis	6	3.08	2.92	1.95	0.71-4.24
Knee Prosthesis	5	2.93	2.07	1.71	0.55-3.98
Abdominal Hysterectomy	1	2.15	-1.15	0.47	0.01-2.59
12338 Marian Community Hospital					
Hip Prosthesis	0	0.30	-0.30	0.00	0-12.03
Knee Prosthesis	0	0.62	-0.62	0.00	0-5.91
11583 Meadville Medical Center					
Hip Prosthesis	7	2.28	4.72	3.07	1.23-6.32
Knee Prosthesis	6	4.74	1.26	1.27	0.46-2.76
Abdominal Hysterectomy	0	0.20	-0.20	0.00	0-18.42
12549 Memorial Hospital Towanda					
Abdominal Hysterectomy	0	0.21	-0.21	0.00	0-17.57
11633 Memorial Hospital York					
Hip Prosthesis	0	1.18	-1.18	0.00	0-3.12
Knee Prosthesis	2	1.52	0.48	1.32	0.15-4.75
Abdominal Hysterectomy	0	1.62	-1.62	0.00	0-2.27
11683 Mercy Fitzgerald Hospital					
Cardiac Procedures	0	0.27	-0.27	0.00	0-13.69
Cardiac Bypass – Dual Incision	0	0.83	-0.83	0.00	0-4.42
Cardiac Bypass – Single Incision	0	0.18	-0.18	0.00	0-20.70
Hip Prosthesis	0	0.68	-0.68	0.00	0-5.36
Knee Prosthesis	2	0.41	1.59	4.91	0.55-17.74
Abdominal Hysterectomy	1	0.56	0.44	1.78	0.02-9.88
11946 Mercy Philadelphia Hospital					
Hip Prosthesis	0	0.23	-0.23	0.00	0-15.82
Knee Prosthesis	0	0.19	-0.19	0.00	0-19.16
Abdominal Hysterectomy	0	0.67	-0.67	0.00	0-5.49
11952 Mercy Suburban Hospital – Norristown					
Hip Prosthesis	2	0.70	1.30	2.86	0.32-10.31
Knee Prosthesis	4	1.00	3.00	4.02	1.08-10.29
Abdominal Hysterectomy	2	0.40	1.60	5.03	0.56-18.16
11557 Mid-Valley Hospital					
Hip Prosthesis	1	0.02	0.98	66.23	0.87-368.47
12253 Millcreek Community Hospital					
Hip Prosthesis	0	0.40	-0.40	0.00	0-9.24

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12253 Millcreek Community Hospital					
Knee Prosthesis	0	0.43	-0.43	0.00	0-8.47
Abdominal Hysterectomy	0	0.51	-0.51	0.00	0-7.21
11747 Milton S Hershey Medical Center					
Cardiac Procedures	6	3.83	2.17	1.57	0.57-3.41
Cardiac Bypass – Dual Incision	5	4.12	0.86	1.21	0.39-2.83
Cardiac Bypass – Single Incision	0	0.13	-0.13	0.00	0-27.23
Hip Prosthesis	8	7.12	0.88	1.12	0.48-2.21
Knee Prosthesis	9	6.66	2.34	1.35	0.62-2.56
Abdominal Hysterectomy	0	1.59	-1.59	0.00	0-2.31
12295 Miners Medical Center					
Hip Prosthesis	1	0.12	0.88	8.01	0.10-44.58
Knee Prosthesis	0	0.06	-0.06	0.00	0-58.97
Abdominal Hysterectomy	0	0.01	-0.01	0.00	0-346.05
11069 Monongahela Valley Hospital					
Hip Prosthesis	6	2.25	3.75	2.67	0.97-5.81
Knee Prosthesis	3	1.53	1.47	1.96	0.39-5.74
Abdominal Hysterectomy	1	0.20	0.80	5.00	0.07-27.82
11947 Montgomery Hospital					
Hip Prosthesis	1	1.05	-0.05	0.95	0.01-5.28
Knee Prosthesis	2	1.71	0.29	1.17	0.13-4.21
Abdominal Hysterectomy	0	0.05	-0.05	0.00	0-72.49
11528 Moses Taylor Hospital					
Hip Prosthesis	2	1.64	0.36	1.22	0.14-4.40
Knee Prosthesis	0	2.38	-2.38	0.00	0-1.54
Abdominal Hysterectomy	2	3.52	-1.52	0.57	0.06-2.05
11797 Mount Nittany Medical Center					
Hip Prosthesis	1	4.52	-3.52	0.22	0-1.23
Knee Prosthesis	12	6.72	5.28	1.79	0.92-3.12
Abdominal Hysterectomy	2	1.46	0.54	1.37	0.15-4.95
11907 Nason Hospital					
Hip Prosthesis	2	0.21	1.79	9.62	1.08-34.73
Knee Prosthesis	0	0.37	-0.37	0.00	0-9.96
Abdominal Hysterectomy	0	0.15	-0.15	0.00	0-24.70
11919 Nazareth Hospital					
Hip Prosthesis	4	1.86	2.14	2.15	0.58-5.49
Knee Prosthesis	1	1.56	-0.56	0.64	0.01-3.57
12298 Ohio Valley General Hospital					
Cardiac Procedures	0	0.01	-0.01	0.00	0-349.34
Hip Prosthesis	2	0.93	1.07	2.15	0.24-7.77

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12298 Ohio Valley General Hospital					
Knee Prosthesis	1	0.94	0.06	1.07	0.01-5.93
Abdominal Hysterectomy	0	0.16	-0.16	0.00	0-22.59
12396 Palmerton Hospital					
Hip Prosthesis	0	0.44	-0.44	0.00	0-8.33
Knee Prosthesis	0	0.52	-0.52	0.00	0-7.03
11814 Penn Presbyterian Medical Center					
Cardiac Procedures	2	3.59	-1.59	0.56	0.06-2.01
Cardiac Bypass – Dual Incision	2	4.71	-2.71	0.42	0.05-1.53
Cardiac Bypass – Single Incision	2	0.46	1.54	4.36	0.49-15.76
Hip Prosthesis	10	7.55	2.45	1.32	0.63-2.44
Knee Prosthesis	8	6.77	1.23	1.18	0.51-2.33
Abdominal Hysterectomy	0	0.17	-0.17	0.00	0-21.54
11448 Pennsylvania Hospital of the University of Pennsylvania					
Cardiac Procedures	0	0.51	-0.51	0.00	0-7.15
Cardiac Bypass – Dual Incision	8	2.65	5.35	3.01	1.30-5.94
Cardiac Bypass – Single Incision	0	0.07	-0.07	0.00	0-54.02
Hip Prosthesis	12	8.42	3.58	1.42	0.74-2.49
Knee Prosthesis	8	10.42	-2.42	0.77	0.33-1.51
Abdominal Hysterectomy	7	2.55	4.45	2.74	1.10-5.65
11836 Phoenixville Hospital Company					
Cardiac Procedures	0	0.27	-0.27	0.00	0-13.49
Cardiac Bypass – Dual Incision	1	1.49	-0.49	0.67	0.01-3.74
Cardiac Bypass – Single Incision	0	0.18	-0.18	0.00	0-20.45
Hip Prosthesis	0	1.03	-1.03	0.00	0-3.57
Knee Prosthesis	1	1.23	-0.23	0.81	0.01-4.51
Abdominal Hysterectomy	2	0.78	1.22	2.56	0.29-9.25
10122 Pinnacle Health Hospital					
Cardiac Procedures	2	1.39	0.61	1.44	0.16-5.21
Cardiac Bypass – Dual Incision	9	8.00	1.00	1.12	0.51-2.14
Cardiac Bypass – Single Incision	0	0.85	-0.85	0.00	0-4.32
Hip Prosthesis	21	12.83	8.17	1.64	1.01-2.50
Knee Prosthesis	17	14.51	2.49	1.17	0.68-1.88
Abdominal Hysterectomy	4	4.74	-0.74	0.84	0.23-2.16
11772 Pocono Medical Center					
Cardiac Procedures	1	0.14	0.86	7.33	0.10-40.76
Cardiac Bypass – Dual Incision	3	2.98	0.02	1.01	0.20-2.94
Hip Prosthesis	5	0.80	4.20	6.25	2.02-14.59

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11772 Pocono Medical Center					
Knee Prosthesis	0	0.54	-0.54	0.00	0-6.80
Abdominal Hysterectomy	1	1.93	-0.93	0.52	0.01-2.88
11983 Pottstown Memorial Medical Center					
Hip Prosthesis	1	1.71	-0.71	0.59	0.01-3.26
Knee Prosthesis	3	2.77	0.23	1.08	0.22-3.17
Abdominal Hysterectomy	0	0.55	-0.55	0.00	0-6.73
11830 Punxsutawney Area Hospital					
Hip Prosthesis	0	0.23	-0.23	0.00	0-15.68
Knee Prosthesis	0	0.40	-0.40	0.00	0-9.07
Abdominal Hysterectomy	0	0.17	-0.17	0.00	0-21.50
12375 Reading Hospital and Medical Center					
Cardiac Procedures	0	0.87	-0.87	0.00	0-4.20
Cardiac Bypass – Dual Incision	1	3.95	-2.95	0.25	0-1.41
Cardiac Bypass – Single Incision	0	0.21	-0.21	0.00	0-17.12
Hip Prosthesis	2	5.71	-3.71	0.35	0.04-1.27
Knee Prosthesis	2	5.67	-3.67	0.35	0.04-1.27
Abdominal Hysterectomy	2	6.62	-4.62	0.30	0.03-1.09
12533 Regional Hospital of Scranton					
Cardiac Procedures	4	1.64	2.36	2.44	0.66-6.26
Cardiac Bypass – Dual Incision	3	3.67	-0.67	0.82	0.16-2.39
Cardiac Bypass – Single Incision	0	0.41	-0.41	0.00	0-9.03
Hip Prosthesis	0	2.01	-2.01	0.00	0-1.82
Knee Prosthesis	3	3.25	-0.25	0.92	0.19-2.70
Abdominal Hysterectomy	0	0.08	-0.08	0.00	0-47.27
11731 Riddle Memorial Hospital					
Hip Prosthesis	9	5.39	3.61	1.67	0.76-3.17
Knee Prosthesis	7	4.90	2.10	1.43	0.57-2.94
Abdominal Hysterectomy	1	1.31	-0.31	0.76	0.01-4.25
12422 Robert Packer Hospital					
Cardiac Procedures	1	1.33	-0.33	0.75	0.01-4.20
Cardiac Bypass – Dual Incision	0	2.26	-2.26	0.00	0-1.62
Cardiac Bypass – Single Incision	0	0.10	-0.10	0.00	0-37.97
Hip Prosthesis	1	4.72	-3.72	0.21	0-1.18
Knee Prosthesis	0	3.30	-3.30	0.00	0-1.11
Abdominal Hysterectomy	0	1.05	-1.05	0.00	0-3.48
11978 Roxborough Memorial Hospital					
Hip Prosthesis	0	0.06	-0.06	0.00	0-58.78

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11978 Roxborough Memorial Hospital					
Knee Prosthesis	0	0.26	-0.26	0.00	0-13.92
Abdominal Hysterectomy	0	0.14	-0.14	0.00	0-27.07
11684 Sacred Heart Hospital					
Hip Prosthesis	0	0.58	-0.58	0.00	0-6.32
Knee Prosthesis	4	1.08	2.92	3.72	1.00-9.52
Abdominal Hysterectomy	3	3.38	-0.38	0.89	0.18-2.59
12365 St Catherine Medical Center					
Hip Prosthesis	0	0.05	-0.05	0.00	0-80.97
Knee Prosthesis	0	0.08	-0.08	0.00	0-44.46
Abdominal Hysterectomy	0	0.12	-0.12	0.00	0-30.57
10561 St Clair Memorial Hospital					
Cardiac Procedures	0	0.74	-0.74	0.00	0-4.94
Cardiac Bypass – Dual Incision	1	2.88	-1.88	0.35	0-1.93
Cardiac Bypass – Single Incision	0	0.06	-0.06	0.00	0-66.45
Hip Prosthesis	8	3.67	4.33	2.18	0.94-4.29
Knee Prosthesis	5	4.50	0.50	1.11	0.36-2.59
Abdominal Hysterectomy	3	2.37	0.63	1.27	0.25-3.70
12290 St Christopher’s Hospital for Children					
Cardiac Procedures	1	0.72	0.28	1.39	0.02-7.71
11961 St Joseph Medical Center					
Cardiac Procedures	1	0.36	0.64	2.81	0.04-15.64
Cardiac Bypass – Dual Incision	3	1.65	1.35	1.82	0.37-5.32
Cardiac Bypass – Single Incision	0	0.01	-0.01	0.00	0-265.80
Hip Prosthesis	1	1.21	-0.21	0.82	0.01-4.58
Knee Prosthesis	1	1.22	-0.22	0.82	0.01-4.55
Abdominal Hysterectomy	3	1.31	1.69	2.28	0.46-6.67
12438 St Joseph’s Hospital					
Abdominal Hysterectomy	2	0.31	1.69	6.37	0.72-23.00
11718 St Luke’s Hospital Bethlehem					
Cardiac Procedures	0	1.37	-1.37	0.00	0-2.69
Cardiac Bypass – Dual Incision	2	2.77	-0.77	0.72	0.08-2.61
Cardiac Bypass – Single Incision	0	0.10	-0.10	0.00	0-37.97
Hip Prosthesis	5	4.06	0.94	1.23	0.40-2.87
Knee Prosthesis	4	3.36	0.64	1.19	0.32-3.05
Abdominal Hysterectomy	1	1.78	-0.78	0.56	0.01-3.12
11784 St Luke’s Miners Memorial Hospital					
Hip Prosthesis	0	0.09	-0.09	0.00	0-39.32

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11784 St Luke's Miners Memorial Hospital					
Knee Prosthesis	1	1.12	-0.12	0.89	0.01-4.96
Abdominal Hysterectomy	0	0.18	-0.18	0.00	0-20.79
11711 St Luke's Quakertown					
Hip Prosthesis	0	0.49	-0.49	0.00	0-7.56
Knee Prosthesis	1	0.32	0.66	3.11	0.04-17.28
Abdominal Hysterectomy	0	0.08	-0.08	0.00	0-45.85
11885 St Mary Medical Center					
Cardiac Procedures	2	0.65	1.35	3.08	0.35-11.12
Cardiac Bypass – Dual Incision	4	3.00	1.00	1.33	0.36-3.41
Cardiac Bypass – Single Incision	1	0.16	0.84	6.08	0.08-33.82
Hip Prosthesis	1	3.26	-2.26	0.31	0-1.71
Knee Prosthesis	4	3.52	0.48	1.14	0.31-2.91
Abdominal Hysterectomy	1	1.38	-0.38	0.73	0.01-4.04
11699 Saint Vincent Health Center					
Cardiac Procedures	0	1.72	-1.72	0.00	0-2.14
Cardiac Bypass – Dual Incision	7	7.46	-0.46	0.94	0.38-1.93
Cardiac Bypass – Single Incision	1	0.12	0.88	8.20	0.11-45.61
Hip Prosthesis	0	3.28	-3.28	0.00	0-1.12
Knee Prosthesis	1	3.29	-2.29	0.30	0-1.69
Abdominal Hysterectomy	3	3.13	-0.13	0.96	0.19-2.80
11922 Schuylkill Medical Center – East Norwegian Street					
Hip Prosthesis	0	0.92	-0.92	0.00	0-3.97
Knee Prosthesis	1	0.73	0.27	1.36	0.02-7.57
Abdominal Hysterectomy	0	0.03	-0.03	0.00	0-118.71
12087 Schuylkill Medical Center – South Jackson Street					
Hip Prosthesis	0	0.81	-0.81	0.00	0-4.51
Knee Prosthesis	1	0.77	0.23	1.29	0.02-7.19
Abdominal Hysterectomy	3	1.44	1.56	2.08	0.42-6.08
12133 Shamokin Area Community Hospital					
Hip Prosthesis	1	0.45	0.55	2.24	0.03-12.48
Knee Prosthesis	0	0.56	-0.56	0.00	0-6.56
Abdominal Hysterectomy	0	0.01	-0.01	0.00	0-346.05
12250 Sharon Regional Health System					
Cardiac Procedures	0	0.25	-0.25	0.00	0-14.61
Cardiac Bypass – Dual Incision	0	1.23	-1.23	0.00	0-2.97
Cardiac Bypass – Single Incision	0	0.01	-0.01	0.00	0-265.80

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12250 Sharon Regional Health System					
Hip Prosthesis	0	2.53	-2.53	0.00	0-1.45
Knee Prosthesis	2	2.32	-0.32	0.86	0.10-3.11
Abdominal Hysterectomy	0	0.34	-0.34	0.00	0-10.90
11688 Soldiers & Sailors Memorial Hospital					
Hip Prosthesis	0	0.28	-0.28	0.00	0-13.28
Knee Prosthesis	2	0.35	1.65	5.66	0.64-20.44
Abdominal Hysterectomy	0	0.41	-0.41	0.00	0-8.87
12282 Somerset Hospital					
Hip Prosthesis	0	0.43	-0.43	0.00	0-8.52
Knee Prosthesis	0	0.50	-0.50	0.00	0-7.41
Abdominal Hysterectomy	0	0.42	-0.42	0.00	0-8.83
11942 Southwest Regional Medical Center					
Hip Prosthesis	0	0.18	-0.18	0.00	0-20.82
Knee Prosthesis	0	0.15	-0.15	0.00	0-24.24
Abdominal Hysterectomy	0	0.10	-0.10	0.00	0-35.72
12105 Sunbury Community Hospital					
Hip Prosthesis	1	0.78	0.22	1.28	0.02-7.09
Knee Prosthesis	2	0.25	1.75	8.08	0.91-29.18
12535 Surgical Institute of Reading					
Hip Prosthesis	0	1.18	-1.18	0.00	0-3.11
Knee Prosthesis	0	2.13	-2.13	0.00	0-1.72
Abdominal Hysterectomy	0	0.06	-0.06	0.00	0-62.38
12382 Temple University Hospital					
Cardiac Procedures	0	0.98	-0.98	0.00	0-3.74
Cardiac Bypass – Dual Incision	4	2.97	1.03	1.35	0.36-3.45
Cardiac Bypass – Single Incision	0	0.12	-0.12	0.00	0-29.53
Hip Prosthesis	3	2.15	0.85	1.39	0.28-4.07
Knee Prosthesis	2	2.92	-0.92	0.68	0.08-2.47
Abdominal Hysterectomy	3	5.50	-2.50	0.55	0.11-1.59
11506 Thomas Jefferson University Hospital					
Cardiac Procedures	1	1.41	-0.41	0.71	0.01-3.94
Cardiac Bypass – Dual Incision	6	2.50	3.50	2.40	0.88-5.23
Cardiac Bypass – Single Incision	0	0.18	-0.18	0.00	0-20.96
Hip Prosthesis	11	13.90	-2.90	0.79	0.39-1.42
Knee Prosthesis	15	8.96	6.04	1.67	0.94-2.76
Abdominal Hysterectomy	4	4.10	-0.10	0.98	0.26-2.50

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12017 Thomas Jefferson University Hospital - Methodist					
Hip Prosthesis	1	0.57	0.44	1.77	0.02-9.85
Knee Prosthesis	1	0.31	0.69	3.27	0.04-18.21
Abdominal Hysterectomy	0	0.17	-0.17	0.00	0-21.20
11738 Titusville Area Hospital					
Hip Prosthesis	0	0.12	-0.12	0.00	0-30.93
Knee Prosthesis	0	0.10	-0.10	0.00	0-35.10
Abdominal Hysterectomy	2	0.51	1.49	3.93	0.44-14.20
12018 Troy Community Hospital					
Abdominal Hysterectomy	0	0.04	-0.04	0.00	0-91.70
11829 Tyler Memorial Hospital					
Hip Prosthesis	0	0.05	-0.05	0.00	0-80.97
Knee Prosthesis	0	0.08	-0.08	0.00	0-44.30
12717 Tyrone Hospital					
Hip Prosthesis	0	0.07	-0.07	0.00	0-55.75
Knee Prosthesis	0	0.02	-0.02	0.00	0-203.78
Abdominal Hysterectomy	0	0.01	-0.01	0.00	0-346.05
10441 Uniontown Hospital					
Hip Prosthesis	7	2.52	4.48	2.78	1.11-5.73
Knee Prosthesis	7	2.36	4.64	2.96	1.19-6.10
Abdominal Hysterectomy	5	2.39	2.61	2.09	0.67-4.88
11680 UPMC Bedford					
Hip Prosthesis	0	0.12	-0.12	0.00	0-30.75
Knee Prosthesis	1	0.38	0.62	2.60	0.03-14.48
Abdominal Hysterectomy	1	0.98	0.02	1.02	0.01-5.69
11725 UPMC Hamot					
Cardiac Procedures	1	0.89	0.11	1.13	0.01-6.28
Cardiac Bypass – Dual Incision	6	4.74	1.26	1.27	0.46-2.76
Cardiac Bypass – Single Incision	3	1.99	1.01	1.51	0.30-4.41
Hip Prosthesis	8	4.46	3.54	1.79	0.77-3.54
Knee Prosthesis	5	4.08	0.92	1.23	0.39-2.86
Abdominal Hysterectomy	0	0.75	-0.75	0.00	0-4.90
11675 UPMC Horizon					
Hip Prosthesis	3	2.00	1.00	1.50	0.30-4.38
Knee Prosthesis	5	3.41	1.59	1.47	0.47-3.42
Abdominal Hysterectomy	1	1.06	-0.06	0.95	0.01-5.27
11707 UPMC McKeesport					
Hip Prosthesis	1	1.04	-0.04	0.96	0.01-5.35
Knee Prosthesis	1	0.44	0.56	2.25	0.03-12.54

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11707 UPMC McKeesport					
Abdominal Hysterectomy	3	0.49	2.51	6.15	1.24-17.97
10384 UPMC Mercy					
Cardiac Procedures	1	1.12	-0.12	0.89	0.01-4.97
Cardiac Bypass – Dual Incision	4	3.49	0.51	1.15	0.31-2.94
Cardiac Bypass – Single Incision	1	1.07	-0.07	0.94	0.01-5.21
Hip Prosthesis	1	2.82	-1.82	0.35	0-1.97
Knee Prosthesis	6	2.70	3.30	2.22	0.81-4.83
Abdominal Hysterectomy	10	4.88	5.12	2.05	0.98-3.77
11837 UPMC Northwest - Seneca					
Hip Prosthesis	1	0.69	0.31	1.46	0.02-8.11
Knee Prosthesis	0	0.70	-0.70	0.00	0–5.22
Abdominal Hysterectomy	0	0.76	-0.76	0.00	0-4.85
11242 UPMC Passavant					
Cardiac Procedures	2	2.30	-0.30	0.87	0.10-3.14
Cardiac Bypass – Dual Incision	3	5.24	-2.24	0.57	0.11-1.67
Cardiac Bypass – Single Incision	0	0.54	-0.54	0.00	0-6.75
Hip Prosthesis	1	4.17	-3.17	0.24	0-1.33
Knee Prosthesis	2	4.06	-2.06	0.49	0.06-1.78
Abdominal Hysterectomy	0	3.88	-3.88	0.00	0-0.95
10118 UPMC Presbyterian Shadyside					
Cardiac Procedures	0	3.01	-3.01	0.00	0-1.22
Cardiac Bypass – Dual Incision	7	8.84	-1.84	0.79	0.32-1.63
Cardiac Bypass – Single Incision	1	0.62	0.38	1.62	0.02-8.99
Hip Prosthesis	9	13.59	-4.59	0.66	0.30-1.26
Knee Prosthesis	6	10.07	-4.07	0.60	0.22-1.30
Abdominal Hysterectomy	4	1.18	2.82	3.40	0.91-8.70
10348 UPMC Presbyterian Shadyside					
Cardiac Procedures	8	2.46	5.54	3.25	1.40-6.41
Cardiac Bypass – Dual Incision	8	5.98	2.02	1.34	0.58-2.64
Cardiac Bypass – Single Incision	0	0.35	-0.35	0.00	0-10.41
Hip Prosthesis	4	1.82	2.18	2.19	0.59-5.62
Knee Prosthesis	1	0.26	0.74	3.79	0.05-21.10
Abdominal Hysterectomy	0	0.02	-0.02	0.00	0-195.11
11561 UPMC St Margaret					
Hip Prosthesis	1	5.36	-4.36	0.19	0-1.04
Knee Prosthesis	5	7.19	-2.19	0.70	0.22-1.62
Abdominal Hysterectomy	1	0.50	0.50	2.02	0.03-11.22
12216 Warren General Hospital					
Hip Prosthesis	0	0.88	-0.88	0.00	0-4.16

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
12216 Warren General Hospital					
Knee Prosthesis	0	0.86	-0.86	0.00	0-4.25
Abdominal Hysterectomy	0	1.25	-1.25	0.00	0-2.94
11460 The Washington Hospital					
Cardiac Procedures	1	0.75	0.25	1.33	0.02-7.38
Cardiac Bypass – Dual Incision	2	2.39	-0.39	0.84	0.09-3.02
Cardiac Bypass – Single Incision	0	0.22	-0.22	0.00	0-16.78
Hip Prosthesis	3	2.13	0.87	1.41	0.28-4.12
Knee Prosthesis	2	2.43	-0.43	0.82	0.09-2.98
Abdominal Hysterectomy	3	1.54	1.46	1.95	0.39-5.70
12004 Wayne Memorial Hospital					
Hip Prosthesis	0	0.59	-0.59	0.00	0-6.22
Knee Prosthesis	2	0.56	1.44	3.59	0.40-12.97
Abdominal Hysterectomy	1	1.26	-0.26	0.79	0.01-4.42
11642 Waynesboro Hospital					
Hip Prosthesis	0	0.63	-0.63	0.00	0-5.78
Knee Prosthesis	0	0.46	-0.46	0.00	0-8.05
Abdominal Hysterectomy	1	0.48	0.52	2.09	0.03-11.62
11864 Western Pennsylvania Hospital					
Cardiac Procedures	2	0.88	1.12	2.28	0.26-8.23
Cardiac Bypass – Dual Incision	3	2.36	0.64	1.27	0.26-3.72
Cardiac Bypass – Single Incision	0	0.10	-0.10	0.00	0-38.41
Hip Prosthesis	0	0.81	-0.81	0.00	0-4.54
Knee Prosthesis	1	0.94	0.06	1.06	0.01-5.89
Abdominal Hysterectomy	14	7.47	6.53	1.87	1.02-3.15
12487 Westfield Hospital					
Knee Prosthesis	1	0.27	0.73	3.68	0.05-20.47
Abdominal Hysterectomy	0	0.01	-0.01	0.00	0-254.73
11916 Wilkes Barre General Hospital					
Cardiac Procedures	1	0.53	0.47	1.88	0.02-10.45
Cardiac Bypass – Dual Incision	1	4.22	-3.22	0.24	0-1.32
Cardiac Bypass – Single Incision	0	0.11	-0.11	0.00	0-33.23
Hip Prosthesis	4	2.82	1.18	1.42	0.38-3.63
Knee Prosthesis	1	3.33	-2.33	0.30	0-1.67
Abdominal Hysterectomy	3	1.97	1.03	1.52	0.31-4.44
11732 Williamsport Regional Medical Center					
Cardiac Procedures	0	0.41	-0.41	0.00	0-9.05
Cardiac Bypass – Dual Incision	1	1.29	-0.29	0.78	0.01-4.32
Cardiac Bypass – Single Incision	0	0.04	-0.04	0.00	0-91.02

Org ID & Hospital Procedure Type	Observed	Predicted	Difference	Adjusted SIR	Confidence Interval
11732 Williamsport Regional Medical Center					
Hip Prosthesis	0	3.67	-3.67	0.00	0-1.00
Knee Prosthesis	3	5.67	-2.67	0.53	0.11-1.55
Abdominal Hysterectomy	2	2.14	-0.14	0.94	0.11-3.38
12031 Windber Hospital					
Hip Prosthesis	1	0.06	0.94	16.03	0.21-89.16
Knee Prosthesis	0	0.15	-0.15	0.00	0-23.94
12031 Windber Hospital					
Abdominal Hysterectomy	0	0.36	-0.36	0.00	0-10.13
10108 York Hospital					
Cardiac Procedures	0	1.34	-1.34	0.00	0-2.73
Cardiac Bypass – Dual Incision	4	4.54	-0.54	0.88	0.24-2.26
Hip Prosthesis	4	5.43	-1.43	0.74	0.20-1.89
Knee Prosthesis	2	4.14	-2.14	0.48	0.05-1.74
Abdominal Hysterectomy	9	7.94	1.06	1.13	0.52-2.15

Influenza Vaccination of Healthcare Providers

Vaccination of healthcare personnel (HCP) against influenza is an important indicator and measure of institutional commitment to patient safety. Influenza vaccination is the single most effective way of preventing influenza. Influenza vaccination keeps HCP healthy, protects their families and likely reduces the risk of transmission in healthcare settings. Vaccinating HCP against influenza protects patients by not exposing them to infected personnel, decreasing absenteeism, and promoting a healthy workforce to care for those who tend to be most at risk. Initiatives to promote universal influenza vaccination HCP are strongly encouraged for all hospitals in Pennsylvania to achieve the Healthy People 2020 goal of at least 90 percent coverage.

PADOH has decided to publish in its annual report hospital-specific levels of influenza vaccination coverage to disseminate information on this important measure of institutional commitment to patient safety. Act 52 does not require hospitals to provide this information. The information provided in this section is **voluntarily** provided by the hospitals, and the hospitals will not be benchmarked by PADOH in this category.

However, federal initiatives and changes to Joint Commission Accreditation Standards make it critical for healthcare institutions to have effective healthcare personnel influenza vaccination programs in place:

- Healthcare personnel influenza vaccination rates will be tied to Medicare reimbursement. On August 18, 2011, the Centers for Medicare & Medicaid Services (CMS) published a final rule requiring acute care hospitals to report healthcare personnel influenza vaccination rates through CDC's National Healthcare Safety Network (NHSN). Fiscal year 2015 payments under Medicare's inpatient prospective payment system (IPPS) will be reduced by two percent if acute care hospitals fail to report required quality measures starting in January 2013. Quality data also are made publicly available on CMS's Hospital Compare website.
- The Joint Commission has issued accreditation standards to encourage influenza vaccination rates among healthcare personnel to achieve vaccination of healthcare personnel of 90 percent or better. In addition to hospitals (including critical access hospitals), these standards will apply to ambulatory, behavioral, home care, laboratory, long-term care, and office-based surgery facilities.

In the spring of 2012, PADOH, with the assistance of the Pennsylvania Healthcare Quality Alliance (PHCQA), conducted a web-based survey of inpatient facilities in Pennsylvania to assess the patterns and levels of influenza vaccination among the healthcare workforce in the state. PADOH also conducted a number of trainings to increase facilities' ability to meet CMS and JC influenza vaccination reporting requirements. The survey assessed HCP influenza vaccination rates in inpatient facilities during the 2011-2012 influenza season.

The following definitions were used, consistent with National Quality Forum (NQF) metric.

Numerator

HCP who during the time from Oct. 1 (or when the vaccine became available), 2011 through March 31, 2012:

- received influenza vaccine administered at the healthcare facility, or reported in writing (paper or electronic) or provided documentation that influenza vaccination was received elsewhere, or
- were determined to have a medical contraindication/condition of severe allergic reaction to eggs or to other component(s) of the vaccine, or history of Guillain-Barre Syndrome within 6 weeks after a previous influenza vaccination, or
- declined influenza vaccination, or
- had unknown vaccination status or did not fall into the other categories above.

Numbers are calculated separately for each of the above groups.

Denominator

Number of HCP who worked in the healthcare facility for at least 30 working days between October 1, 2011 and March 31, 2012, irrespective of clinical responsibility or patient contact. Denominators are calculated separately for:

- *Employees*: all persons who receive a direct paycheck from the reporting facility (i.e., on the facility's payroll).
- *Licensed independent practitioners (LIP)*: include physicians (MD, DO), advanced practice nurses, and physician assistants only who are affiliated with the reporting facility but do not receive a direct paycheck from the reporting facility.
- *Adult students/trainees and volunteers (STV)*: include all adult students/trainees and volunteers who do not receive a direct paycheck from the reporting facility.

PADOH provided additional guidance for the survey as follows:

For each group, persons who worked at the facility for at least 30 days between Oct. 1, 2011 (or whenever the vaccine first became available at your facility) and March 31, 2012 should be included. If the facility does not know if an individual worked at the facility for 30 days or more during the period, they should be included in the count as if they did. This may result in persons being included in counts for multiple facilities, particularly in health systems where persons have privileges in multiple facilities.

While the Joint Commission also recommends including a category for contractors, at the time of the survey many hospitals did not have access to this type of information. This type of information may be collected in the future.

Findings

Among the 254 Pennsylvania hospitals that reported data to NHSN in 2011, 236 (93%) voluntarily participated in the survey. Overall participation and reported employee vaccination rates by facility size (number of beds) and facility type (e.g., Children's Hospital) from PADOH administrative records, and facility ownership description (e.g., not-for-profit), and medical school affiliation from NHSN data are found in Table 29.

Table 29: Hospital survey participation and reported employee vaccination rate by size, type, ownership description, and med school affiliation — PA, 2011

	Total	Participating facilities		Employee vacc. rate
	N = 254	n	%	%
Number of beds				
> 500	17	17	100	70
201–500	65	63	97	65
≤ 200	172	156	91	63
Facility type				
Children's hospitals	7	7	100	77
Acute care hospitals	163	149	91	69
Critical access hospitals	13	13	100	63
Long-term acute care hospitals	27	24	89	62
In-patient rehab hospitals	19	19	100	53
In-patient psychiatric hospitals	25	24	96	48
Facility ownership				
Not for profit	166	158	95	70
For profit	77	67	87	62
Physician owned	5	5	100	54
Government	6	6	100	48
Medical school affiliation				
Major	24	24	100	76
Graduate	33	31	94	70
Limited	18	18	100	66
None	179	163	91	63

Aggregate data is displayed in Table 30. Of note, only 39 percent of facilities were able to provide all of the requested numerator and denominator data. A facility was included in aggregate vaccination counts if it reported the number of employees who were vaccinated and their total number of employees, even if it could not supply data regarding contraindications or declinations or could not provide information in the two non-employee categories (licensed independent practitioners [LIP] and students, trainees, and volunteers [STV]). The number of HCPs with unknown vaccination status represents the difference between the total number of HCP reported by the hospital and the number of those HCP who were vaccinated, had a medical contraindication or declined vaccination.

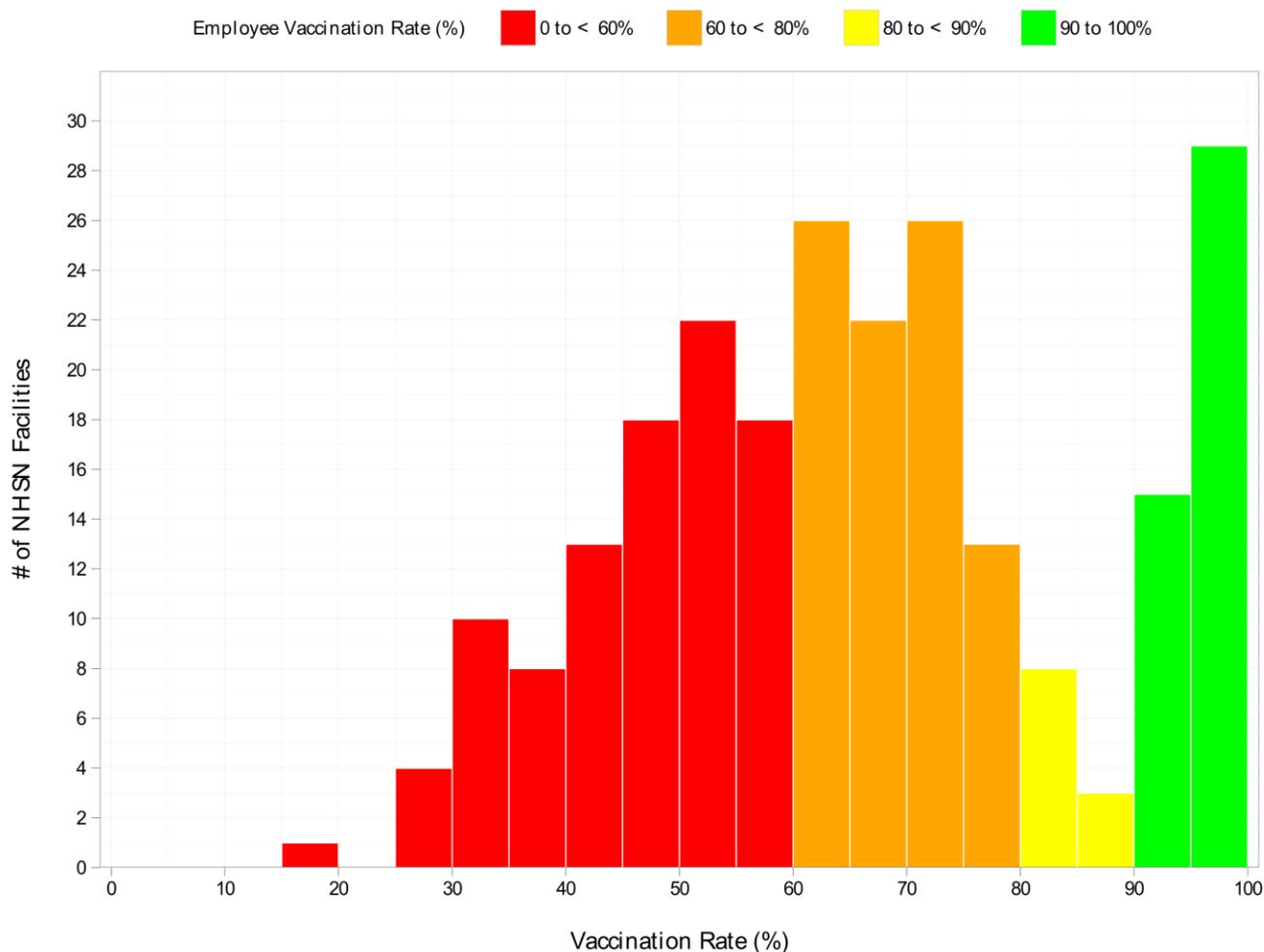
Overall, participating facilities reported the vaccination status of 276,117 HCP (employees, LIP, STV; Table 30). This represents 2.3 percent of the entire state population. Among participating facilities, the vaccination status of 79,397 HCP (22 percent; range 20–32 percent by group) was unknown. Facilities reported that 210,902 (72 percent) of 292,884 employees received influenza vaccine. No more than one percent of HCP were not vaccinated due to a documented medical contraindication and documented declinations ranged from 1 to 7 percent by group.

Table 30: Vaccination status of health care personnel by personnel type among all participating facilities (N=236) — PA, 2011

	Total	Vaccinated		Contraindicated		Declined		Unknown	
		n	%	n	%	n	%	n	%
Employees	292884	210902	72	2191	1	20132	7	59659	20
LIP	37761	25435	67	328	1	306	1	11692	31
STV	24869	16358	66	37	0	428	2	8046	32

The median employee vaccination rate for the 236 participating hospitals was 65 percent. However, employee vaccination rates varied substantially between facilities (Figure 13). Among the 236 participating hospitals, 44 (19 percent) achieved an employee vaccination rate of 90 percent or better and only six (3 percent) achieved a 90 percent or better rate among all three targeted groups (employees, LIPs and STVs; Table 31). The six hospitals that achieved 90 percent coverage in all groups are shown with an asterisk in Table 31.

Figure 13: Distribution of facility employee vaccination rates — PA, 2011



**Table 31: Facilities achieving an employee vaccination rate of 90% or better
Pennsylvania 2011 (N = 44)**

NHSN Number	Facility Name
11838	ABINGTON MEMORIAL HOSPITAL
10585	ALBERT EINSTEIN MEDICAL CENTER
12500	ALBERT EINSTEIN MEDICAL CENTER AT ELKINS PARK
12508	ALBERT EINSTEIN MEDICAL CENTER MOSS REHABILITATION
11388	ARIA HEALTH
12505	BELMONT CENTER FOR COMPREHENSIVE TREATMENT
12361	BRADFORD REGIONAL MEDICAL CENTER
12461	BUCKTAIL MEDICAL CENTER
11956	CHARLES COLE MEMORIAL HOSPITAL*
10306	CHILDREN'S HOSPITAL OF PHILADELPHIA*
11839	CROZER CHESTER MEDICAL CENTER
11851	CROZER CHESTER MEDICAL CENTER SPRINGFIELD
11932	CROZER CHESTER MEDICAL CENTER TAYLOR*
11972	DELAWARE COUNTY MEMORIAL HOSPITAL*
11743	DIVINE PROVIDENCE HOSPITAL
10190	DOYLESTOWN HOSPITAL
11701	EVANGELICAL COMMUNITY HOSPITAL
11775	GEISINGER MEDICAL CENTER
11780	GEISINGER WYOMING VALLEY MEDICAL CENTER
13929	GOOD SHEPHERD PENN PARTNERS
11847	GRAND VIEW HOSPITAL
10219	HOSPITAL OF THE UNIV OF PENNSYLVANIA*
11689	JERSEY SHORE HOSPITAL
12032	LANSDALE HOSPITAL*
11884	LEHIGH VALLEY HOSPITAL
11898	LEHIGH VALLEY HOSPITAL — MUHLENBERG
12005	LIFECARE HOSPITALS OF CHESTER COUNTY
11750	MAIN LINE HOSPITAL — PAOLI
11753	MAIN LINE HOSPITAL BRYN MAWR
11417	MAIN LINE HOSPITAL BRYN MAWR REHABILITATION
11770	MAIN LINE HOSPITAL LANKENAU MEDICAL CENTER
11633	MEMORIAL HOSPITAL YORK
11748	MUNCY VALLEY HOSPITAL
11814	PENN PRESBYTERIAN MEDICAL CENTER
11448	PENNSYLVANIA HOSP OF THE UNIV OF PA HEALTH SYS
11731	RIDDLE MEMORIAL HOSPITAL
11880	SELECT SPECIALITY HOSPITAL — ERIE
12123	SELECT SPECIALTY HOSPITAL — DANVILLE
12009	SELECT SPECIALTY HOSPITAL — PITTSBURGH/ UPMC
12133	SHAMOKIN AREA COMMUNITY HOSPITAL
12290	ST. CHRISTOPHER'S HOSPITAL FOR CHILDREN
12017	THOMAS JEFFERSON UNIV HOSP - METHODIST
11506	THOMAS JEFFERSON UNIV HOSPITAL*
11732	WILLIAMSPORT REGIONAL MEDICAL CENTER

*Facilities that achieved vaccination rates of 90% or better among employees, LIPs, and STVs

Conclusions

The 2011 report on healthcare-associated infections (HAIs) in Pennsylvania provides evidence that hospitals across the commonwealth continue to make steady progress in reducing these medical complications. Since the baseline year of 2009, the overall rate of HAIs has declined by 3-4 percent annually in each subsequent year of data collection. Although this rate of decline may appear modest, given the volume of in-patient care in a large state like Pennsylvania, it represents a decrease of thousands of HAIs. This is a significant achievement with a substantial impact on patient care. This is due to the high mortality associated with HAIs, the increased duration of hospitalization, and the need for re-hospitalization, and the significant additional healthcare costs.

It has been estimated* that the average cost of any type of HAI is between \$14,000-15,000, considering only direct medical costs. HAIs such as bloodstream infections and surgical site infections are known to be much costlier. Using conservative estimates, the reductions seen in just the past two years in Pennsylvania have saved a minimum of \$34 million in the direct health care costs that would have been associated with those HAIs.

Reductions in the benchmarking categories of CAUTIs (9.4 percent), CLABSIs (4.3 percent) and SSIs (5.9 percent), were also noted in the current report, as they were in previous years. However, the >20 percent declines in CLABSIs reported in both 2009 and 2010 are considerably greater than the decline seen in 2011. The reasons for this “leveling-off” in the decline are unclear. Some CLABSIs may be easier to prevent than others, as the underlying health status of the patient or the complexity of care being administered may vary. It is also possible that current prevention strategies curtail the occurrence of some CLABSIs more successfully than others, and the proportion of infections that are preventable using current interventions may be reached. The validity of this assertion, and whether or not the small decline seen in 2011 is an aberration, can only be determined by analyzing additional data in the years to come.

As found in the sections on CAUTIs and CLABSIs, there has been virtually no change over time in the utilization of urinary catheters and central lines in Pennsylvania hospitals, as noted by the device utilization ratio (DUR). This is noteworthy, as strategies to reduce the occurrence of CAUTIs and CLABSIs include removal of the devices as soon as feasible through the use of automated reminders and daily assessments. This suggests that other factors (such as improved line maintenance or catheter care) may be related to the remarkable declines in incidence seen in the past two years. It also suggests that excessive use of these devices may not be occurring in Pennsylvania.

The reductions seen in Pennsylvania are the result of a concerted effort on the part of the infection prevention community to address the problem of HAIs. Some of the factors that have contributed to the favorable trends are the increased spotlight on HAIs by the public; public reporting of data; implementation of prevention strategies by infection preventionists, health care providers and health care systems; participation in prevention collaboratives; increased scrutiny by hospital administration; and federal efforts to link incentive payments to successful control of HAIs.

As seen in the appendix attached to this report, there is significant variation in the rates of HAIs among

*Scott RD II, et al. *The Direct Medical Costs of Healthcare Associated Infections in US Hospitals and the Benefits of Prevention*, CDC 2009 which is available at http://www.cdc.gov/hai/pdfs/hai/scott_costpaper.pdf

the 254 hospitals in Pennsylvania. The major reason for these differences is the wide variation in the type of care being provided, the intensity of care, and the patient population being served. Larger tertiary referral centers would be expected to provide more intensive care for sicker patients who are at greater risk for developing an HAI. The analyses presented in this report recognize these differences through the use of risk adjustments methods for the CAUTI, CLABSI and SSI standardized infection ratios. However, these risk adjustment methods are imperfect and cannot fully account for all of these differences between hospitals. It is important to keep this in mind when using the information contained in this report. The HAI rate is only one factor that should be used when making decisions about where to receive health care; it should not necessarily be construed that hospitals with higher rates or SIRs provide “worse” care and hospitals with lower rates and SIRs provide “better” care.

Appendix A does allow the user to gauge hospital performance over time, especially whether rates are improving, remaining steady or declining. The information in the appendix is not risk adjusted, as the hospital is only being compared to itself. Unless there is a major change in the hospital (e.g., a change in size, types of procedures or activities) the HAI risk should not vary in the hospital over time. Therefore, changes in rates as noted in the appendix should reflect the hospital’s efforts and commitment to prevent HAIs. However, the information in the appendix should be interpreted with caution for small hospitals. In smaller hospitals, the occurrence of even a single HAI can produce a very high rate for that year (since these hospitals use few central lines or urinary catheters). A small hospital that has only 100 central line days will have a rate of 0.00 if no CLABSIs were recognized that year, but a rate of 10.00 if only a single CLABSI occurs.

The section of the 2011 report dealing with healthcare personnel influenza vaccination provides an alternative metric in measuring hospital commitment to patient safety and HAI prevention. It demonstrates that 72 percent of employees received influenza vaccine in the 2011-12 flu season and that the median level of employee vaccination among the 236 reporting hospitals is 65 percent. While these numbers appear slightly better than those that have been reported previously, they are far short of the Healthy People 2020 goal, and there are 54 hospitals that have vaccination rates below 50 percent. There is widespread agreement in the healthcare community that healthcare workers ought to be vaccinated against influenza to protect their own health and to protect the health of their patients. Universal influenza vaccination of the healthcare workforce (generally defined as 90+ percent vaccination coverage) is endorsed by major medical organizations and federal recommendations.

As the report demonstrates, almost 20 percent of Pennsylvania’s hospitals have achieved 90+ percent coverage of their employees; far fewer have done so for other groups of personnel providing care in their facility. The hospitals with the highest vaccination coverage have done so through mandatory vaccination policies as a condition of employment. This policy is the only one that has been shown to consistently result in high levels of vaccination (often greater than 98 percent coverage)*. Other methods can also be successful, but generally require a great deal of effort to promote vaccination and encourage personnel to receive the vaccine; they have also been difficult to sustain over time. Hospitals are encouraged to consider mandatory vaccination policies in order to achieve the Healthy People 2020 goal, especially since the Centers for Medicare and Medicaid Services (CMS) will require submission of vaccination coverage data beginning in 2013. This is especially important for hospitals in the current report with very low vaccination coverage, or hospitals that are unable to document the vaccination coverage of many of their employees.

Talbot, et al. *Revised SHEA Position Paper: Influenza Vaccination of Healthcare Personnel*. *Infect Control and Hosp Epidemiol* 2010;31:987-95 accessed at <http://www.jstor.org/stable/10.1086/656558>

In 2013, the National Healthcare Safety Network (NHSN) will be implementing a series of revisions to the criteria used to determine the presence of an HAI. The changes are especially noteworthy for CLABSIs, SSIs, and a category of HAIs not currently used for benchmarking in Pennsylvania, ventilator-associated pneumonia (VAP). These changes will not impact the next HAI report that covers 2012 data, but are likely to produce changes in case counts beginning in 2013. Some of the changes are likely to reduce the number of counted CLABIs and VAPs. Some SSI changes will reduce SSI counts and others will increase them. These will have to be taken into account while assessing trends over time.

The Department of Health will continue to work with its partner agencies, the Patient Safety Authority and the Pennsylvania Health Care Cost Containment Council, with outside organizations, and with the infection prevention community to collect data on the occurrence of HAIs and to recommend methods to reduce their occurrence. An important role is to continue to validate the accuracy of data submitted by the hospitals to assure the accuracy of the reported rates and standardized infection ratios. This will be done through continuous inspection of the submitted reports and through on-site validation. PADOH is committed to ensuring useful and useable data on HAIs for the healthcare community and the public. The information can then be used by all stakeholders to continue to reduce the occurrence of HAIs with a goal of eventually eliminating them.