HOSPITAL-ACQUIRED INFECTIONS

New York State
2008

New York State Department of Health
May 1, 2009
Version 2.0

Technical Advisory Workgroup

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EXECUTIVE SUMMARY

Healthcare-associated infections are a major public health problem. According to the Centers for Disease Control and Prevention (CDC), there were an estimated 1.7 million healthcare-associated infections and 99,000 deaths from those infections in 2002. [1] A recent CDC report estimated the annual medical costs of healthcare-associated infections in U.S. hospitals to be between $28 and $45 billion, adjusted to 2007 dollars.[2] In July of 2005, Public Health Law 2819 was enacted mandating that New York hospitals report selected hospital-acquired infections to the State Department of Health (NYSDOH or "the Department"). This law was created to provide the public with fair, accurate and reliable hospital-acquired infection (HAI) data to compare hospital infection rates, and to support quality improvement and infection control activities in hospitals. In accordance with this law, the Department compiled 2008 data from 186 hospitals and the results are presented in this report: *Hospital-Acquired Infections, New York State 2008.*

This is the second report to be issued since reporting began in 2007. The HAI reporting process began with a pilot year 2007 for which data were collected and findings reported to the Governor, Legislature, hospitals and the public on June 30, 2008. The pilot year report is available at the following website:

http://www.nyhealth.gov/nysdoh/hospital/reports/hospital_acquired_infections/2007/docs/hospital-acquired_infection-full_report.pdf

The purpose of the pilot year, as defined by Public Health Law 2819 was to: develop a HAI reporting system; train hospitals to use the reporting system; develop standardized definitions, methods of surveillance and reporting; audit and validate the hospitals' infection data; support recommendations to improve the accuracy of data; and modify the system to ensure that hospital-specific infection rates, when released, would be fair, accurate, reliable and comparable. During the pilot year, hospital identifiers and hospital-identifiable data were encrypted by the Department in all public reports, as required by law.

This current 2008 report provides HAI rates identified by hospital and region for surgical site infections (colon, coronary artery bypass graft (CABG) and hip replacement) and central line-associated blood stream infections (CLABSIs) in adult, pediatric, and neonatal intensive care units (ICUs).

METHODS

NYSDOH utilizes the Centers for Disease Control and Prevention's (CDC's) National Healthcare Safety Network (NHSN) system for HAI reporting and was the first state to do so. Only hospitals that performed the selected surgical procedures or provided intensive care were required to report to the Department. Reporting indicators and methods were developed with the help of a Technical Advisory Workgroup (TAW) as required by Public Health Law 2819.

Since 2007, the Department has conducted on-site audits of all 186 reporting hospitals at least once and, in 90 percent of reporting hospitals, at least twice. Surveys identifying indicator-specific infection prevention strategies were ascertained from 100 percent of reporting hospitals. Survey results and audit findings are under review and an analysis of the findings will be issued under separate cover.

SUMMARY OF FINDINGS 2008

Analyses conducted of 2008 New York State hospital-acquired infection data are presented below by type of infection, beginning with surgical site infections (SSIs) and followed by central line-associated blood stream infections (CLABSIs).

Surgical Site Infection Data

Among the three types of surgical procedures monitored in New York State in 2008, SSI rates were highest for colon surgery (5.0 percent), followed by CABG surgery (2.2 percent for chest infections and 1.1 percent for donor site infections), and lastly hip replacement surgery (1.2 percent). National rates are currently only available for 2006-2007.

Colon Surgical Site Infections

Results

- 179 hospitals performed 17,810 colon procedures and reported 883 colon SSIs in 2008, for an unadjusted rate of 5.0 percent.

- When adjusted for risk, the NYS colon SSI rate decreased from 5.9 percent in 2007 to 4.9 percent in 2008. The national colon SSI rate reported for 2006-2007 was 6.1 percent

- Within NYS, colon SSI rates ranged from a significantly low infection rate of 2.8 in the Central Region to a significantly high infection rate of 5.5 percent in the Capital District. The other regions did not differ from the state average.

- Hospital-specific colon SSI rate comparisons revealed ten hospitals with statistically lower rates than the state average, while nine hospitals had rates that were statistically higher than the state average. Forty-one hospitals (23 percent) reported zero colon surgical site infections in 2008. There was no association between SSI rates and the number of procedures performed.

- Of the 883 colon SSIs reported, 61 percent were identified during the initial hospitalizations, 28 percent were identified upon readmission to the same hospital, 11 percent were detected in outpatient settings and less than 1 percent involved readmissions to other hospitals.

- Surveys of hospitals to identify specific colon procedure prevention practices have been conducted. The Department is in the process of determining which measures, if any, were associated with the lowest colon SSI rates.

Lessons Learned

- NYS colon SSI rates decreased in 2008 and were lower than 2006-2007 national rates.

- Detection of SSIs in outpatient settings is extremely variable, labor intensive, and could not be standardized across hospitals. As a result, the Department did not include these infections in the hospital-specific comparisons.

- Patients requiring transfusions had statistically higher rates of infection, although the addition of this information did not improve the risk adjustment model. The Department was unable to determine whether the transfusions were required by the patient prior to, during or after their surgeries. As a result, the association between transfusions and infections will be evaluated over the next year.

Coronary Artery Bypass Graft (CABG) Surgical Site Infections

Results

- Forty hospitals performed 13,878 CABG procedures in NYS and reported 301 CABG chest site infections in 2008, for an unadjusted rate of 2.2 percent.

- After adjusting for differences in the distribution of NHSN risk factors, NYS CABG chest incision SSI rates decreased from 2.6 percent in 2007 to 2.1 percent in 2008. The lower rate for NYS in 2008 is statistically lower than the NYS rate in 2007 and the national rate in 2006-2007.

- Within NYS, none of the regional CABG chest SSI rates were statistically different from the state average. The adjusted rates ranged from 1.3 percent in the New Rochelle Region to 2.9 percent in the Buffalo Region.

- Hospital-specific CABG chest incision rates identified two hospitals with significantly lower rates than the state average and four hospitals with statistically higher rates than the state average. Two hospitals (5 percent) reported zero CABG chest site infections in 2008 but this rate difference was not statistically significant. There was no association between SSI rates and the number of procedures performed.

- Of 301 CABG chest infections reported, 31 percent were identified during the initial hospitalizations, 64 percent were identified upon readmission to the same hospital, 4 percent were identified in outpatient settings and 1 percent involve readmissions to other hospitals.

- Harvesting of donor vessels was involved in 12,822 of the CABG procedures, and resulted in 138 CABG donor vessel SSIs, for an unadjusted rate of 1.1 percent.

- After adjusting for differences in the distribution of NHSN risk factors, NYS CABG donor vessel SSI rates were 1.0 percent in 2007, 2008 and also 1.0 percent nationally in 2006-2007.

- Within NYS, donor vessel SSI rates ranged from an adjusted rate of 0.2 percent in the Capital Region to 1.6 percent in Buffalo Region. The only statistically significant difference was the lower rate in the Capital Region.

- Hospital-specific CABG donor vessel SSI rate comparisons identified four hospitals with CABG donor vessel SSI rates statistically lower than the state average and five hospitals with rates statistically higher than the state average. Nine hospitals (23 percent) reported zero CABG donor vessel site infections in 2008. There was no association between SSI rates and the number of procedures performed.

- Of the 136 CABG donor vessel SSIs, 38 percent were identified during the initial hospitalizations, 55 percent were identified upon readmission to the same hospital, 6 percent were identified in outpatient settings and 1 percent involved a readmissions to other hospitals.

- Surveys of hospitals to identify CABG procedure infection prevention practices have been conducted. The Department is in the process of determining which measures, if any, are associated with lower CABG chest and donor vessel SSI rates.

Lessons Learned

- Patients with diabetes, obesity, and end stage renal disease and chronic obstructive pulmonary disease had statistically higher CABG chest SSI rates. Prevention efforts targeted primarily to these patients are likely to have the most impact.

- NYS 2008 CABG chest infection rates declined when compared to the NYS 2007 pilot year and were significantly lower when compared to 2006-2007 national rates.

- Detection of SSIs in outpatient settings is extremely variable, labor intensive, and could not be standardized across hospitals. As a result, the Department did not include these infections in the hospital-specific comparisons.

- There was no association between CABG chest and donor vessel SSI rates and the number of procedures performed.

<u>Hip Replacement Surgical Site Infections</u>

Results

- In 2008, 171 hospitals performed 23,611 hip replacement or revision surgeries and reported 274 hip SSIs, for an unadjusted rate of 1.2 percent.

- After adjusting for risk, the 2008 NYS hip SSI rate of 1.3 percent was not statistically different than the national rate of 1.5 percent in 2006-2007.

- Among hospitals that performed fewer than 50 procedures a year, the infection rate was significantly higher than the state average.

- Among the NYS Regions, there were no statistically significant differences in hip SSI rates.

- Hospital-specific hip replacement SSI rate comparisons identified one hospital with a hip SSI rate statistically lower than the state average and four hospitals with rates statistically higher than the state average. Sixty-seven hospitals (39 percent) reported zero hip SSIs in 2008.

- Of the 274 hip SSIs reported, 12 percent were identified during initial hospitalizations, 78 percent were identified upon readmission to the same hospital, 7 percent were identified in outpatient settings and 3 percent involved readmissions to other hospitals.

Lessons Learned

- The majority of hospitals had either zero or one hip SSI per year.

- The hospitals that performed the fewest procedures were significantly more likely to have higher hip replacement SSI rates.

- There were no significant regional differences in the incidence of hip replacement SSI rates.

- Since hip replacement or revision involves implanted hardware, infections may not be evident for up to one year after the procedures. Therefore, the reported 2008 SSI rates may change over the next year.

- Detection of SSIs in outpatient settings is extremely variable, labor intensive, and could not be standardized across hospitals. As a result, the Department did not include these infections in the hospital-specific comparisons.

Recommendations and Next Steps for Colon, CABG and Hip Replacement SSIs

- The Department will continue to monitor hospitals for data reporting completeness, timeliness and accuracy. Technical assistance will be provided as needed.

- The Department will evaluate facilities with the highest and lowest infection rates, determine if there are surveillance and reporting differences, assess trends over time and identify interventions to reduce infections.

- The Department will analyze the results of surveys conducted during 2008 to identify strategies that are potentially effective in preventing colon, CABG, and hip replacement SSIs.

- The Department will consult with infection preventionists, hospital epidemiologists, and surgeons, to identify risk factors and prevention strategies to reduce colon, CABG, and hip replacement SSIs.

- The Department will continue to evaluate the impact of post-discharge surveillance in outpatient settings on colon, CABG and hip replacement SSI rates and implications for public reporting.

- The Department will analyze the influence of transfusions on colon surgery infection rates using hospital audits.

- The Department will consult with infection preventionists, hospital epidemiologists, physicians, and neonatologists to identify evidence-based infection prevention strategies to reduce infections.

- The Department will provide hospitals with risk factors, strategies and interventions it identifies and work with them to ensure adoption of policies and procedures that reduce risk and enhance patient safety.

- Hospitals must closely monitor infection rates, implement prevention and control measures and measure effectiveness of the interventions using the HAI reporting data.

Central-Line Associated Blood Stream Infection (CLABSI) Data

In 2008, New York State monitored CLABSI rates in nine types of intensive care units (ICUs): pediatric, neonatal, surgical, medical, medical-surgical teaching, medical-surgical non-teaching, neurological, coronary, and cardiothoracic-surgical units.

Central Line-Associated Bloodstream Infections (CLABSI) in Adult and Pediatric ICUs

Results

- CLABSI rates were highest in pediatric ICUs (3.5 infections per 1000 central line days), followed by neonatal, surgical, medical, medical-surgical teaching, neurological, coronary, medical-surgical non-teaching, and lastly cardiothoracic-surgical ICUs.

- NYS CLABSI rates in 2008 were significantly higher than 2006-2007 national rates in:
    - Medical ICUs (2.8 and 2.4 per 1000 line days, respectively)
    - Medical-Surgical Teaching ICUs (2.4, and 2.0 per 1000 line days, respectively)
    - Medical-Surgical Non-Major Teaching ICUs (2.1 and 1.5 per 1000 line days, respectively)
    - Surgical ICUs (2.9 and 2.3 per 1000 line days, respectively)
    - Pediatric ICUs (3.5 and 2.9 per 1000 line days, respectively)

- Comparisons between NYS 2007 and 2008 CLABSI rates revealed a significantly lower rate in 2008 in cardiothoracic ICUs and surgical ICUs but a significantly higher rate for 2008 in medical ICUs.

- Regionally CLABSI rates varied substantially within ICU settings as follows:
    - Medical ICU CLABSI rates were significantly lower in New York City (NYC) and significantly higher in New Rochelle and Long Island.

- Major teaching medical-surgical ICU CLABSI rates were significantly higher in the Central Region.
- Non-major teaching medical-surgical ICU CLABSI rates were significantly lower in the Central and Rochester Regions and significantly higher in NYC.
- Surgical ICU CLABSI rates were significantly lower in the Buffalo Region and significantly higher in the Rochester Region.
- Pediatric ICU CLABSI rates were significantly lower in the Buffalo Region and significantly higher in the Capital and Rochester Regions.

Lessons Learned

- There was a change in the CLABSI case definition on January 1, 2008. Therefore, the 2007 rates in this report are different from those reported in the 2007 pilot year report.

- NYS CLABSI rates in 2008 were significantly higher than 2006-2007 national rates in the medical, medical-surgical (teaching and non-major teaching hospitals), surgical and pediatric ICUs.

- No region had consistently higher or lower CLABSI rates.

- Some hospitals have reported zero CLABSIs in specific ICUs although this may not represent a statistically significant zero rate of infection due to low numbers of patients at risk.

- The NYS modification of the CLABSI definition enhanced the accuracy of the CLABSI definition and made the comparisons more meaningful.

<u>CLABSIs in Neonatal ICUs (NICU)</u>

Results

- In 2008, after adjusting for differences in birth weight, the NYS Regional Perinatal Center (RPC)/Level III NICU combined CLABSI rate was 2.9 infections per 1000 central line days. The decrease between 2007 and 2008 in NYS was statistically significant.

- For level III NICUs designated as RPCs, there was only one hospital with a statistically higher CLABSI rate than the state average. None of the 19 RPCs had a zero CLABSI rate. After adjusting for risk, RPC CLABSI rates ranged from 0.6 to 7.1 per 1000 central line days.

- For Level III NICUs not designated as RPCs, there were no statistical differences in CLABSI rates. Eleven of 21 Level III NICUs had zero CLABSIs in 2008. After adjusting for risk, Level III CLABSI rates ranged from 0.0 to 9.3 per 1000 central line days.

- In 2008, after adjusting for differences in birth weight, the NYS designated Level II/III NICU CLABSI rate was 5.0 per 1000 central line days, statistically higher than the national 2006-2007 rate of 2.4.

- For NYS designated Level II/III NICUs, there was one hospital with a statistically lower CLABSI rate and one with a statistically higher rate. Four of the 14 Level II/III NICUs had zero CLABSIs in 2008. The rates ranged from 0.0 to 24.7 per 1000 central line days.

- In 2008, no region had consistently higher or lower CLABSI rates in any of the NICU categories.

Lessons Learned

- There was a change in the CLABSI case definition on January 1, 2008. Therefore, the 2007 rates in this report are different from those reported in the previous 2007 pilot year report.

- CLABSI rates in Level III NICUs designated as RPC must be combined with other Level III NICUs when comparing to national rates since the RPC designation is not used nationally.

- In 2008, NYS Level II/III NICU CLABSI rates were statistically higher than national rates in the two lowest birth weight categories and for the total NICU population after adjusting for birth weight.

- For Level II/III NICUs, there was a wide range in CLABSI rates. This is most likely due to the relatively infrequent use of central lines in this patient population.

- The NYS approach to eliminating CLABSIs s with a high likelihood of contamination (not a true infection) had a minimal effect on the rates but enhanced the accuracy of the CLABSI definition.

Recommendations and Next Steps for Adult, Pediatric and Neonatal ICUs

- The Department will continue to monitor all hospitals for data reporting completeness, timeliness and accuracy. Technical assistance will be provided as needed.

- The Department will evaluate hospitals with the highest and lowest rates of CLABSIs to ensure complete and accurate reporting, assess trends over time and identify interventions to reduce infections.

- To ensure the accuracy of the CLABSI definition, the Department will continue to use the customized data field in the NHSN to identify events that do not need to be reported.

- The Department will consult with infection preventionists, hospital epidemiologists, physicians, and neonatologists to identify infection prevention strategies to reduce CLABSIs in adult, pediatric and neonatal ICUs.

- The Department will analyze the results of surveys conducted during 2008 to identify strategies that were potentially effective in preventing ICU CLABSIs.

- The Department will consult with infection preventionists, hospital epidemiologists, physicians, and neonatologists to identify evidence-based infection prevention strategies to reduce infections.

- The Department will provide hospitals with risk factors, strategies and interventions it identifies and work with them to ensure adoption of policies and procedures that reduce risk and enhance patient safety.

- The Department will support the Regional Perinatal Centers in a two year CLABSI prevention project.

Microorganisms Associated with HAIs

Results:

- **Colon SSIs:** The most common microorganisms associated with colon SSIs were enterococci and *E coli*. Of the 17,810 colon procedures, 84 patients (0.5 percent or 5 MRSA infections per 1000 procedures) developed MRSA SSIs.

- **CABG Chest SSIs:** The most common microorganisms associated with chest SSIs were *Staphylococcus aureus,* coagulase negative staphylococci, and enterococci. Of the 13,878 CABG procedures, 47 patients (0.3 percent or 3 MRSA infections per 1000 procedures) developed MRSA CABG chest SSIs.

- **CABG Donor (Artery or Vein) Site SSIs*:*** The most common microorganisms associated with donor vessel site SSIs were *Staphylococcus aureus, Pseudomonas aeruginosa* and coagulase negative staphylococci. Of the 12,822 CABG procedures involving separate donor vessel sites, 8 patients (0.06 percent or 6 MRSA infections per 10,000 procedures) developed MRSA CABG donor vessel SSIs.

- **Hip SSI:** The most common microorganism associated with hip SSIs was *Staphylococcus aureus*. MRSA was associated with approximately 30 percent of hip SSIs. Of the 23,611 hip surgeries performed, 79 (0.3 percent or, 3 MRSA infections per 1000 procedures) developed MRSA SSIs.

- **CLABSI – Adult** and **Pediatric ICU:** The most common microorganisms identified in adult and pediatric ICU-related CLABSIs were enterococci, *Klebsiella species,* and coagulase negative staphylococci. MRSA was the eighth most common organism, accounting for less than 6 percent of these infections.

- **CLABSI – NICU:** The most common microorganisms identified in NICU-related CLABSIs were coagulase negative staphylococci, *Staphylococcus aureus* and enterococci. MRSA was the tenth most common organism, accounting for less than 2 percent of these infections.

OVERALL LESSONS LEARNED:

- No hospital in New York State was found to have across-the-board high hospital-acquired infection rates associated with the reported surgical and ICU indicators. In other

words, a hospital may have a high rate of hospital-acquired infection for one type of surgery, but this does not mean that the hospital has a high infection rate for all surgical procedures performed at the facility.

- Department staff members were able to use the NHSN to identify hospitals with the highest infection rates, target areas in need of improvement, recommend prevention strategies and monitor progress over time.

- Hospitals have continuous access to their own data and can compare their rates to national levels and monitor trends over time.

- Hospitals were able to participate in prevention collaboratives, share their data without having to submit separate reports to project managers, and monitor the effectiveness of interventions over time.

- Strict adherence to the surveillance definitions is critical to provide consistency and comparability of data across hospitals. Clinical findings appropriate for treatment decisions t are not appropriate for mandatory reporting purposes since there is significant variability in many hospitals between providers and different institutions.

- Post-discharge surveillance methods are highly variable among hospitals, dependent upon allocated resources and integration of information systems, and when performed may result in higher reported infection rates. The majority of severe infections are detected during initial hospitalizations or upon readmissions. In order to fairly compare hospitals and not penalize facilities with the best surveillance systems, the NYSDOH did not include surgical site infections detected solely by post-discharge surveillance but is continuing to monitor the impact of these surveillance efforts.

- Use of patient-specific risk information in addition to NHSN's improved the ability to compare hospital-specific coronary artery bypass graft and hip replacement surgical site infection rates. The data in this report have been adjusted for these factors.

- There is a difference in timing between the Cardiac Surgery Reporting System (CSRS) and NHSN databases that makes the analysis more challenging. NHSN data are due to NYS two months after the end of each surveillance month, whereas CSRS data are due to NYS two months after the end of each quarter. This means that the NHSN data are considered complete (though not completely edited and cleaned) on March 1 of each year, while the CSRS is considered complete (though not cleaned) on June 1 of each year. The HAI program recommends that the statutory date of the annual reports be changed to September 1 in order to improve the program's ability to provide the most complete analysis of the highest quality data to permit the fairest comparisons possible.

- Timely and complete data submission was often affected by infection control staffing turnover, prolonged vacancies and the need for education and training to comply with the legislative mandate. Hospitals need to provide back-up personnel to ensure compliance with reporting requirements and patient safety.

RECOMMENDATIONS FOR IMPROVEMENT:

- In accordance with Public Health Law 2819, the Department is required to issue this hospital-acquired infection report to the Governor, Legislature, hospitals and the public annually by May 1, 2009. Because data sets are closed April 8, 2009, the Department has approximately four weeks to analyze and compile data to present in this report by May 1. The Department recommends that the date of the annual HAI program report be changed to September 1 of each year to allow for more thorough analysis of the data.

- Integrated health information technology systems have been shown to support infection prevention and reporting efforts. Currently only 30 percent of hospitals utilize electronic transfer of surgical procedure data into NHSN from operating room data bases. The other 70 percent of hospitals continue to manually enter this data into NHSN. If hospitals integrated such systems, labor intensive manual data entry would be reduced, therefore improving timely and accurate data submission.

NEXT STEPS

- The Department will focus on hospitals with the highest and lowest infection rates to identify risk factors for infection and opportunities for improvement.

- The Department will analyze the results of practice surveys to identify prevention strategies and opportunities to enhance patient safety.

- The Department will consult with infection preventionists, hospital epidemiologists, physicians, and neonatologists to identify evidence-based infection prevention strategies to reduce infections.

- The Department will provide hospitals with risk factors, strategies and interventions it identifies and work with them to ensure adoption of policies and procedures that reduce risk and enhance patient safety.

- The Department will continue to require, refine and report hospital-specific HAI indicators to allow consumers to make informed choices.

- The Department will continue to monitor all hospitals for data reporting completeness, timeliness and accuracy. Technical assistance will be provided as needed.

- The Department will continue to collect and use additional data to improve the reliability and comparability of hospital-specific infection rates.

- The Department will continue to require the 2008 HAI reporting indicators in 2009. In addition, a new infection indicator, *Clostridium difficile* infections, will be pilot tested in 2009. This is a new component in the NHSN and was not available until March 2009. If implementation is successful, it will be mandatory r to report *Clostridium difficile* beginning in January 2010 and this information will be reported in the 2011 HAI report.

- The Technical Assistance Workgroup will continue to play a critical role in providing guidance to the Department on selection of reporting indicators, evaluation of system

modifications, evaluation of potential risk factors, methods of risk adjustment and presentation of hospital-identified data.

- The Department will work with members of the public and website developers to ensure that the data, when integrated into the Department's hospital profile, is easy to understand.

CONCLUSIONS

Since New York State hospitals have been reporting hospital-acquired infections to the NYSDOH, it is clear that the NHSN system is a useful tool in monitoring HAI rates and evaluating the effectiveness of prevention strategies. Hospitals have continuous access to their own data and can compare their rates to national levels and monitor trends over time. In addition, the NYSDOH has continuous access to the data reported by the hospitals for consistent real-time surveillance. The collected data are made available to the public annually, allowing the public the ability to review hospitals' performance for these particular procedures and help guide their personal medical decisions.

HOSPITAL-ACQUIRED INFECTIONS
NEW YORK STATE – 2008

BACKGROUND

Healthcare-associated infections are a major public health problem. According to the Centers for Disease Control and Prevention (CDC), there were an estimated 1.7 million healthcare-associated infections and 99,000 deaths from those infections in 2002. [1] A recent CDC report estimated the annual medical costs of healthcare-associated infections to U.S. hospitals to be between $28 and $45 billion, adjusted to 2007 dollars.[2] These monetary costs do not measure the effect of these infections on the patients, their family members, friends and colleagues. Their emotional, physical and personal costs are not quantifiable.

In July, 2005, the Legislature passed and the Governor signed Public Health Law 2819 (Appendix A) requiring hospitals to report select hospital-acquired infections (HAIs) to the New York State Department of Health (NYSDOH or "the Department"). The legislation provided an initial "pilot phase" year (2007) to develop the reporting system; train hospitals on its use; standardize definitions, methods of surveillance and reporting; audit and validate the hospitals' infection data and modify the system to ensure that the hospital-identified infection rates would be fair, accurate and reliable. NYS selected the CDC's National Healthcare Safety Network (NHSN) for reporting and New York was the first state to use this system. Currently, 19 states are committed to using the NHSN and it has become the standard for state reporting.

On June 30, 2008, the Department issued the pilot year report for 2007 describing the development and implementation of the HAI reporting system, an assessment of the overall accuracy of the data submitted in the pilot phase, guidance for improving the accuracy of hospital acquired infection reporting, lessons learned, and next steps.[3] The pilot year 2007 report is available at the following website:
http://www.nyhealth.gov/nysdoh/hospital/reports/hospital_acquired_infections/2007/docs/hospital-acquired_infection-full_report.pdf

The following report summarizes 2008 NYSDOH HAI reporting program activities; provides 2008 hospital-acquired infection rates by individual hospital, region, and NYS totals for 2008; and compares these rates to the most recent available national data (2006-2007).

Technical Advisory Workgroup (TAW)

PHL 2819 requires NYSDOH to form a Technical Advisory Workgroup (TAW) to assist with the development of methods that ensure fair and accurate comparisons between hospitals and with data collection, reporting and analysis. The TAW is made up of a panel of professionals (see list above) representing state-wide and nationally-recognized experts in the prevention, identification and control of hospital acquired infection and the public reporting of performance data as prescribed in the legislation. This group plays a critical role in the selection of reporting indicators, the evaluation of system modifications, the evaluation of potential risk factors, methods of risk adjustment and presentation of the hospital-identified data. The TAW has met twice a year since 2006 and again in March, 2009 prior to issuing this report.

METHODS

HAI Reporting Indicators for 2008

PHL 2189 provided for the reporting of select HAIs during the pilot year, 2007. The initial starter set included central line-associated bloodstream infections (CLABSIs) and surgical site infections associated with coronary artery bypass procedures and colon surgical procedures. Thereafter, the Department, with input from the TAW may phase in or phase out indicators to be reported. For the 2008 reporting year, the Department selected the same indicators as in the pilot year with the addition of infections associated with hip replacement or revision surgery. The hospital acquired infections to be reported are described below:

Surgical Site Infections (SSIs) are infections that occur after the operation in the part of the body where the surgery took place. Most SSIs are limited and only involve the skin surrounding the incision; others may be deeper and more serious. Infections related to the following types of surgery were reported:

- Colon - Colon surgery is a procedure performed on the lower part of the digestive tract also known as the large intestine or colon.

- Coronary artery bypass graft (CABG) - CABG surgery is a procedure performed for heart disease in which a vein or artery from the chest or another part of the body is used to create an alternate path for blood to flow to the heart, bypassing a blocked artery.

- Hip replacement - Hip replacement surgery involves removing damaged cartilage and bone from the hip joint and replacing them with new, man-made parts.

Central Line-Associated Bloodstream Infections (CLABSI) - A central line is a tube that is placed into a patient's large vein, usually in the neck, chest, arm or groin. The line is used to give fluids and medication, withdraw blood, and monitor the patient's condition. A bloodstream infection can occur when microorganisms (e.g., bacteria, fungi) travel around or through the tube, attach and multiply on the tubing or in fluid administered through the tubing and then enter the blood.

CLABSI are not monitored throughout the hospital, but rather, in selected intensive care units (ICUs). ICUs are hospital units that provide intensive observation and treatment for patients either dealing with, or at risk of developing life threatening problems. ICUs are described by the types of patients cared for. The following ICU types are required to participate in the reporting program for CLABSI:

- Coronary ICUs
- Cardiothoracic Surgery ICUs
- Medical ICUs
- Medical Surgical ICUs
- Surgical ICUs
- Neurosurgical ICUs
- Pediatric ICUs
- Neonatal ICUs

Notification of Hospitals of 2008 Reporting Requirements

On November 5, 2007, all hospitals in NY were notified by the Commissioner of Health of their responsibilities to report the selected hospital-acquired infections, of amendments to the 2007 legislation, the selection of reporting indicators for 2008, the availability of regional informational sessions and the Department's planned infection control resources survey. The informational sessions covered recommendations and lessons learned during the pilot year, selection of indicators for 2008 and modifications of the reporting system. Ongoing education has been made available by the Department via telephone consultation, onsite hospital visits and audits, NHSN webcasts, electronic newsletters and regional teleconferences.

Timeliness and Completeness of Reporting

HAI reporting program personnel monitored the timeliness, completeness and accuracy of hospital reports and conducted onsite audits at hospitals to assure compliance with the statutory reporting requirements. Some delays in reporting are inevitable due to the prolonged incubation period for some surgical site infections. For example, if an implant is involved (e.g., sternal wires, hip prostheses), an infection occurring up to a year after the surgery is still counted and reported. However, in general, reporting should occur as required within sixty days after the completion of each surveillance month.

Data Validation

Data reported to the NHSN are validated using a number of methods.

1) Point of entry checks - The NHSN is a web-based data reporting and submission program that includes validation routines for many data elements, reducing common data entry errors. Hospitals can view, edit, and analyze their data at any time.

2) Monthly checks for internal consistency - Each month, NYS HAI staff download the data from the NHSN and run it through a computerized data validation code. Data that are missing, unusual, inconsistent, or duplicate are identified and investigated through email or telephone communication with hospital staff. Hospitals are given the opportunity to verify and/or correct the data.

3) Annual on-site audits - Audits of a sample of medical records were conducted by the Department to assess compliance with reporting requirements. Onsite visits were conducted by HAI program staff in all 186 reporting hospitals at least once and in 90 percent of hospitals twice since mid-2007. The purposes of the audit were to:
    a. Enhance the reliability and consistency in applying the surveillance definitions;
    b. Evaluate the adequacy of surveillance methods to detect infections;
    c. Evaluate intervention strategies designed to reduce or eliminate specific infections; and
    d. For data inconsistencies identified, discrepancies were discussed and records modified, by the hospitals as needed..

    Ongoing monitoring, education and training have been and continue to be provided to ensure the integrity of the data.

4) Checks for completeness in reporting - NYS HAI staff matched the NHSN data to other NYSDOH data sets to assess the completeness of the data reported to the NHSN. The other databases included the Cardiac Surgery Reporting System[5] (CSRS) and Statewide Planning and Research Cooperative System[6] (SPARCS).
    a. NHSN CABG data were linked to the CSRS database. The cardiac services program collects and analyzes risk factor information for patients undergoing cardiac surgery and uses the information to monitor and report hospital and physician-specific mortality rates.
    b. NHSN colon and hip data were linked to the SPARCS database. SPARCS is an administrative billing database that contains details on patient diagnoses and treatments, services, and charges for every hospital discharge in New York State.

    These checks of other databases identified a small percentage of underreporting of infections and surgical procedures. The missing information was random and not associated with any one hospital. The checks identified technical issues in methods of finding procedure data for some facilities and these issues have been addressed.

Thresholds for Reporting Hospital-Specific Infection Rates

Only hospitals that perform the selected surgical procedures or provide ICU care are required to report the designated indicator data and HAIs. Hospitals that perform very few procedures or have ICUs with very few patients with central lines will have infection rates that may fluctuate greatly over time. This is because even a few cases of infection will yield a numerically high rate in the rate calculation when the denominator of central lines is small. To assure a fair and representative set of data, the Department adopted the NHSN minimum thresholds for reporting. The minimum thresholds are:

- For surgical site infections, there must be a minimum of 20 patients undergoing a surgical procedure.
- For CLABSIs and umbilical catheter-associated blood stream infections there must be a minimum of 50 central-line days. Central line days are the total number of days central lines are used for each patient in an ICU or NICU over a given period of time.

Risk Adjustment

Risk adjustment is a statistical technique that takes into account the differences in patient populations in terms of severity of illness and other factors that may affect the risk of developing a hospital acquired infection and, thus allows hospitals to be more fairly compared. A hospital that performs a large number of complex procedures on very sick patients would be expected to have a higher infection rate than a hospital that performs more routine procedures on healthier patients. Therefore, before comparing the infection rates of hospitals, it is important to adjust for the number and proportion of high and low risk patients. Different risk adjustment methods are used for central line blood stream and surgical site infections.

For surgical site infections, the NHSN uses three measures to adjust for risk differences in patients undergoing surgical procedures:

1. Wound class - contaminated or dirty wound sites at the time of surgery are more likely to become infected than clean wound sites.

2. Duration of surgery – longer surgeries are more likely to result in infection both because of the complication of the surgical procedure and because of the amount of time the patient's internal organs are exposed.
3. American Society of Anesthesiologists' (ASA) Classification of Physical Status score - a measure of severity of illness of the patient, more ill patients are more likely to get an infection than healthier patients (see Glossary of Terms for more information on ASA score).

Each procedure is assigned a score from 0 to 3 based on how many of these risk factors were present.

To improve the risk adjustment methodology, the Department used data from the CSRS, SPARCS and NHSN to evaluate whether additional risk adjustment would improve the comparison of hospital SSI rates. The following summarizes this evaluation.

1. Colon surgery - None of the additional risk factors studied improved the NHSN risk adjustment model.
2. Coronary Artery Bypass Graft surgery – For chest site infections, additional variables from the CSRS improved the risk adjustment model by 27%. The following indicators from CSRS were used in addition to the NHSN risk score:
    a. Diabetes
    b. Body Mass Index (BMI) – relationship between weight and height
    c. End Stage Renal Failure (ESRD)
    d. Gender
    e. History of Chronic Obstructive Pulmonary Disease (COPD)
    f. Medicaid recipient
3. Coronary Artery Bypass Graft surgery – For donor (artery or vein) site infections, additional variables from the CSRS improved the risk adjustment model by 19%. The following indicators from CSRS were used in addition to the NHSN risk score:
    a. BMI
    b. History of Congestive Heart Failure (CHF)
    c. Gender
    d. Age group
    e. Emergency or trauma patient
    f. History of Chronic Obstructive Pulmonary Disease (COPD)
4. Hip replacement or revision – The following information that was already reported into the NHSN improved the risk adjustment model by 5% and was used in addition to the NHSN risk score:
    a. Initial surgery or revision
    b. Total hip replacement or partial hip replacement

Risk-adjusted infection rates for surgical site infections in each hospital were calculated using a two step method. First, all the data for the state were pooled to develop a logistic regression model predicting the risk of infection based on patient-specific risk factors. Second, that model was used to calculate the expected number of infections for each hospital. The observed infection rate was then divided by the hospital's expected infection rate. If the resulting ratio is larger than one, the provider has a higher infection rate than expected on the basis of its patient mix. If it is smaller than one, the provider has a lower infection rate than expected from its patient mix.

For each hospital, the ratio is then multiplied by the overall statewide infection rate to obtain the hospital's risk-adjusted rate. This method of risk adjustment is called "indirect adjustment." [7]

Hospitals with risk-adjusted rates significantly higher or lower than the state average were identified using exact two-sided 95% Poisson confidence intervals. The Poisson distribution is used for rates based on rare events. All data analyses were performed using SAS versions 9.1 or 9.2 (SAS Institute, Cary NC).

Patient level data is not collected on adult or pediatric patients with central lines so risk adjustment is limited to the type of intensive care unit and numbers of patients with a central line.

For neonatal intensive care units (NICUs), the infection information is collected by type of NICU [Level II/III, Level III or Regional Perinatal Center (RPC)] and birth weights of infants in the unit with central lines. NICU CLABSI rates are compared for facilities providing the same level of neonatal intensive care and have been adjusted for the birth weight distribution of infants with central lines on the specific unit. The indirect standardization method was similar to the method used for surgical site infections, but was based on a Poisson regression model.

New York State and National Comparisons

New York State (NYS) rates were calculated for 2008 but the only national data available at the time of this report covers the period of 2006/2007[8]. The CDC modified definitions as of January 1, 2008 and used the newer definitions and methods of analysis for their 2006/2007 report. Therefore, the Department used the same modifications for national comparisons.
These modifications include the following:

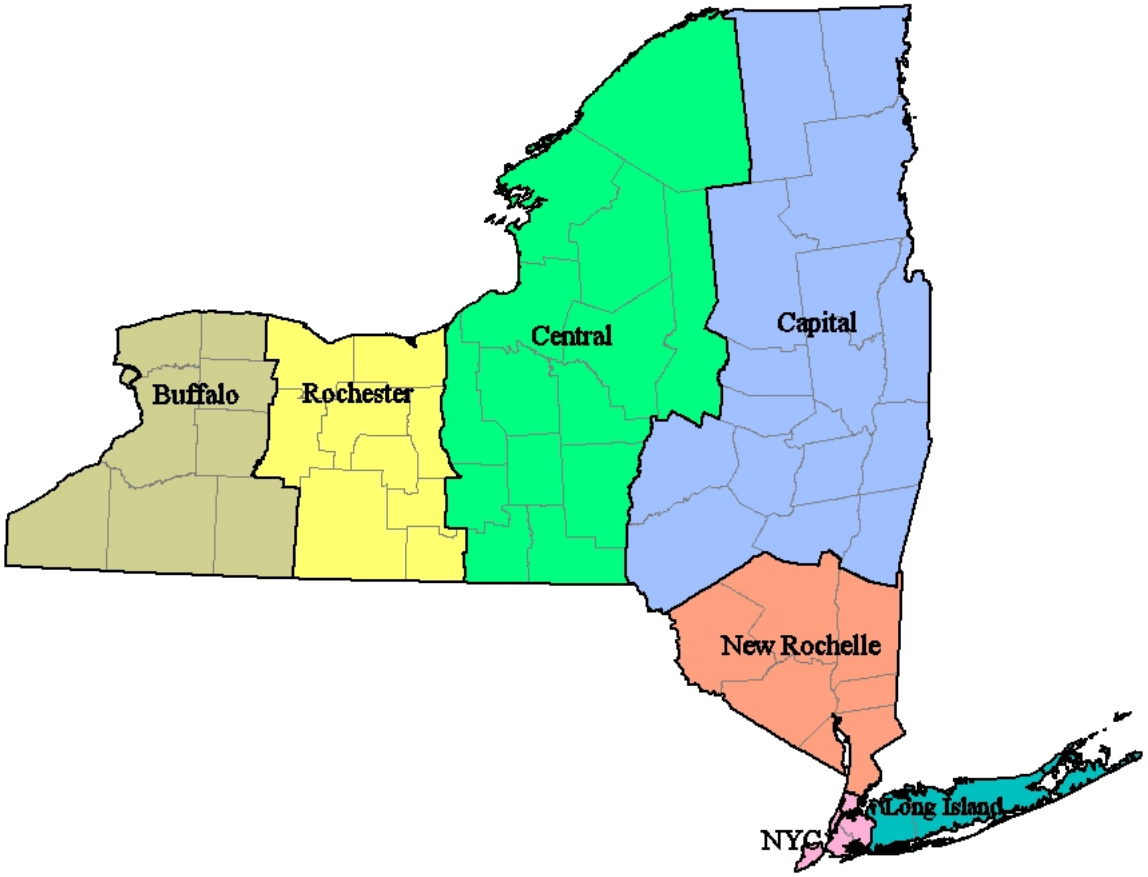
1. The CDC definition of a CLABSI event no longer includes situations in which a single blood culture was positive for a normal skin contaminant even if therapy was started.
2. Surgical site infections were no longer adjusted for use of a laparoscope.

NYS rates were compared to national rates using the same statistical tests implemented in the NHSN for comparing hospital rates to national rates within risk categories. For surgical site infection rates these are based on the hypergeometric distribution, and for central-line associated blood stream infection rates these are based on the Poisson distribution.

NYS Regional Comparisons

NYS rates by region were calculated for each indicator using the same inclusion and exclusion criteria as described in the section below for hospital comparisons. Due to the number of different risk factors used to adjust for SSI rate comparisons, indirect standardization was used and therefore, regions can only be compared to the state average. Regional CLABSI rates can be directly compared to one another for the same type of ICU. The following map depicts the NYS regions:

Figure I – Regional Map



NYS Hospital-Specific Rate Comparisons

All NYS-specific tables, charts and data analyses use the criteria and risk adjustments developed by the Department in conjunction with the Technical Advisory Workgroup. There are some differences in this report in the way the data analysis is done compared with the data analysis in the 2007 Pilot Year Report. These changes resulted from lessons learned during the pilot year and include the use of additional sources of data to improve risk adjustment for hospital comparisons. In addition to the factors used for risk adjustment described above, the Department made the following changes in infection definitions in this report:

Central Line-Associated Bloodstream Infection Modifications:

1. The CLABSI reporting form was modified to identify cases in which: multiple blood cultures were obtained, only one specimen was positive, the one positive was considered a contaminant and no treatment was given. These events were deleted from the hospital-specific infection rates but were not deleted in national comparisons since the information was not available on the national level.

2. Neonatal intensive care unit CLABSIs and umbilical catheter-associated bloodstream infections do not include "clinical sepsis" events. Although the CDC's NHSN requires reporting of these events, surveillance and detection is extremely difficult, labor

intensive, and inconsistently applied. Since these events by definition do not involve positive blood cultures, their detection relies upon surveillance of clinical conditions that cannot be systematically or consistently ascertained by infection prevention staff.

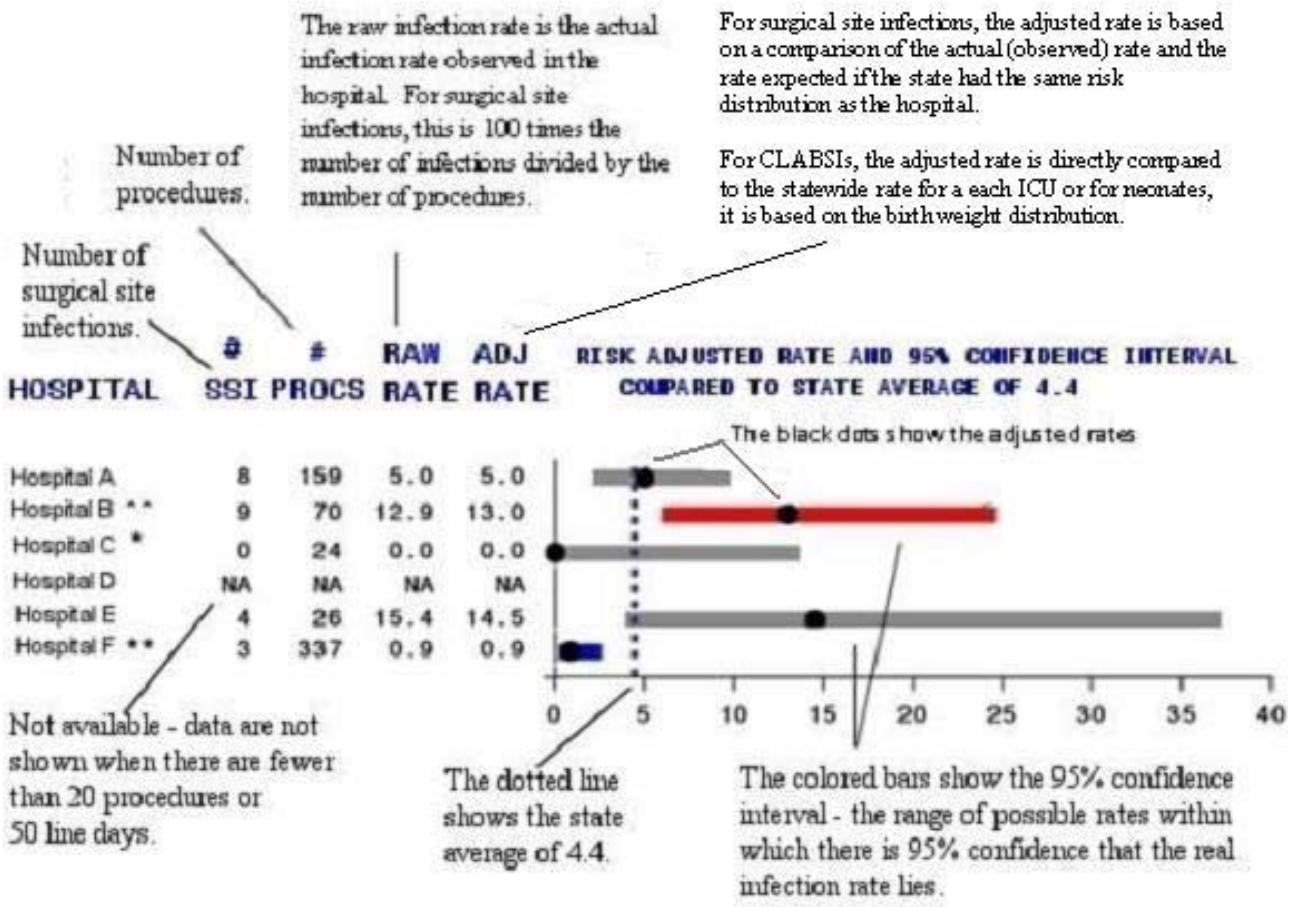
3. The CLABSI reporting form was modified to capture information on the patient location (operating room, emergency room, intensive care unit, etc.) where a central line was placed. This information was collected to determine where to focus infection prevention efforts but was not used to modify the infection rates.

Surgical Site Infection Modifications:

1. The SSI reporting form was modified to capture additional information on surgical site infections that became evident after the patient had been discharged but involved a readmission to another hospital. These events were counted in the infection rate of the hospital where the original surgery was performed.

2. The hospital-specific SSI rates do not include infections that were identified after hospitalization (post-discharge) if the infection did not involve a readmission to the same hospital where surgery was performed or admission to another hospital. This decision was made because post-discharge surveillance efforts were found to be extremely variable, labor intensive, could not be standardized across hospitals and the Department was unable to audit for accuracy or completeness. In addition, inclusion of these infections would unfairly penalize facilities with the most intensive surveillance efforts.

How to Read Hospital-Specific Infection Rate Tables – Figure II



- Hospital A had an adjusted infection rate very similar to the state average, because the black dot is very close to the dotted line, and the grey bar goes over the dotted line representing the state average.
- Hospital B has an adjusted infection rate that is significantly higher than the state average, because the red bar is entirely above the dotted line.
- Hospital C had zero infections, but this was not considered to be statistically lower than the state average because the grey bar goes over the dotted line. Only 21 procedures were done, and we cannot be certain that the hospital would have seen 0 infections if they had done more procedures. All hospitals that observed zero infections get a *, because they do deserve acknowledgement for achieving zero infections.
- Hospital D - The data are not shown because the hospital performed fewer than 20 procedures and therefore the rates are not stable.
- Hospital E had the highest infection rate, but this was not statistically higher than the state average because so few procedures were done. The fewer procedures performed, the wider the confidence interval, and the less confident we are in the stability of the rate.
- Hospital F had an adjusted infection rate of 0.9%. The confidence interval is very narrow, so the rate is statistically lower than the state average. Narrow confidence intervals in relation to the rate tell us that the rate is stable and we can be more confident in the measurement.

RESULTS

Colon Surgical Site Infection Rates

Colon SSI Rates: 2007, 2008 and Comparisons with National – Figure III

After adjusting for differences in the distribution of NHSN risk factors, NYS colon SSI rates decreased from 5.9 per 100 procedures to 4.9 per 100 procedures in 2007 and 2008, respectively. The national colon SSI rate reported for 2006-2007 was 6.1 per 100 procedures. The lower rate for NYS in 2008 is statistically lower than the rate in 2007 and when compared to national.

Colon SSI Regional Comparisons – Figure IV

Within NYS, colon SSI rates ranged from a significantly low infection rate of 2.8 in the Central Region to a significantly high infection rate of 5.6 per 100 procedures in the Capital District. The other regions did not differ from the state average.

Hospital-Specific Colon SSI Rate Comparisons – Figure V

179 hospitals reported colon surgery data. Of the 883 colon SSIs reported, 61 percent were identified during the initial hospitalization, 28 percent were identified upon readmission to the same hospital, 11 percent were detected in outpatient settings and less than 1 percent involved a readmission to another hospital (Table 1). Since detection of SSIs in outpatient settings is extremely variable, labor intensive, and could not be standardized across hospitals; the Department did not include the infections detected in outpatient settings in the hospital-specific comparisons.

Hospital-specific colon SSI rates are provided in Figure V. Ten hospitals had rates that were statistically lower than the state average, while nine had rates that were statistically higher than the state average. Forty-one (23 percent) hospitals reported zero colon surgical site infections in 2008. There was no association between SSI rates and the number of procedures performed.

Microorganisms Associated with Colon SSIs – Table 2

In NYS, the most common microorganisms associated with colon SSIs were enterococci, *Escherichia coli,* and *Staphylococcus aureus.* Methicillin-Resistant *Staphylococcus aureus* (MRSA) would have been the third most common organism if considered separately from sensitive *Staphylococcus aureus* isolates. MRSA accounted for less than 10 percent of colon SSIs. Of the 17,810 colon procedures, 84 (0.5 percent) patients developed an MRSA colon SSI.

Lessons for Safety and Quality Improvement for Prevention of Colon SSIs

Patients requiring a transfusion had statistically higher rates of infection, although the addition of this information did not improve the risk adjustment model (results not shown). Given the source of this data, the Department could not ascertain whether the transfusions were required by the patient prior to, during or after their surgery. This will be evaluated over the next year.

Surveys of hospital prevention practices have been conducted but the Department is still in the process of determining which measures, if any, are associated with the lowest colon SSI rates.

CABG Surgical Site Infection Rates

CABG surgery usually involves two surgical sites: a chest incision and a separate site to harvest donor vessels. Because infections can occur at either incision site, the infection rates are presented separately.

CABG Chest SSI Rates: 2007, 2008 and Comparisons with National – Figure VI

After adjusting for differences in the distribution of NHSN risk factors, NYS CABG chest incision SSI rates decreased from 2.6 per 100 procedures to 2.1 per 100 procedures in 2007 and 2008, respectively. The national CABG chest SSI rate reported for 2006-2007 was 2.4 per 100 procedures. The lower rate for NYS in 2008 is statistically lower than the rate in 2007 and when compared to national.

CABG Chest SSI Regional Comparisons – Figure VII

Within NYS, none of the regional CABG chest SSI rates were statistically different from the state average. The adjusted rates ranged from 1.3 in the New Rochelle Region to 2.9 per 100 procedures in the Buffalo Region.

Hospital-Specific CABG Chest SSI Rate Comparisons – Figure VIII

Forty hospitals perform CABG procedures in NYS. Of the 301 CABG chest infections reported, 32 percent were identified during the initial hospitalization, 64 percent were identified upon readmission to the same hospital, 4 percent were identified in outpatient settings and 1 percent involved a readmission to another hospital (Table 3). Since detection of SSIs in outpatient settings is extremely variable, labor intensive, and could not be standardized across hospitals; the Department did not include the infections in outpatient settings in the hospital-specific comparisons.

Hospital-specific CABG chest SSI rates are provided in Figure VIII. Two hospitals had rates that were statistically lower than the state average and four hospitals had rates that were statistically higher than the state average. Two (5 percent) hospitals reported zero CABG chest site infections in 2008. There was no association between SSI rates and the number of procedures performed.

Microorganisms Associated with CABG Chest SSIs – Table 4

The most common microorganisms associated with chest SSIs were *Staphylococcus aureus,* coagulase negative staphylococci, and enterococci. MRSA would have been the third most common organism if counted separately from sensitive *Staphylococcus aureus* isolates. MRSA was associated with approximately 15 percent of chest SSIs in CABG surgery. Of the 13,878 CABG procedures, 47 (0.3 percent) patients developed an MRSA CABG chest SSIs.

CABG Donor Vessel SSI Rates: 2007, 2008 and Comparisons with National – Figure IX

After adjusting for differences in the distribution of NHSN risk factors, NYS CABG donor vessel SSI rates were identical, 1.0 per 100 procedures in 2007, 2008 and nationally in 2006-2007.

CABG Donor Vessel SSI Regional Comparisons – Figure X

Within NYS, donor vessel SSI rates ranged from an adjusted rate of 0.2 in the Capital Region to 1.6 per 100 procedures in Buffalo Region. The only statistical difference was the lower rate in the Capital Region.

Hospital-Specific CABG Donor Vessel SSI Rate Comparisons – Figure XI

Of the 136 CABG donor vessel site infections reported, 38 percent were identified during the initial hospitalization, 55 percent were identified upon readmission to the same hospital, 6 percent were identified in outpatient settings and 1 percent involved a readmission to another hospital (Table 5). Since detection of SSIs in outpatient settings is extremely variable, labor intensive, and could not be standardized across hospitals; the Department did not include these infections in the hospital-specific comparisons.

Hospital-specific CABG donor vessel SSI rates are provided in Figure XI. Four hospitals had CABG donor vessel SSI rates that were statistically lower than the state average and five hospitals had rates that were statistically higher than the state average. Nine (23 percent) hospitals reported zero CABG donor vessel site infections in 2008. There was no association between SSI rates and the number of procedures performed.

Microorganisms Associated with CABG Donor (Artery or Vein) Site SSIs – Table 6

The most common microorganisms associated with donor vessel site SSIs were *Staphylococcus aureus, Pseudomonas aeruginosa* and coagulase negative staphylococci. MRSA would have been the eighth most common organism if counted separately from sensitive *Staphylococcus aureus* isolates. MRSA was associated with 6 percent of donor vessel SSIs in CABG surgery. Of the 12,822 CABG procedures involving a separate donor vessel site, 8 (0.06 percent) patients developed an MRSA CABG donor vessel SSIs.

Lessons for Safety and Quality Improvement for Prevention of CABG SSIs

Patients with diabetes, severe obesity, end stage renal disease and chronic obstructive pulmonary disease had statistically higher CABG SSI rates. Prevention efforts targeted primarily to the group of patients are likely to have the most impact.

Surveys of hospital-specific infection prevention practices have been conducted but the Department is still in the process of determining which measures are associated with the lowest CABG SSI rates.

Hip Surgical Site Infection Rates

Hip Replacement or Revision SSI Rates: Comparison with National – Figure XII

HIP replacement or revision surgery became reportable in 2008. In 2008, NYS hip SSI rates were significantly lower than national rates in low and medium risk groups but not in the high risk category. When adjusted for differences in the risk distribution, the 2008 NYS rate of 1.3 per 100 procedures was not statistically different than the national rate of 1.5 per 100 procedures reported for 2006-2007.

Hip Replacement or Revision SSI Regional Comparisons – Figure XIII

Within NYS, there were no statistically significant differences in regional hip SSI rates when compared to the statewide average.

Hospital-Specific Hip SSI Rate Comparisons – Figure XIV

In 2008, 171 hospitals performed hip replacement or revision surgery. Of the 274 hip SSIs reported, 12 percent were identified during the initial hospitalization, 78 percent were identified upon readmission to the same hospital, 7 percent were identified in outpatient settings and 3 percent involved a readmission to another hospital (Table 7). Since detection of SSIs in outpatient settings is extremely variable, labor intensive, and could not be standardized across hospitals; the Department did not include the infections identified in outpatient settings in the hospital-specific comparisons.

Hospital-specific hip SSI rates are provided in Figure XIV. One hospital had a hip SSI rate that was statistically lower than the state average and four hospitals had rates that were statistically higher than the state average. Sixty-seven (39 percent) hospitals reported zero hip SSIs in 2008. Since hip replacements or revision involve implanted hardware, infections may not be evident for up to one year after the procedure. Therefore, the reported 2008 SSI rates may change over the next year. Low surgical volume within hospitals was associated with increased infection rates. The adjusted infection rate was 1.7 percent among hospitals that performed fewer than 50 procedures a year, significantly higher than the state average rate of 1.1 percent (results not shown).

Microorganisms Associated with Hip SSIs – Table 8

The most common microorganisms associated with hip SSIs were *Staphylococcus aureus*, coagulase negative staphylococci, and enterococci. MRSA was the most common organism if counted separately from sensitive *Staphylococcus aureus* isolates. MRSA was associated with approximately 30 percent of hip SSIs. Of the 23,611 hip surgeries performed, 79 (0.3 percent) developed an MRSA SSI.

Lessons for Safety and Quality Improvement for Prevention of Hip SSIs.

MRSA was the most common organism associated with hip SSIs. The majority of hospitals had either zero or one MRSA infected patient per year. There were no regional differences in the incidence of MRSA infection.

Surveys of hospital-specific infection prevention practices, including active surveillance screening for MRSA, have been conducted but the Department is still in the process of determining which measures are associated with the lowest hip SSI rates.

CLABSIs in Adult/Pediatric ICUs

CLABSI Rates in Adult/Pediatric ICUs NYS and National Comparisons: NYS 2007, NYS 2008 and National 2006-2007 – Figure XV

There was a change in the CLABSI case definition on January 1, 2008. Therefore, the 2007 rates in this report are different than those reported in the previous pilot year report. With the new definitions, NYS rates in 2007 were significantly higher than national rates in the cardiothoracic ICUs, medical ICUs, medical-surgical (non-major teaching hospitals) ICUs and surgical ICUs. As of the date of this report, national rates are only available for 2006-2007.

NYS CLABSI rates in 2008 were significantly higher than national rates in the medical ICUs (2.8 and 2.4 per 1000 line days, respectively), medical-surgical teaching ICUs (2.4 and 2.0 per 1000 line days, respectively), medical-surgical non-major teaching ICUs (2.1 and 1.5 per 1000 line days, respectively), surgical ICUs (2.9 and 2.3 per 1000 line days, respectively), and pediatric ICUs (3.5 and 2.9 per 1000 line days, respectively). Again, national rates are only available for 2006-2007.

Comparisons between NYS 2008 and NYS 2007 CLABSI rates revealed a significantly lower rate in 2008 cardiothoracic ICUs (1.5 and 1.7 per 1000 line days, respectively) and surgical ICUs (2.9 and 3.3 per 1000 line days, respectively) but a significantly higher rate for 2008 in medical ICUs (2.8 and 2.7 per 1000 line days, respectively).

CLABSI Rates in Adult/Pediatric ICUs - Regional Comparisons, NYS 2008 – Figures XVI - XXIII

In NYS, a customized data field in the NHSN was used to account for cases in which multiple blood cultures were obtained, only one specimen was positive, the one positive was considered a contaminant and no treatment was given. These duplicate cultures were deleted from the New York State hospital-specific infection rate calculation but were not deleted in the national comparisons since the information was not available on the national level. The following chart (Chart A) provides a summary of these events by type of ICU. As can be seen, this modification had a minimal effect on the rates but enhances the accuracy of the CLABSI definition.

Comparison of Central Line Associated Blood Stream Infection (CLABSI) Rates by ICU Type and by Criteria, New York State, 2008 – Chart A

	All Reported CLABSI			CLABSIs by New Criteria[1]		
ICU Type	# CLABSI	# Central Line Days	Rate	# CLABSI	# Central Line Days	Rate
Coronary	111	50,858	2.2	111	50,858	2.2
Cardiothoracic Surgical	109	73,679	1.5	106	73,679	1.4
Medical	245	87,785	2.8	239	87,785	2.7
Medical Surgical (MajorTeaching)	117	48,030	2.4	113	48,030	2.4
Medical Surgical (All Other)	359	174,178	2.1	354	174,178	2.0
Surgical	220	75,544	2.9	211	75,544	2.8
Neurological	42	17,577	2.4	40	17,577	2.3
Pediatric	103	29,698	3.5	101	29,698	3.4

Data reported as of April 8, 2009.

[1] Excludes untreated events with single contaminated specimen.

Within NYS, the CLABSI rates varied substantially within ICU settings.

1. Medical ICU CLABSI rates were significantly lower in NYC and significantly higher in New Rochelle and Long Island.
2. Major teaching medical-surgical ICU CLABSI rates were significantly higher in the Central Region.
3. Non-major teaching medical-surgical ICU CLABSI rates were significantly lower in the Central and Rochester Regions and significantly higher in NYC.
4. Surgical ICU CLABSI rates were significantly lower in the Buffalo Region and significantly higher in the Rochester Region.
5. Pediatric ICU CLABSI rates were significantly lower in the Buffalo Region and significantly higher in the Capital and Rochester Regions.

Hospital-Specific CLABSI Rates in Adult and Pediatric ICUs – Figures XXIV - XXXI

The hospital-specific CLABSI rates are displayed by type of ICU. If CLABSI rates are statistically lower than the state average, the bar is blue and if statistically higher, the bar is red. Some hospitals have reported zero CLABSIs in specific ICUs although the rate may not be statistically significant due to the lower number of patients and days with a central line. The following number and percent of ICUs reported zero infections:

1. 15 of 47 Coronary ICUs – 32 percent
2. 6 of 32 Cardiothoracic ICUs – 19 percent
3. 6 of 43 Medical ICUs – 14 percent
4. 1 of 16 Medical-Surgical Major Teaching ICUs – 6 percent
5. 37 of 118 Medical-Surgical Non-Major Teaching ICUs – 31 percent
6. 4 of 37 Surgical ICUs – 11 percent
7. 2 of 15 Neurosurgical ICUs – 13 percent
8. 9 of 30 Pediatric ICUs – 30 percent

Microorganisms Associated with CLABSIs in Adult and Pediatric ICUs – Table 9

The most common microorganisms identified in adult/pediatric ICU-related CLABSIs were enterococci, *Klebsiella species*, and coagulase negative staphylococci. MRSA was the eighth most common organism, accounting for less than 6 percent of these infections.

Lessons for Safety and Quality Improvement for Prevention of CLABSI.

Comparisons between NYS 2008 and NYS 2007 CLABSI rates revealed a significantly lower rate in 2008 cardiothoracic ICUs (1.5 and 1.7 per 1000 line days, respectively) and surgical ICUs (2.9 and 3.3 per 1000 line days, respectively) but a significantly higher rate for 2008 in medical ICUs (2.8 and 2.7 per 1000 line days, respectively).

Surveys of hospital-specific infection prevention practices have been conducted but the Department is still in the process of determining which measures are associated with the lowest CLABSI rates.

CLABSIs in Neonatal ICUs

CLABSI Rates in Neonatal ICUs NYS and National Comparisons: NYS 2007, NYS 2008 and National 2006-2007 – Figures XXXII - XXXIII

RPC/Level III NICU CLABSI rates - Figure XXXII

There was a change in the CLABSI case definition on January 1, 2008. Therefore, the 2007 rates in this report are different than those reported in the previous pilot year report. CLABSI rates in Regional Perinatal Centers must be combined with Level III facilities when compared to national rates since the RPC designation is not used nationally.

With the new definitions and after adjusting for differences in the distribution of birth weight, the NYS RPC/Level III NICU CLABSI rate in 2007 was 3.7 per 1000 line days, statistically higher than the national rate of 2.9 per 1000 line days in 2006-7. In 2008, after adjusting for differences in birth weight distribution, the NYS RPC/Level III NICU CLABSI rate was 2.9 per 1000 line days. The decrease between 2007 and 2008 in NYS was statistically significant.

Level II/III NICU CLABSI rates – Figure XXXIII

In 2007, after adjusting for difference in birth weight distribution, the NYS Level II/III NICU CLABSI rate was 4.4 per 1000 line days, statistically higher than the national rate of 2.4 per 1000 line days in 2006-7. In 2008, after adjusting for difference in birth weight distribution, the NYS Level II/III NICU CLABSI rate was 5.0 per 1000 line days, statistically higher than the overall national rate. The increase between 2007 and 2008 in NYS was not statistically significant.

CLABSI Rates in Neonatal ICUs - Regional Comparisons, NYS 2008 – Figures XXXIV - XXXVI

In NYS, a custom field was used to identify cases in which multiple blood cultures were obtained, only one specimen was positive, the one positive was considered a contaminant and no treatment was given. These events were deleted from the hospital-specific infection rates but were not deleted in national comparisons since the information was not available on the national level. In addition, cases with clinical sepsis were excluded from regional and hospital-specific comparisons. The following chart (Chart B) provides a summary of these events by birth weight category. As can be seen, this modification had a minimal effect on the rates but enhances the credibility of the CLABSI definition.

Comparison of Central Line Associated Blood Stream Infection (CLABSI) in Level III/RPC Neonatal Intensive Care Units (NICU) by Birth Weight Category and by Criteria, New York State, 2008 – Chart B

Birth Weight Category	All Reported CLABSI			CLABSIs by New Criteria[1]		
	# CLABSI	# Central Line Days	Rate	# CLABSI	# Central Line Days	Rate
<750g	52	13,157	3.9	51	13,157	3.9
751-1000g	55	14,409	3.8	52	14,409	3.6
1001-1500g	24	12,990	1.8	24	12,990	1.8
1501-2500g	20	8,297	2.4	20	8,297	2.4
2501g <	15	6,764	2.2	15	6,764	2.2
Total	**166**	**55,617**	**3.0**	**162**	**55,617**	**2.9**

Data reported as of April 8, 2009.
[1] Excludes clinical sepsis and untreated events with single contaminated specimen.

For all NYS NICU CLABSI analyses, three categories of NICU are used: Regional Perinatal Centers (RPCs), Level III NICUs, and Level II/III NICUs.

In 2008, there were no statistical differences in CLABSI rates by Region for any of the categories of NICUs. (Figures XXXIV – XXXVI)

Hospital-specific CLABSI Rates in NICUs – Figures XXXVII – XXXIX

For RPCs, there was only one hospital with a statistically higher CLABSI rate. None of the 19 RPCs had a zero CLABSI rate. RPC CLABSI rates ranged from 0.6 to 7.1 per 1000 central line days.

For Level III NICUs, there were no statistical differences in CLABSI rates. Eleven of 21 Level III NICUs had zero CLABSIs in 2008. Level III CLABSI rates ranged from 0.0 to 9.3 per 1000 central line days.

For Level II/III NICUs, there was one hospital with a statistically lower rate and one with a statistically higher rate. Four of the 14 Level II/III NICUs had zero CLABSIs in 2008. The rates ranged from 0.0 to 24.7 per 1000 central line days. This wide range is due to the relatively infrequent use of central lines in this patient population.

Microorganisms Associated with CLABSIs in NICUs – Table 10

The most common microorganisms identified in NICU-related CLABSIs were coagulase negative staphylococci, *Staphylococcus aureus* and enterococci. MRSA was the tenth most common organism, accounting for less than 2 percent of these infections.

Lessons for Safety and Quality Improvement for Prevention of CLABI in NICUs.

The Department began funding a major collaborative involving all RPCs throughout the state to design, implement and evaluate evidence-based CLABSI prevention measures. The collaborative will expand to the other NICU settings in the second year.

Surveys of hospital-specific infection prevention practices have been conducted but the Department is still in the process of determining which measures are associated with the lowest CLABSI rates.

Umbilical Catheter-Associated Bloodstream Infection (BSI) Rates in Neonatal ICUs

Umbilical Catheter-Associated BSI Rates in Neonatal ICUs NYS and National Comparisons: NYS 2007, NYS 2008 and National 2006-2007 – Figures XL - XLI

RPC/Level III NICU Umbilical Catheter-Associated BSI rates - Figure XL

There was a change in the umbilical catheter-associated BSI case definition on January 1, 2008. Therefore, the 2007 rates in this report are different than those reported in the previous pilot year report. Umbilical catheter-associated BSI rates in Regional Perinatal Centers must be combined with Level III facilities when compared to national rates since the RPC designation is not used nationally.

With the new definitions, the NYS 2007 NICU umbilical catheter-associated BSI rate of 3.3 infections per 1000 umbilical catheter days was significantly higher than the national average of 2.1 per 1000 umbilical catheter days in RPC/Level III NICUs, after adjusting for differences in birth weight distribution. As of the date of this report, national rates were only available for 2006-2007.

The NYS 2008 NICU umbilical catheter-associated BSI rate of 2.0 infections per 1000 umbilical catheter days was not statistically different than the national average, after adjusting for differences in birth weight distribution.

Comparisons between NYS 2008 and NYS 2007 umbilical catheter-associated BSI rates revealed a significantly lower rate in 2008 in the lowest birth weight category and for the total rate.

Level II/III NICU Umbilical Catheter-Associated BSI rates – Figure XLI

In 2007, the umbilical catheter-associated BSI rate of 5.3 infections per 1000 umbilical catheter days in NYS Level II/III NICUs was statistically higher than the national rate of 2.0 infections per 1000 umbilical catheter days, after adjusting for differences in birth weight distribution.

In 2008, the umbilical catheter-associated BSI rate of 2.2 infections per 1000 umbilical catheter days in NYS Level II/III NICUs was not statistically different than national, after adjusting for differences in birth weight distribution.

Comparisons between NYS 2008 and NYS 2007 umbilical catheter-associated BSI rates in Level II/III hospitals revealed a significantly lower rate in 2008 in the lowest birth weight category and for the total rate.

Umbilical Catheter-Associated BSI Rates in Neonatal ICUs - Regional Comparisons, NYS 2008 – Figures XLII – XLIV

For all NYS NICU umbilical catheter-associated BSI analyses, three categories of NICU are used: Regional Perinatal Centers (RPCs), Level III NICUs, and Level II/III NICUs.

NYS-specific modifications in central line or umbilical catheter BSI definitions did not result in any changes in the number or rate of umbilical catheter BSIs.

In 2008, there were no statistical differences in umbilical catheter-associated BSI rates by Region for any of the categories of NICUs. (Figures XLII – XLIV)

Hospital-Specific Umbilical Catheter-Associated BSI Rates in NICUs – Figures XLV - XLVII

There were no statistically significant differences in umbilical catheter-associated BSI rates within the NICU categories.

Three (16 percent) of the 19 RPCs had a zero umbilical catheter-associated BSI rates. Umbilical catheter-associated BSI rates ranged from 0.0 to 11.0 per 1000 umbilical catheter days in RPCs.

Sixteen (76 percent) of the 21 Level III NICUs had zero umbilical catheter-associated BSIs. The umbilical catheter-associated BSI rates ranged from 0.0 to 8.1 per 1000 umbilical catheter days.

Nine (64 percent) of the 14 Level II/III NICUs had zero umbilical catheter-associated BSIs. The umbilical catheter-associated BSI rates ranged from 0.0 to 19.4 per 1000 umbilical catheter days. This wide range is due to the relatively infrequent use of umbilical lines in this patient population.

Microorganisms Associated with Umbilical Catheter-Associated BSIs in NICUs – Table 11

The most common microorganisms identified in NICU-related umbilical catheter-associated BSIs were coagulase negative staphylococci, *Staphylococcus aureus* and enterococci. None of the infections involved MRSA.

Lessons for Safety and Quality Improvement for Prevention of Umbilical Catheter-Associated BSIs in NICUs.

Surveys of hospital-specific infection prevention practices have been conducted but the Department is still in the process of determining which measures are associated with the lowest umbilical catheter-associated BSI rates.

Survey of Personnel Resources for Infection Prevention and Control in NYS Hospitals – Table 12

To measure the impact of mandatory HAI reporting on infection prevention personnel and programs, an infection prevention and control resource survey was conducted in April 2008. Information was obtained on: the number of infection preventionists (IPs) and hospital epidemiologists (HEs); IP/HE educational background and certification; infection control program support services; activities and responsibilities of infection prevention and control program staff; and an estimate of time dedicated to various activities, including surveillance.

This report includes a table of the ratio of infection preventionist to acute care (AC) beds and the ratio of infection preventionist to an aggregate measure that takes into consideration the number of ICU beds, long term care beds, dialysis centers, ambulatory surgery centers, ambulatory clinics and private physician offices in addition to acute care beds. The following equivalents were used: ICU bed = 2 acute care beds; long term care bed = ½ an acute care bed; dialysis facility = 50 acute care beds; ambulatory surgery center = 50 acute care beds; ambulatory clinic = 10 acute care beds; and a private physician's office = 5 acute care beds.

In 2008, the average infection preventionist in NYS was responsible for 135 acute care beds or an aggregate measure equivalent to 247 acute care (AC) beds. These ratios (IP to AC beds and IP to aggregate AC bed equivalents) were calculated for each hospital and then the hospitals were ranked. Hospitals in the lowest quartile (i.e., with the lowest infection prevention staffing ratios for each measure) are designated with an "L" in Table 12.

Additional analyses will be performed to determine the association between IP resources and infection rates, prevention project involvement, and additional hospital-specific infection prevention measures.

NYSDOH-FUNDED HAI PREVENTION PROJECTS

Hospital-Acquired Infection Prevention Projects

During the State fiscal year of 2007-2008, three projects received funding to reduce transmission of hospital-associated infections and to enhance the knowledge of new infection prevention specialists. These three organizations were uniquely qualified given their experience and readily available expertise.

Healthcare Association of New York State (HANYS) – FY 2007-2008 - $105,023

The Healthcare Educational and Research Fund (HERF), a non-profit subsidiary of HANYS, was funded to provide comprehensive educational programs designed to reduce ventilator-associated pneumonia (VAP) in critical care unit patients, implement new or enhanced prevention protocols, monitor compliance, and evaluate the impact on VAP infection rates. Forty-four hospitals involving 60 ICU's across New York State participated in the quality improvement project, which was comprised of urban, rural, tertiary care, teaching and non-teaching, and community healthcare facilities. During the project's 12 months, the overall ICU VAP rate decreased from an initial 2.6 infections per 1000 ventilator days to 1 infection per 1000 ventilator days.

Participants attributed the decrease in VAP rates to educational programs, system improvements, involvement and buy-in of physicians and clinical staff, monitoring and feedback of compliance with prevention strategies. The NHSN was found to be a valuable surveillance mechanism to measure the impact of VAP prevention strategies in reducing infections. Participants plan to continue to use the NHSN surveillance to monitor progress in reducing VAPs.

Greater New York Hospital Association (GNYHA) - FY 2007-2008 - $174,860

GNYHA is coordinating the development, implementation, and evaluation of comprehensive evidence-based practices to prevent and control *Clostridium difficile* infections (CDI). *Clostridium difficile* is a spore-forming, toxin-producing bacterium that is responsible for most cases of antibiotic-associated diarrhea. This initiative, one of the first in the nation to specifically target these infections, involves 42 hospitals and approximately 35 nursing homes. The first six months provided baseline data. Preliminary data have demonstrated a 15 percent reduction in CDI in participating hospitals. This project has been continued with funding and support from the United Hospital Fund.

New York State Association for Professionals in Infection Control and Epidemiology Coordinating Council (NYSACC) - FY 2007-2008 - $60,192

NYSACC was funded to develop, plan and conduct a comprehensive, one-week infection control training course for novice Infection Control Practitioners (ICPs). The course was held May 12-16, 2008. The 118 registrants were new/novice NYS ICPs and/or those

practicing ICPs who had not taken a basic infection control course. The audience represented hospitals, behavioral health facilities, long term care facilities, and the Department of Corrections. Participants were given paper and electronic copies of all course materials as well as the references, guidelines and recommendations presented.

Accomplishments and lessons learned:

- The need for the program exceeded space constraints.
- The program was adapted to integrate information on New York specific guidelines, regulations, and laws.
- Based on the attendee's evaluation of the program, the 5-day training program successfully increased the attendee's understanding of the topics presented.
- High evaluation scores also support achievement of the program goals which were to educate infection control practitioners on key concepts, principles, and evidence-based interventions.

HAI Prevention Projects begun in FY 2008-2009 with continued funding in FY 2009-2010

On August 22, 2007, DOH issued a Request for Applications (RFA) from non-profit health care organizations to develop, implement and evaluate strategies to reduce or eliminate targeted hospital-acquired infections. To be eligible, each applicant had to obtain the collaboration and commitment of at least five participating hospitals. The HAI reporting program is responsible for the evaluation, selection and oversight of the projects.

Continuum Health Partners, New York City, FY 2009-2010 - $184,240

This project is designed to evaluate the impact of obtaining active surveillance cultures for Methicillin resistant *Staphylococcus aureus* (MRSA) on patients admitted to intensive care units (ICU) in five hospitals. The project involves 96 ICU beds with 5,600 annual admissions. Although the ultimate goal is reducing MRSA transmission and infection, other objectives include measuring the costs and effectiveness of this strategy, determining whether there is a concomitant reduction in the length of stay in the critical care unit or reduction in mortality, and measuring the indirect effects on the incidence of other multi-drug resistant organisms (MDRO). During the first year the project found:

- Each ICU has noted a decrease in MRSA hospital acquired infections (HAI) since the project protocol has been implemented.
- Molecular typing of isolates has shown different predominant clones between two study sites.
- An association of MRSA colonization and/or infection with vancomycin resistant *Enterococcus sp.* (VRE) and multi-drug resistant *Klebsiella sp.* and *Acinetobacter sp.* has been seen.

New York City Health & Hospitals Corporation (HHC), FY 2009-2010 - $184,240

HHC will implement and evaluate multiple strategies to decrease the incidence of hospital-acquired infections associated with multidrug-resistant organisms in intensive care units in six municipal hospitals. Active surveillance cultures, instituting central line protocols and antimicrobial catheters are among the interventions under evaluation.

During the first year the project accomplished:

- Protocol developed and implemented at participating hospitals.
- Patient eligibility criteria standardized.
- Standardized data collection tool created.
- Successfully automated culture orders to ensure compliance with protocol.

North Shore University Hospital, FY 2009-2010 - $184,240

This project is designed to evaluate MRSA transmission, MRSA infection and the effect of prevention measures in ICUs by using rapid MRSA detection technology and strain typing of isolates. The project involves all adult patients admitted to ICUs in five hospitals: the nine ICUs have more than 150 beds and serve more than 5,000 patients.

During the first year the project accomplished:

- Design, implement and monitor rapid MRSA screening in participating ICUs.
- PCR identification of MRSA has been found to assist with the case management of patients with MRSA.
- As of 12/31/2008, 622 cases were reviewed and entered into the web data base data entry program. This includes patients with MRSA on admission, carriers of MRSA, and infected patients either on admission or during their ICU stay.
- As of 12/31/2008, 418 specimens, both clinical and nasal PCR's have been prepared for DNA fingerprinting and 285 of those specimens have been fingerprinted.

University of Rochester School of Medicine & Dentistry, FY 2009-2010 - $184,240

This project is designed to reduce central line-associated bloodstream infections outside the ICU using evidence-based protocols for central line insertion and care. Six facilities are part of this Rochester Infection Prevention group: a tertiary care hospital, a large community hospital, a university hospital and several community hospitals. The project includes thirty-eight nursing units from these six facilities.

During the first year the project accomplished:

- A reliable method to measure device utilization was developed and used to compare rates of line infection between hospital units and hospitals.[1,2]
- Data from this project has shown that central line bloodstream infection rates in these non-ICU settings are similar to ICU rates, despite lower central venous catheter usage.[3]
- Successful establishment and implementation a central line care protocol.
- Development and implementation of a feedback mechanism for the nursing units to measure outcomes.
- Development of a computer based training module to teach line care protocol.

Participation in this prevention project has earned the Infection Preventionists in the Rochester Finger Lakes APIC Chapter national recognition as recipients of the 2009 APIC Chapter Excellence Award in Research. This award is given to the Chapter that best demonstrates excellence in supporting, promoting and publicizing research in infection surveillance, prevention and control.

[1]*Estimating Central Line Days Outside ICU Using Weekly Device Use Ratio.* Mark Shelly MD, Ghinwa Dumyati, MD. Abstract presented at SHEA March, 2009.
[2] *New York State Infection Prevention Grant to study Central Line Infections.* Linda Greene RN, MPS, CIC. Abstract to be presented at APIC June, 2009.
[3]*The Burden of Central Line Associated Blood Stream Infections in Non-ICU Patients: Results of Multi-Hospital Surveillance in Rochester, NY.* Ghinwa Dumyati MD, et al. Abstract presented at SHEA March, 2009.

Westchester County Healthcare Corporation, FY 2009-2010 - $184,240

This 2 year project involving six hospitals is designed to reduce the incidence of hospital-associated bloodstream infections (BSI) in intensive care and respiratory care patients. It is hoped that the use of topical antimicrobial agents in these ICU settings, will reduce the microbial load on the skin, minimize acquisition of new organisms, and reduce bloodstream infections due to skin flora. From November 2007 through June 2008 participating hospitals collected pre-intervention data, educated practitioners to ensure proper use of the antimicrobial agent, assess skin tolerance, and measured infection rates. From July 2008 through March 2009, chlorhexidine bathing intervention began at all sites except one with zero infections. The preliminary data (6 months) is available from two ICU's (Medical and Respiratory). Although the rates of hospital acquired BSI declined in these two ICUs, the decrease has not reached statistical significance. There was a significant decrease in the rate of contaminated blood cultures.

HAI Prevention Project initiated October 1, 2008

Joan & Sanford I. Weill Medical College of Cornell University, 10/1/08-9/30/10 - $186,169

All Regional Perinatal Centers have agreed to participate in a 2-year CLABSI prevention project. The first year will be used to standardize the prevention bundle, implement a set of evidence-based practice recommendations, design implementation and evaluation tools, monitor compliance with the prevention bundle and monitor the effectiveness of these efforts on CLABSI rates. In year 2, the tools and practices will be expanded to the Level II and III NICUs across the state.

SUMMARY AND CONCLUSIONS

A summary of hospital-specific infection rates for all HAI indicators is provided in Table 13.

Among the tracked surgeries, infection rates were highest for colon surgery (5.0%), followed by CABG surgery (2.2% for chest infections and 1.1% for donor site infections), and lastly hip replacement surgery (1.2%), for operations performed in New York State in 2008.

NYS 2008 colon procedure infection rates were statistically lower in the three highest risk groups and overall when compared to 2006-2007 National rates. Of the 17,810 colon procedures, 84 (0.5 percent) patients developed an MRSA colon SSI.

NYS 2008 hip replacement procedure infection rates were statistically lower in the low and medium risk groups when compared to 2006-2007 National rates. Of the 23,611 hip surgeries performed, 79 (0.3 percent) developed an MRSA SSI.

NYS 2008 CABG chest infection rates declined when compared to the NYS 2007 pilot year and were significantly lower when compared to 2006-2007 National rates. There were no significant differences in CABG donor site infection rates when compared to the NYS 2007 pilot and to 2006-2007 National rates. Of the 13,878 CABG procedures, 47 (0.3 percent) patients developed an MRSA CABG chest SSIs.

Among intensive care units, the CLABSI rates are highest in pediatric (3.5 per 1000 central line days), neonatal (3.3 per 1000 central line days), surgical (2.9 per 1000 central line days) and medical (2.8 per 1000 central line days) ICUs in New York State in 2008.

Among adult and pediatric ICUs, 2008 NYS CLABSI rates were not statistically different for coronary, cardiothoracic, and neurosurgical ICUs but were statistically higher for medical, medical-surgical (teaching and non-teaching), surgical and pediatric ICUs when compared to 2006-2007 National rates.

Among NICUs, 2008 NYS CLABSI rates were not statistically different except in the Level II/III NICU where the CLABSI rate was statically higher in the two lowest birth weight categories and overall when compared to 2006-2007 National rates.

Among NICUs, 2008 NYS umbilical-associated catheter infections in RPC/Level III NICUs were statistically lower in the lowest birth weight category and in all NICUs the overall rate when compared to 2006-2007 National rates.

HAI REPORTING – LESSONS LEARNED

The Department and hospitals, through annual on-site audits, monthly data consistency audits, newsletters, and regional conference calls, have learned the following important lessons regarding HAI reporting:

1. The NHSN is a useful tool in monitoring the infection rates and the effectiveness of prevention strategies. Hospitals have continuous access to their own data and can compare their rates to national levels and monitor trends over time. Groups such as the

Department of Health and other collaboratives in which hospitals participate also have continuous access to the data reported by the hospitals for consistent real-time surveillance.

2. Surveillance lessons:

    a. Strict adherence to the surveillance definitions is critical to provide consistency and comparability of data across hospitals. Clinical findings are appropriate for treatment decisions but are not appropriate for mandatory reporting purposes since there is significant variability between providers and different institutions.

    b. Post-discharge surveillance methods are highly variable, dependent upon allocated resources and integration of information systems, and when performed, result in higher infection rates. The majority of severe infections are detected during the initial hospitalization or upon readmission. In order to fairly compare hospitals and not penalize facilities with the best surveillance systems, the NYSDOH did not include surgical site infections detected solely by post-discharge surveillance but is continuing to monitor the impact of these efforts.

    c. Use of additional patient-specific risk information improved the ability to compare hospital-specific coronary artery bypass graft and hip replacement surgical site infection rates. The data in this report have been adjusted for these factors. There is a difference in timing between the CSRS and NHSN databases that makes the analysis more challenging: NHSN data is due to NYS two months after the end of each month, whereas CSRS data are due to NYS two months after the end each quarter. This means that the NHSN data are considered complete (though not completely edited and cleaned) on March 1 of each year, while the CSRS is considered complete (though not cleaned) on June 1 of each year. The HAI program recommends that the date of the annual reports be pushed back a few months in order to improve the program's ability to provide the most complete analysis on the highest quality data to permit the fairest comparisons possible.

    d. Timely and complete data submission was often affected by infection control staffing turnover, prolonged vacancies and the need for education and training to comply with the legislative mandate. Hospitals need to provide back-up personnel to ensure compliance with reporting requirements and patient safety.

    e. Hospitals need to integrate health information technology systems to support infection prevention and reporting efforts. For example, only 30 percent of hospitals have utilized electronic data entry of operating room procedure log information. The other 70 percent of hospitals are still manually entering this data into the NHSN.

HAI REPORTING PROGRAM - NEXT STEPS

The Department will work to improve HAI reporting and infection prevention efforts including taking the following actions:

1. Integrate the hospital-specific infection rates into the Department's hospital profile web site by the end of the 2008.
2. Continue to monitor the accuracy and timeliness of data being submitted, discuss findings and ensure corrective action is taken.
3. Conduct onsite audits to evaluate surveillance methods, interpretation of surveillance definitions, and completeness of reporting.
4. Continue to provide education, training and ongoing support to hospital infection reporting staff.
5. Continue to evaluate the impact of post-discharge surveillance on surgical site infection rates and implications for public reporting.
6. Evaluate and monitor the effect of prevention practices on infection rates.
7. Evaluate the relationship between infection prevention personnel resources and surveillance activities, infection rates, and prevention projects.
8. Collaborate with other department staff to investigate outbreaks and evaluate emerging trends.
9. Consult with infection preventionists, hospital epidemiologists, surgeons and the Cardiac Advisory Committee to identify risk factors and prevention strategies to reduce HAIs.
10. Monitor HAI prevention projects for compliance with program objectives, fiscal responsibility and potential applicability to other hospitals or healthcare settings.
11. Continue to identify and evaluate hospitals with lowest and highest infection rates to determine whether reported data are reliable and, if so, attempt to identify reasons for the differences.
12. Recommend that the date of the annual HAI program report be changed to September 1 of each year.

HAI Reporting Indicators for 2009 and 2010

The Department will continue to require the 2008 HAI reporting indicators in 2009. In addition, a new infection indicator, *Clostridium difficile* infections, will be pilot tested in 2009. This is a new component in the NHSN and was not available until March 2009. Because it is new, the Department and the hospitals need to evaluate the training materials, gain an understanding of the surveillance definitions and reporting parameters, and standardize the implementation of this component. If implementation is successful, *Clostridium difficile* will be mandated for reporting beginning in January 2010 and this information will be reported in the 2010 report. TAW will continue to play critical role in the providing guidance to the Department on selection of reporting indicators, the evaluation of system modifications, the evaluation of potential risk factors, methods of risk adjustment and presentation of the hospital-identified data.

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Abbreviations

AC – Acute Care
ASA – American Society of Anesthesiologists' Classification of Physical Status
BSI – Bloodstream Infection
CABG – Coronary Artery Bypass Graft Surgery
CDC – Centers for Disease Control and Prevention
CEOs – Chief Executive Officers
CHF – Congestive Heart Failure
CI – Confidence Interval
CL – Central Line
CLABSI – Central Line Associated Bloodstream Infection
CNS – Coagulase Negative Staphylococcus
CSEP – Clinical Sepsis
CSRS – Cardiac Surgery Reporting System[4]
DIP – Deep Incisional Infection at the Primary Surgical Site (for CABG procedures, this would be the chest site)
DIS – Deep Incisional Infection at the Secondary Surgical Site (for CABG procedures, this would be the donor vessel site)
DOH – New York State Department of Health
FTE – Full-Time Equivalent
GNYHA – Greater New York Hospital Association
HAI – Hospital-Acquired Infection
HANYS – Healthcare Association of New York State
HE – Hospital Epidemiologist
HERF – Healthcare Education and Research Fund for HANYS
IC – Infection Control
ICD-9 – International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)
ICP – Infection Prevention and Control Specialist
ICU – Intensive Care Unit
IP – Infection Preventionist
IT – Information Technology
LCBI – Laboratory Confirmed Bloodstream Infection
MDRO – Multi-Drug Resistant Organism
MRSA – Methicillin-Resistant *Staphylococcus aureus*
MSSA – Methicillin-Sensitive *Staphylococcus aureus*
NICU – Neonatal Intensive Care Unit
NHSN – National Healthcare Safety Network
NYS – New York State
NYSACC – New York State Association for Professionals in Infection Control and Epidemiology Coordinating Council
NYSDOH – New York State Department of Health
OR – Operating Room
OR – Odds Ratio (statistical term)
OS – Organ Space Infection
PDS – Post-Discharge Surveillance
PHL – Public Health Law
RPC – Regional Perinatal Center (Level IV – highest level of NICU care)

SHEA – Society for Healthcare Epidemiology of America
SIP – Superficial Incisional Infection at the Primary Surgical Site (for CABG procedures, this would be the chest site)
SIS – Superficial Incisional Infection at the Secondary Surgical Site (for CABG procedures, this would be the donor vessel site)
SPARCS - Statewide Planning and Research Cooperative System[6]
SSI – Surgical Site Infection
TAW – Technical Advisory Workgroup
UB – Umbilical Catheter
VAP – Ventilator-Associated Pneumonia
VRE – Vancomycin-Resistant Enterococci

Glossary of Terms

Term	Definition
Active Surveillance	A system used by a trained infection preventionist (IP) to look for infections during a patient's hospital stay. A variety of tools are used to identify infections and determine if they are related to their hospital stay or if the infection was present on hospital admission. These tools may include, but are not limited to, information from laboratory, radiology, operation, pharmacy reports and nursing care units and/or patient treatment areas.
ASA Score	This is a scale used by the anesthesiologist to classify the patient's physical condition prior to surgery. It uses the American Society of Anesthesiologist (ASA) Classification of Physical Status. It is one of the factors that help determine a patient's risk of possibly developing a SSI. Here is the ASA scale: Normally healthy patient Patient with mild systemic disease Patient with severe systemic disease Patient with an incapacitating systemic disease that is a constant threat to life A patient who is not expected to survive with or without the operation.
Birth weight Categories	Birth weight refers to the weight of the infant at the time of birth. Infants remain in their birth weight category even if they gain weight. Birth weight category is important because the lower the birth weight, the higher the risk of developing an infection.
Body Mass Index (BMI)	BMI is a measure of the relationship between a person's weight and their height. It is calculated with the following formula: kg/m^2.
Central Line	A Central Line is a tube that is placed into a patient's large vein, usually in the neck, chest, arm or groin. A central line is needed to give fluids, medication, withdraw blood, and for monitoring the patient's condition.
Central Line Bloodstream Infection (CLABSI)	A bloodstream infection can occur when microorganisms travel around and through a central line or umbilical catheter and then enter the blood.
Central Line Bloodstream Infection (CLABSI) Rate	To get this rate, we divide the total number of central line-associated bloodstream infections by the number of central line days. That result is then multiplied by 1,000. Lower rates are better.
Central Line Days (Device Days)	This is the total number of days a central line is used for patients in an ICU or a NICU. A daily count of patients with a central line in place is performed at the same time each day. Each patient with one or more central lines at the time the daily count is performed is counted as one central line day.
Clinical Sepsis	A patient 1 year of age or younger who has at least one of the following clinical signs or symptoms with no other recognized cause: fever greater than 38° C. taken rectally, hypothermia (less than 37°C.), temporary absence of breathing, or an abnormally slow heart rate; and blood culture not done or no organisms detected in blood and no apparent infection at another site, and physician institutes treatment for sepsis.
Colon Surgery	Colon surgery is a procedure performed on the lower part of the digestive tract also known as the large intestine or colon.

Confidence Intervals	The confidence interval for a hospital's infection rate is the range of possible rates within which there is a 95% confidence that the real infection rate for that hospital lies, given the number of infections and procedures that were observed in that hospital in a specific time period.
Coronary Artery Bypass Graft Surgery	Coronary artery bypass graft (CABG) surgery is a treatment for heart disease in which a vein or artery from another part of the body is used to create an alternate path for blood to flow to the heart, bypassing a blocked artery.
Diabetes	Diabetes is a disease in which the body does not produce or properly use insulin. Insulin is needed to control the amount of sugar normally released into the blood.
Donor Incision Site	Coronary Artery By-pass Donor and Chest Surgery (CBGB) is surgery with a chest incision and donor site incisions (donor sites include the patient's leg or arm) from where blood vessel is removed to create a new path for blood to flow to the heart. CBGB surgical incision site infections involving the donor incision site are reported separately from CBGB surgical chest incision site infections.
Duration Cut Point	The cut point of an operation is the typical time between skin incision (cut) and stitching or stapling the skin closed. The duration cut point is the time assigned to that type of surgical operation procedure. Infection risks may increase due to longer than expected surgical procedure time.
Higher than State Average	The risk adjusted rate for each hospital is compared to the state average to determine if it is significantly higher or lower than the state average. A rate is significantly higher than the state average if the confidence interval around the risk adjusted rate falls entirely above the state average.
Hip Replacement Surgery	Hip replacement surgery involves removing damaged cartilage and bone from the hip joint and replacing them with new, man-made parts.
Hospital Acquired Infection (HAI)	A hospital acquired infection is an infection that occurs in a patient as a result of being in a hospital setting after having medical or surgical treatments.
Infection control / prevention processes	These are routine measures to prevent infections that can be used in all healthcare settings. These steps or principles can be expanded to meet the needs of specialized types of hospitals. Some hospitals make the processes mandatory. Examples include Complete and thorough hand washing Use of personal protective equipment such as gloves, gowns, and/or masks when caring for patients in selected situations to prevent the spread of infections. Use of an infection prevention checklist when putting central lines in patients. The list reminds healthcare workers to clean their hands thoroughly; clean the patient's skin before insertion with the right type of soap; wear the recommended sterile gown, gloves and mask; and place sterile barriers around the insertion site, etc. Monitoring to ensure that employees, doctors and visitors are following the proper infection prevention procedures.
Infection Preventionists (IP)	Health professionals that have special training in infection prevention and monitoring.
Inpatient	A patient whose date of admission to the healthcare facility and the date of

	discharge are different calendar days.
Intensive Care Unit (ICU)	Intensive Care Units are hospital units that provide intensive observation and treatment for patients (adult, pediatric or newborn) either dealing with, or at risk of developing life threatening problems. ICUs are described by the types of patients cared for. Many hospitals typically care for patients with both medical and surgical conditions in a combined medical/surgical ICU, while others have separate ICUs for medical, surgical and other specialty ICUs based on the patient care services provided by the hospital.
Lower than State Average	The risk adjusted rate for each hospital is compared to the state average to determine if it is significantly higher or lower than the state average. A rate is significantly lower than the state average if the confidence interval around the risk adjusted rate falls entirely below the state average.
National Healthcare Safety Network (NHSN)	This is a standardized data reporting system that New York State hospitals must use to identify and report select HAI's and enter required data on uninfected patients. NHSN is a secure, internet-based surveillance (monitoring and reporting) system. The NHSN is managed by the CDC's Division of Healthcare Quality Promotion.
Neonatal Intensive Care Level II/III Units	Patient care units that provide: Level II care to newborns at moderate risk and Level III care for newborns requiring increasingly complex care.
Neonatal Intensive Care Level III	Patient care units that provide a highly specialized care to newborns with serious illness, including premature birth and low birth weight and newborns under the supervision of a neonatologist.
Regional Perinatal Centers	Regional Perinatal Centers (RPC) provide all the services and expertise required by the most acutely sick or at-risk pregnant women and newborns. RPCs provide or coordinate maternal-fetal and newborn transfers of high-risk patients from their affiliate hospitals to the RPC, and are responsible for support, education, consultation and improvements in the quality of care in the affiliate hospitals within their region.
NHSN Patient Safety Protocol Manual	This contains standardized definitions and data collection methods that are essential for consistent, fair reporting of hospital infection rates.
Obesity	Obesity, defined as greater than 20% of your ideal body weight, is a condition in which a person has too much body fat that can lower the likelihood of good health. It is commonly defined as a body mass index (BMI) of 30 kg/m^2 or higher.
Operative Procedure	An operation that takes place during a one single trip to the operating room (OR) where a surgeon makes at least one incision (cut) through the skin or mucous membrane, and stitches or staples the incision before the patient leaves the OR.
Outcome Data (HAI)	HAI outcome data are derived from reports based on data submitted by New York State hospitals into the NHSN. NHSN is a secure, internet-based surveillance (monitoring and reporting) system.
Post discharge surveillance	This is the process IPs use to seek out infections after patients have been discharged from the hospital. It includes screening a variety of data sources, including re-admissions, emergency department visits and/or contacting the patient's doctor.

Raw Rate CLABSI	Raw rate is the number of infections (the numerator) divided by the number of line days (the denominator) or the number of umbilical catheter days (denominator) then multiplied by 1000 to be able to report the number of infections per 1000 line days or per 1000 umbilical catheter days.
Raw Rate Surgical Procedures	Raw rate is the number of infections (the numerator) divided by the number of procedures (the denominator) then multiplied by 100 to be able to report the number of infections per 100 operative procedures. Raw rates are not adjusted to account for differences in the patient populations.
Risk Adjustment	Risk adjustment accounts for differences in patient populations and allow for hospitals to be compared. A hospital that performs a large number of complex procedures on very sick patients would be expected to have a higher infection rate than a hospital that performs more routine procedures on healthier patients.
Risk-Adjusted Rate	For surgical site infections, the risk-adjusted rate is based on a comparison of the actual (observed) rate and the expected rate if statewide the patients had the same distribution of risk factors as the hospital. For CLABSIs, the adjusted rate is a comparison of the actual rate and the expected rate based on statewide rates for each ICU or within birthweight categories for neonates.
SPARCS	The Statewide Planning and Research Cooperative System (SPARCS) is a comprehensive data reporting system established in 1979 as a result of cooperation between the health care industry and government. Initially created to collect information on discharges from hospitals, SPARCS currently collects patient level detail on patient characteristics, diagnoses and treatments, services, and charges for every hospital discharge, ambulatory surgery patient, and emergency department admission in New York State.
Surgical Implant	A surgical implant is a nonhuman-derived object, material, or tissue that is permanently placed in a patient during an operation. Examples include: heart valves, metal rods, mesh, wires, screws, cements, hip replacements and other devices.
Surgical Site Infection (SSI)	A surgical site infection (SSI) is an infection that occurs after the operation in the part of the body where the surgery took place (incision). Most SSI's are limited and only involve the skin surrounding the incision; others may be deeper and more serious.
Surgical Site Infection (SSI) Rate	Surgical site infection rates per 100 operative procedures are found by dividing the number of SSIs by the number of total number of specific operative procedures within a given reporting period. The results are then multiplied by 100. These calculations are performed separately for each type of surgical procedure. They are listed by risk index
Surgical Site Infection (SSI) Risk Index	This is a score used to predict a patient's risk of acquiring a surgical site infection. The risk index score, ranging from 0 to 3, reveals how many of these risk factors are present: the anesthesiologist has given the patient an American Society of Anesthesiologists' (ASA) physical status score of 3, 4, or 5; the operation site is determined to be contaminated or dirty / infected at the time of the procedure and the operation lasts longer than expected (the duration cut point time).

Umbilical Catheter	Umbilical catheter is a tube that is inserted through the umbilical blood vessel in a newborn.
Umbilical Catheter Days (Device Days)	This is the total number of days an umbilical catheter are present in newborns in a NICU. The count is performed at the same time each day. Each newborn with both an umbilical catheter and a central line is counted as one umbilical catheter day.
Validation	Validation is a way of making sure the HAI data reported to NYS are complete and accurate. Complete reporting of HAIs, total numbers of surgical procedures performed, central line days, and patient information to assign risk scores must all be validated. Visiting hospitals and reviewing patient records is used to evaluate the accuracy of reporting. The purpose of the validation visits are to: Assess the accuracy and quality of the data submitted to NYS. Provide hospitals with information to help them use the data to improve and decrease HAI's. Provide education to the IPs and other hospital employees and doctors, to improve reporting accuracy and quality. Look for unreported HAIs Make recommendations for improving data accuracy and/or patient care quality issues.
Wound Class	This is a way of determining how clean or dirty the operation body site is at the time of the operation. Operation body sites are divided into four classes: Clean: An uninfected operation body site is encountered and the respiratory, digestive, genital, or uninfected urinary tracts are not entered. Clean-Contaminated: Operation body sites in which the respiratory, digestive, genital or urinary tracts are entered under controlled conditions and without unusual contamination. Contaminated: Operation body sites that have recently undergone trauma, operations with major breaks in sterile technique (e.g., open cardiac massage) or gross spillage from the gastrointestinal tract. Dirty or Infected: Includes old traumatic wounds with retained dead tissue and those that involve existing infection or perforated intestines.

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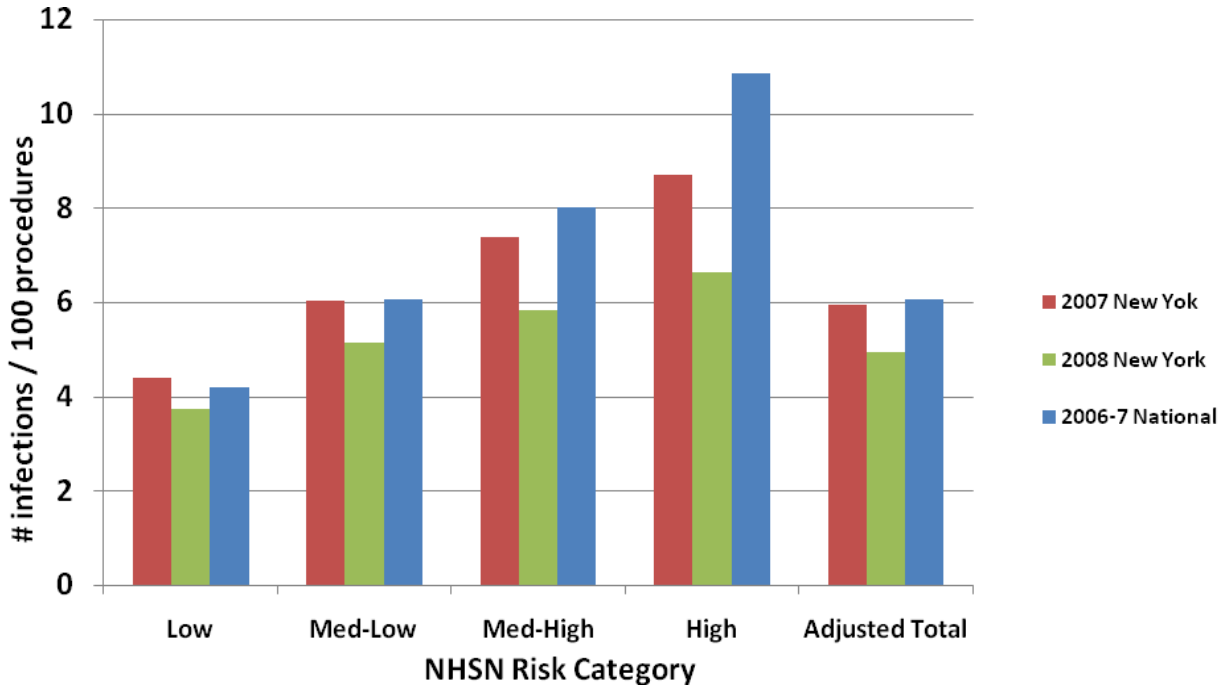
Colon Surgical Site Infection Rate Tables

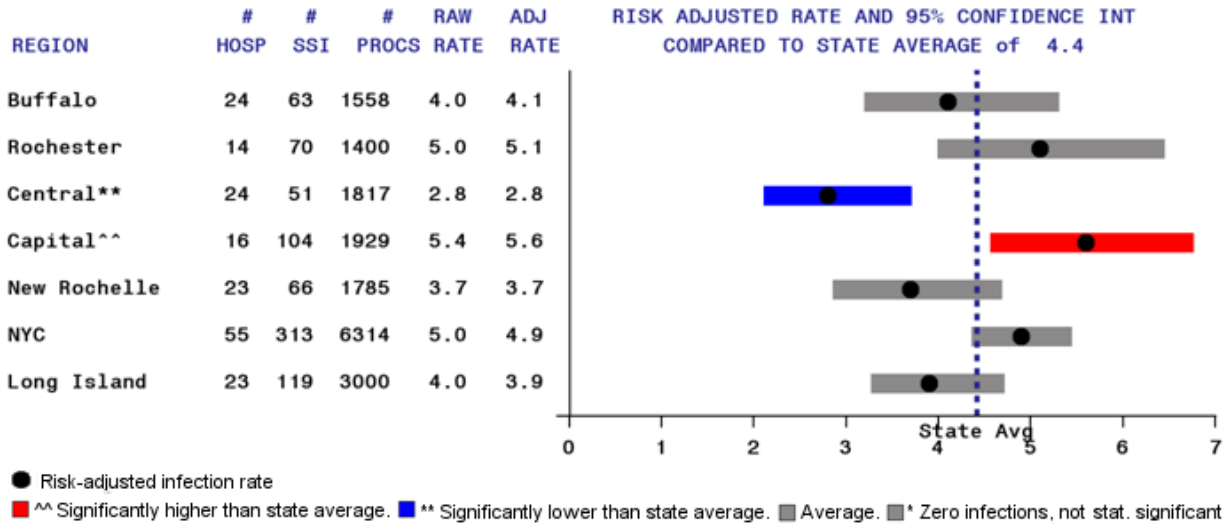
Figure III - Comparison of New York State (2007 and 2008) and National Colon Surgical Site Infection Rates (2006-2007)



	New York State 2007[1]				New York State 2008[1]					National 2006-7[2]		
Risk Group	**# Infect**	**# Proc**	**Rate**	**2007 vs. Nat**	**2008 vs. 2007**	**# Infect**	**# Proc**	**Rate**	**2008 vs. Nat**	**# Infect**	**# Proc**	**Rate**
Low	210	4,782	4.4	-	-	176	4,726	3.7	-	399	9,539	4.2
Med-Low	520	8,608	6.0	-	#L	439	8,557	5.1	*L	1004	16,537	6.1
Med-High	292	3,951	7.4	-	#L	237	4,059	5.8	*L	582	7,270	8.0
High	37	426	8.7	-	-	31	468	6.6	*L	88	810	10.9
Total	1059	17,767	6.0			883	17,810	5.0		2,073	34,156	6.1
	Adjusted Total[3]		5.9	-	#L	Adjusted Total[3]		4.9	*L			

[1] New York State data reported as of April 8, 2009. Includes non-readmitted cases identified using post discharge surveillance. Infect = Infections, Proc = Procedures, Nat = National, Rates are per 100 procedures.
[2] Most recently published National data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3]New York State data adjusted by NHSN risk category (low=0, med-low=1, med-high=2, high=3)
#L indicates New York State 2008 rate is significantly lower than New York State 2007 rate
*L indicates New York State rate significantly lower than National 2006-7 rate
- indicates no statistical difference between rates

Figure IV - Risk-adjusted Colon Surgical Site Infection Rates, by Region, New York State 2008



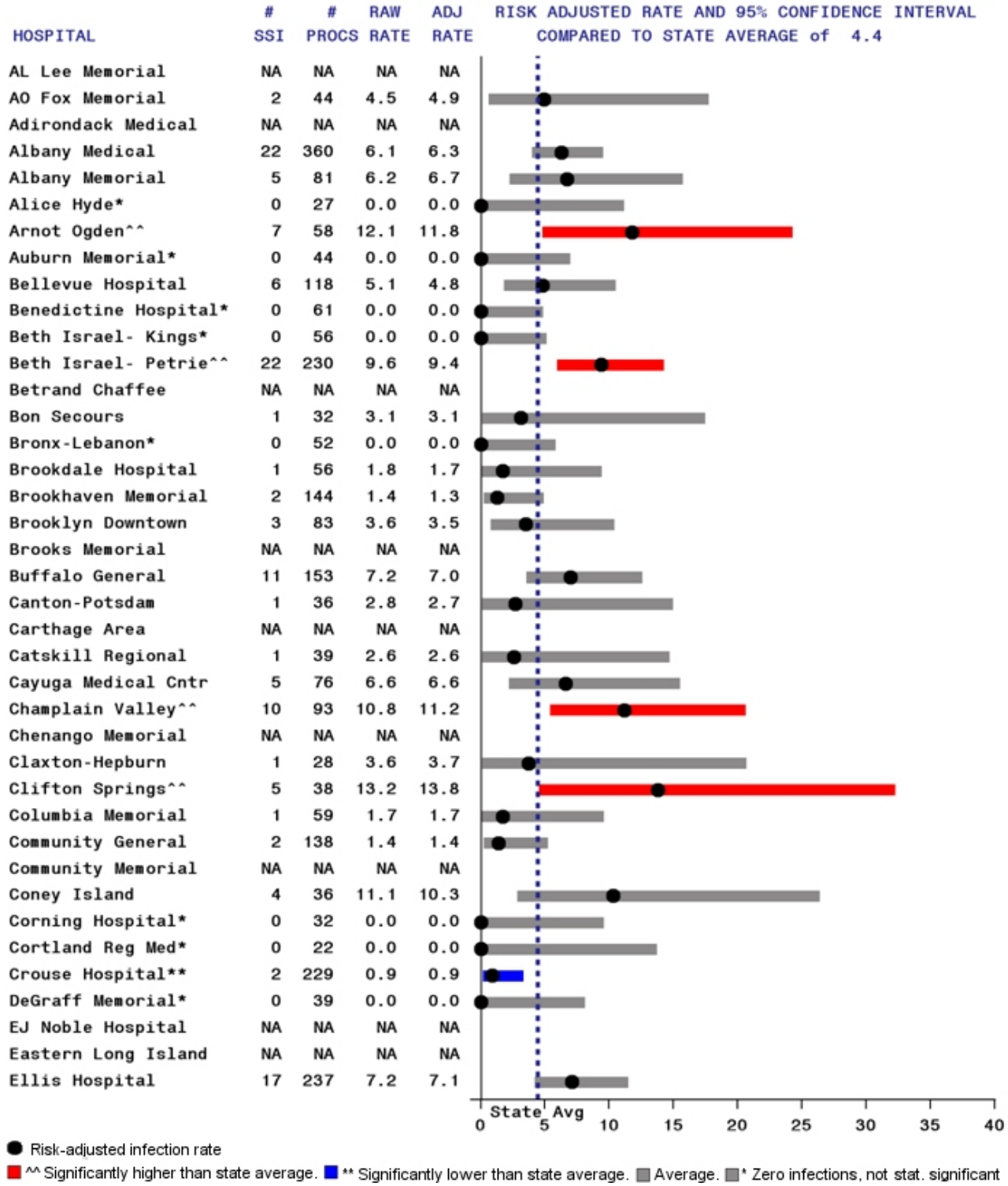
Data reported as of June 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures.
Adjusted using NHSN risk categories.

Table 1 - Method of Detection for Colon Surgical Site Infections by Depth of infection, New York State 2008

Extent (Row%) (Col%)	When Detected				
	Initial Hospitalization	Readmitted to the Same Hospital	Readmitted to Another Hospital	Detected in Outpatient Settings	Total
Superficial Incisional	279 (63.3%) (51.9%)	79 (17.9%) (32.4%)	1 (0.2%) (25.0%)	82 (18.6%) (86.3%)	441 (50.1%)
Deep Incisional	95 (54.9%) (17.7%)	68 (39.3%) (27.9%)	1 (0.6%) (25.0%)	9 (5.2%) (9.5%)	173 (19.6%)
Organ Space	164 (61.4%) (30.5%)	97 (36.3%) (39.8%)	2 (0.8%) (50.0%)	4 (1.5%) (4.2%)	267 (30.3%)
Total	538 (61.1%)	244 (27.7%)	4 (0.5%)	95 (10.8%)	881

New York State data reported as of June 8, 2009

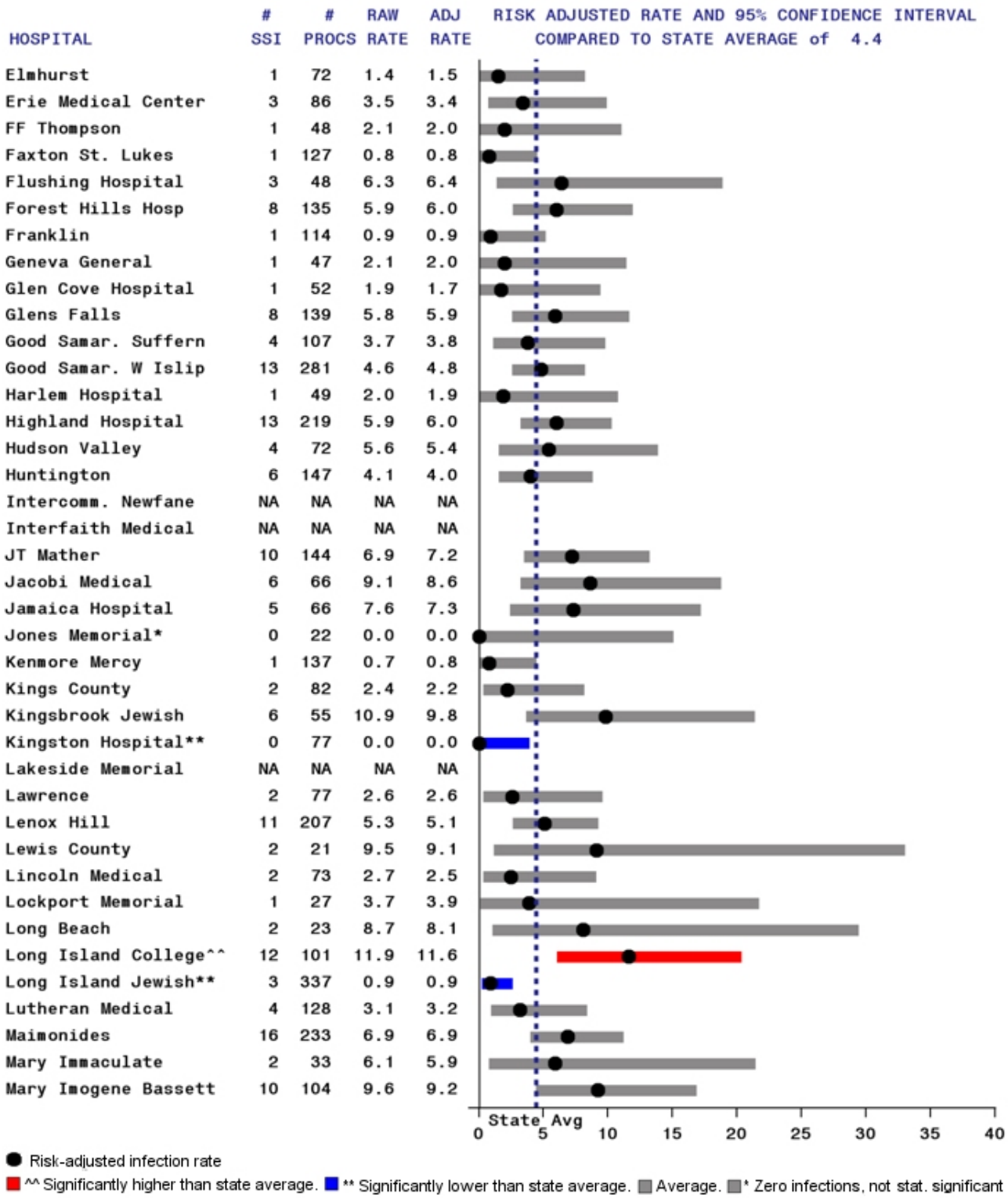
Figure V - Colon Surgical Site Infection Rates, New York State 2008 (page 1 of 5)



HOSPITAL	# SSI	# PROCS	RAW RATE	ADJ RATE
AL Lee Memorial	NA	NA	NA	NA
AO Fox Memorial	2	44	4.5	4.9
Adirondack Medical	NA	NA	NA	NA
Albany Medical	22	360	6.1	6.3
Albany Memorial	5	81	6.2	6.7
Alice Hyde*	0	27	0.0	0.0
Arnot Ogden^^	7	58	12.1	11.8
Auburn Memorial*	0	44	0.0	0.0
Bellevue Hospital	6	118	5.1	4.8
Benedictine Hospital*	0	61	0.0	0.0
Beth Israel- Kings*	0	56	0.0	0.0
Beth Israel- Petrie^^	22	230	9.6	9.4
Betrand Chaffee	NA	NA	NA	NA
Bon Secours	1	32	3.1	3.1
Bronx-Lebanon*	0	52	0.0	0.0
Brookdale Hospital	1	56	1.8	1.7
Brookhaven Memorial	2	144	1.4	1.3
Brooklyn Downtown	3	83	3.6	3.5
Brooks Memorial	NA	NA	NA	NA
Buffalo General	11	153	7.2	7.0
Canton-Potsdam	1	36	2.8	2.7
Carthage Area	NA	NA	NA	NA
Catskill Regional	1	39	2.6	2.6
Cayuga Medical Cntr	5	76	6.6	6.6
Champlain Valley^^	10	93	10.8	11.2
Chenango Memorial	NA	NA	NA	NA
Claxton-Hepburn	1	28	3.6	3.7
Clifton Springs^^	5	38	13.2	13.8
Columbia Memorial	1	59	1.7	1.7
Community General	2	138	1.4	1.4
Community Memorial	NA	NA	NA	NA
Coney Island	4	36	11.1	10.3
Corning Hospital*	0	32	0.0	0.0
Cortland Reg Med*	0	22	0.0	0.0
Crouse Hospital**	2	229	0.9	0.9
DeGraff Memorial*	0	39	0.0	0.0
EJ Noble Hospital	NA	NA	NA	NA
Eastern Long Island	NA	NA	NA	NA
Ellis Hospital	17	237	7.2	7.1

Data reported as of June 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk categories.
NA: Hospitals with less than 20 procedures.

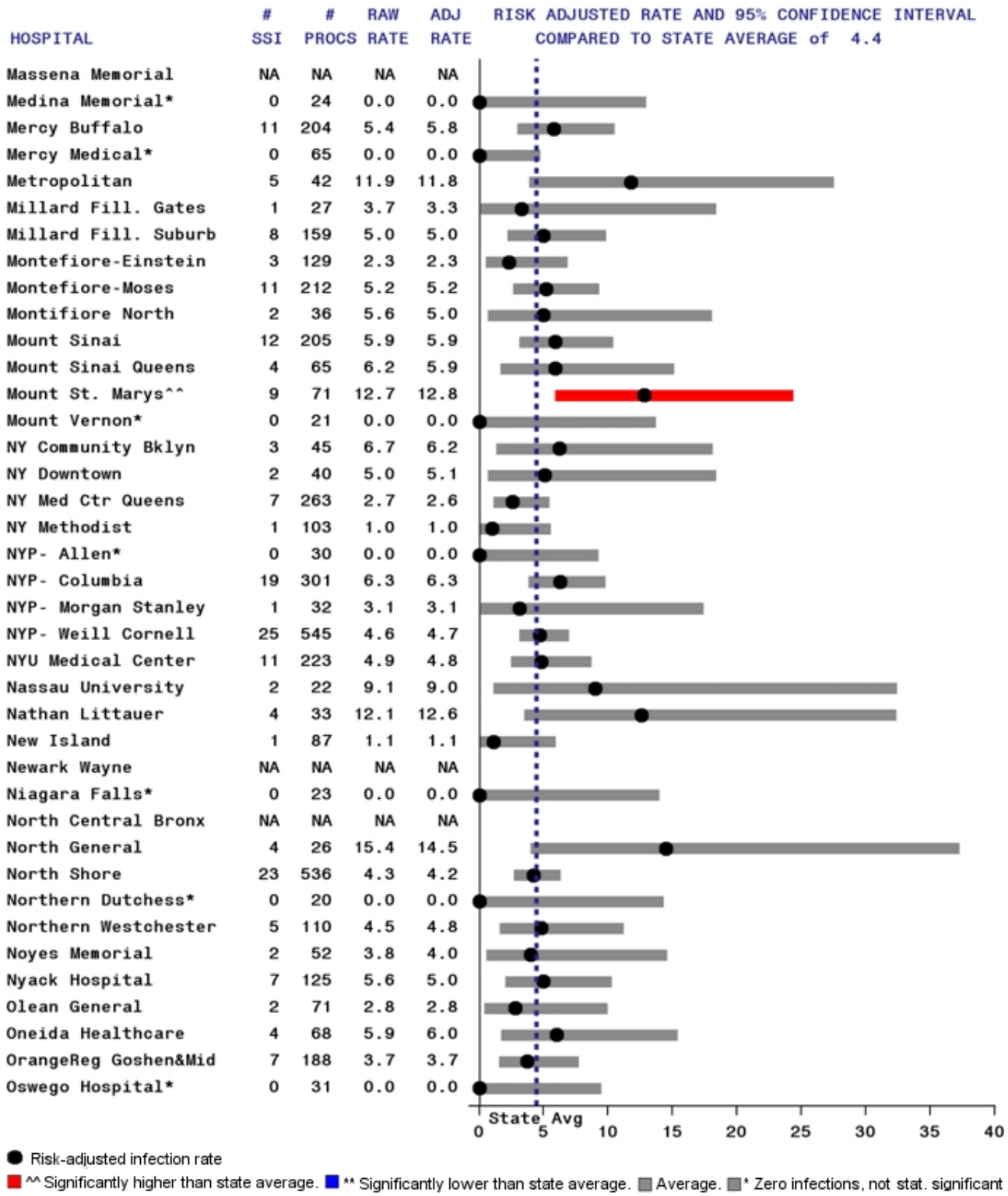
Figure V - Colon Surgical Site Infection Rates (page 2 of 5)



HOSPITAL	# SSI	# PROCS	RAW RATE	ADJ RATE
Elmhurst	1	72	1.4	1.5
Erie Medical Center	3	86	3.5	3.4
FF Thompson	1	48	2.1	2.0
Faxton St. Lukes	1	127	0.8	0.8
Flushing Hospital	3	48	6.3	6.4
Forest Hills Hosp	8	135	5.9	6.0
Franklin	1	114	0.9	0.9
Geneva General	1	47	2.1	2.0
Glen Cove Hospital	1	52	1.9	1.7
Glens Falls	8	139	5.8	5.9
Good Samar. Suffern	4	107	3.7	3.8
Good Samar. W Islip	13	281	4.6	4.8
Harlem Hospital	1	49	2.0	1.9
Highland Hospital	13	219	5.9	6.0
Hudson Valley	4	72	5.6	5.4
Huntington	6	147	4.1	4.0
Intercomm. Newfane	NA	NA	NA	NA
Interfaith Medical	NA	NA	NA	NA
JT Mather	10	144	6.9	7.2
Jacobi Medical	6	66	9.1	8.6
Jamaica Hospital	5	66	7.6	7.3
Jones Memorial*	0	22	0.0	0.0
Kenmore Mercy	1	137	0.7	0.8
Kings County	2	82	2.4	2.2
Kingsbrook Jewish	6	55	10.9	9.8
Kingston Hospital**	0	77	0.0	0.0
Lakeside Memorial	NA	NA	NA	NA
Lawrence	2	77	2.6	2.6
Lenox Hill	11	207	5.3	5.1
Lewis County	2	21	9.5	9.1
Lincoln Medical	2	73	2.7	2.5
Lockport Memorial	1	27	3.7	3.9
Long Beach	2	23	8.7	8.1
Long Island College^^	12	101	11.9	11.6
Long Island Jewish**	3	337	0.9	0.9
Lutheran Medical	4	128	3.1	3.2
Maimonides	16	233	6.9	6.9
Mary Immaculate	2	33	6.1	5.9
Mary Imogene Bassett	10	104	9.6	9.2

Data reported as of June 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk categories.
NA: Hospitals with less than 20 procedures.

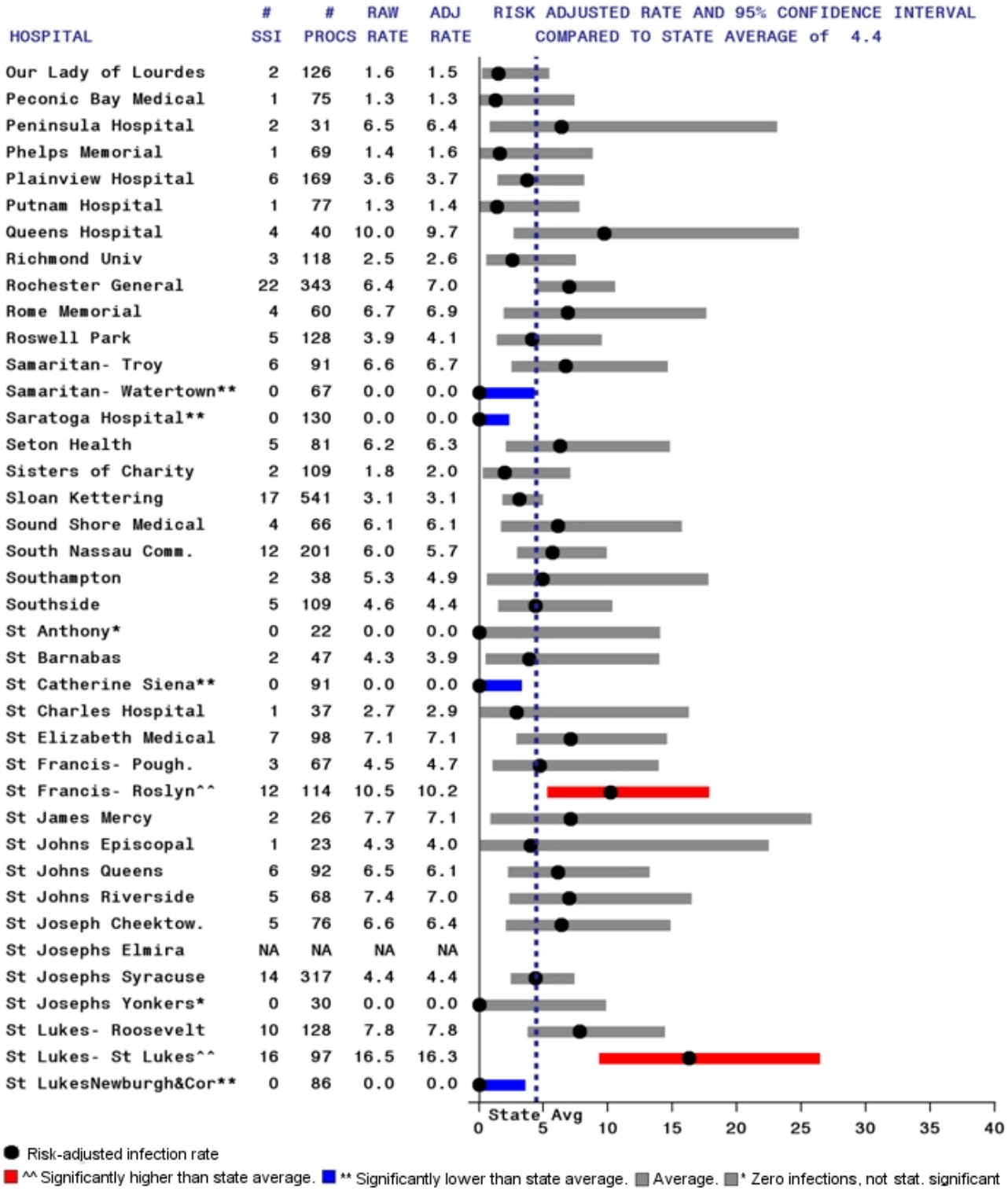
Figure V - Colon Surgical Site Infection Rates (page 3 of 5)



HOSPITAL	# SSI	# PROCS	RAW RATE	ADJ RATE
Massena Memorial	NA	NA	NA	NA
Medina Memorial*	0	24	0.0	0.0
Mercy Buffalo	11	204	5.4	5.8
Mercy Medical*	0	65	0.0	0.0
Metropolitan	5	42	11.9	11.8
Millard Fill. Gates	1	27	3.7	3.3
Millard Fill. Suburb	8	159	5.0	5.0
Montefiore-Einstein	3	129	2.3	2.3
Montefiore-Moses	11	212	5.2	5.2
Montifiore North	2	36	5.6	5.0
Mount Sinai	12	205	5.9	5.9
Mount Sinai Queens	4	65	6.2	5.9
Mount St. Marys^^	9	71	12.7	12.8
Mount Vernon*	0	21	0.0	0.0
NY Community Bklyn	3	45	6.7	6.2
NY Downtown	2	40	5.0	5.1
NY Med Ctr Queens	7	263	2.7	2.6
NY Methodist	1	103	1.0	1.0
NYP- Allen*	0	30	0.0	0.0
NYP- Columbia	19	301	6.3	6.3
NYP- Morgan Stanley	1	32	3.1	3.1
NYP- Weill Cornell	25	545	4.6	4.7
NYU Medical Center	11	223	4.9	4.8
Nassau University	2	22	9.1	9.0
Nathan Littauer	4	33	12.1	12.6
New Island	1	87	1.1	1.1
Newark Wayne	NA	NA	NA	NA
Niagara Falls*	0	23	0.0	0.0
North Central Bronx	NA	NA	NA	NA
North General	4	26	15.4	14.5
North Shore	23	536	4.3	4.2
Northern Dutchess*	0	20	0.0	0.0
Northern Westchester	5	110	4.5	4.8
Noyes Memorial	2	52	3.8	4.0
Nyack Hospital	7	125	5.6	5.0
Olean General	2	71	2.8	2.8
Oneida Healthcare	4	68	5.9	6.0
OrangeReg Goshen&Mid	7	188	3.7	3.7
Oswego Hospital*	0	31	0.0	0.0

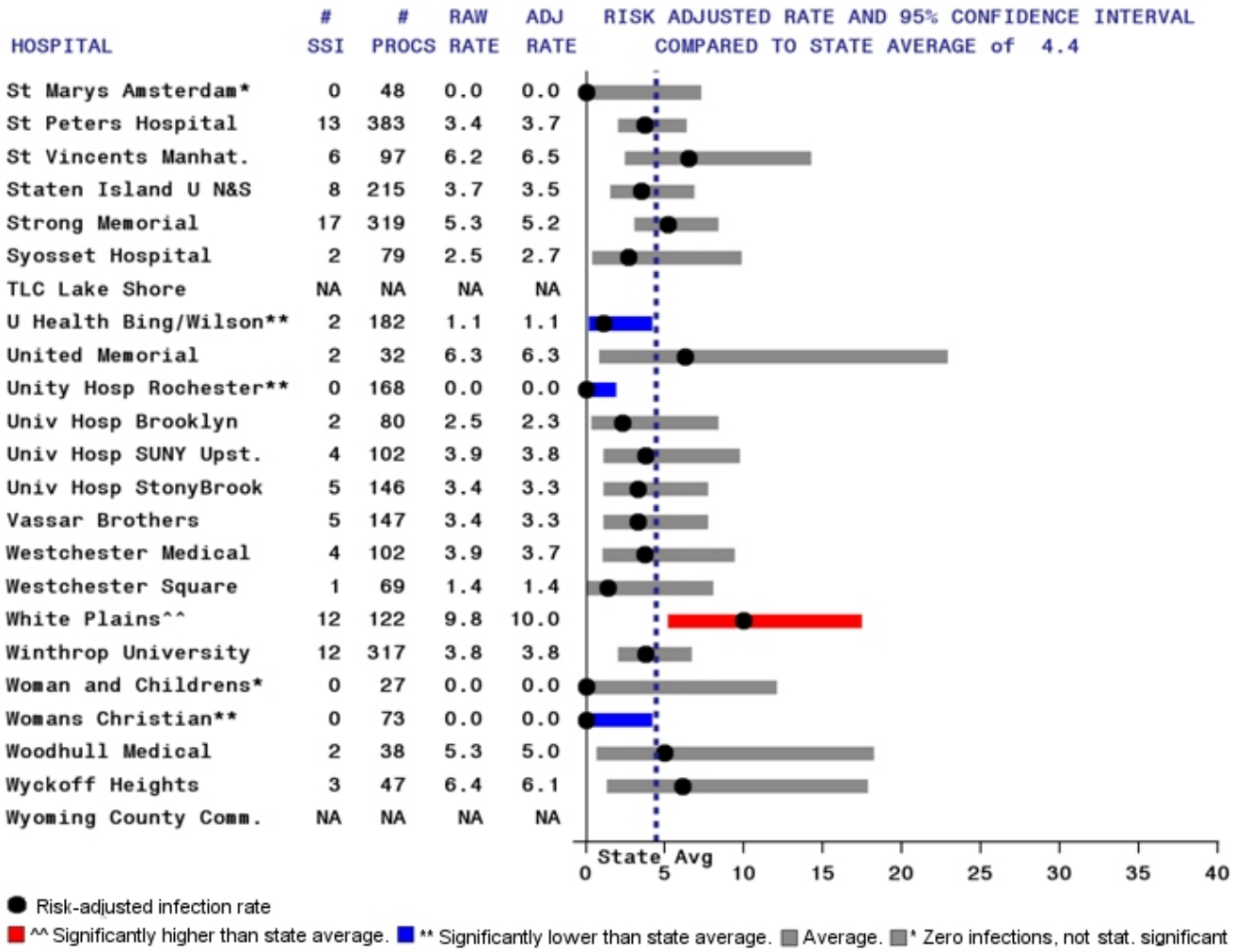
Data reported as of June 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk categories.
NA: Hospitals with less than 20 procedures.

Figure V - Colon Surgical Site Infection Rates (page 4 of 5)



Data reported as of June 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk categories.
NA: Hospitals with less than 20 procedures.

Figure V - Colon Surgical Site Infection Rates (page 5 of 5)



Data reported as of June 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk categories.
NA: Hospitals with less than 20 procedures.

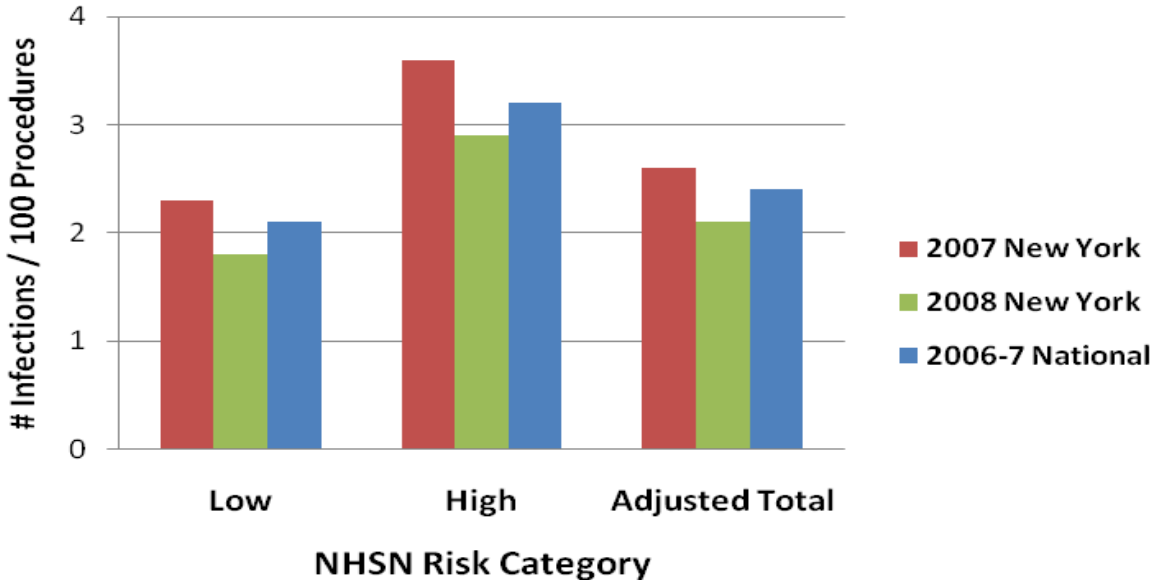
Table 2 - Microorganisms associated with Colon Surgical Site Infections, New York State 2008

Microorganism	Number of Isolates	Percent of Infections
Enterococci	227	25.7
(VRE)	(67)	(7.6)
Escherichia coli	204	23.1
Staphylococcus aureus	114	12.9
(MRSA)	(84)	(9.5)
Coagulase negative staphylococci	74	8.4
Pseudomonas sp.	74	8.4
Klebsiella sp.	67	7.6
Streptococci	52	5.9
Enterobacter sp.	50	5.7
Bacteriodes sp.	49	5.5
Candida albicans	21	2.4
Citrobacter sp.	18	2.0
Proteus mirabilis	17	1.9
Morganella morganii	13	1.5
Acinetobacter sp.	8	0.9
Clostridium sp.	8	0.9
Yeast	6	0.7
Other	42	4.8

New York State NHSN data reported as of April 8, 2009
Out of 883 colon surgical site infections (includes post-discharge events).

CABG Surgical Site Infection Tables – Chest Site Infections

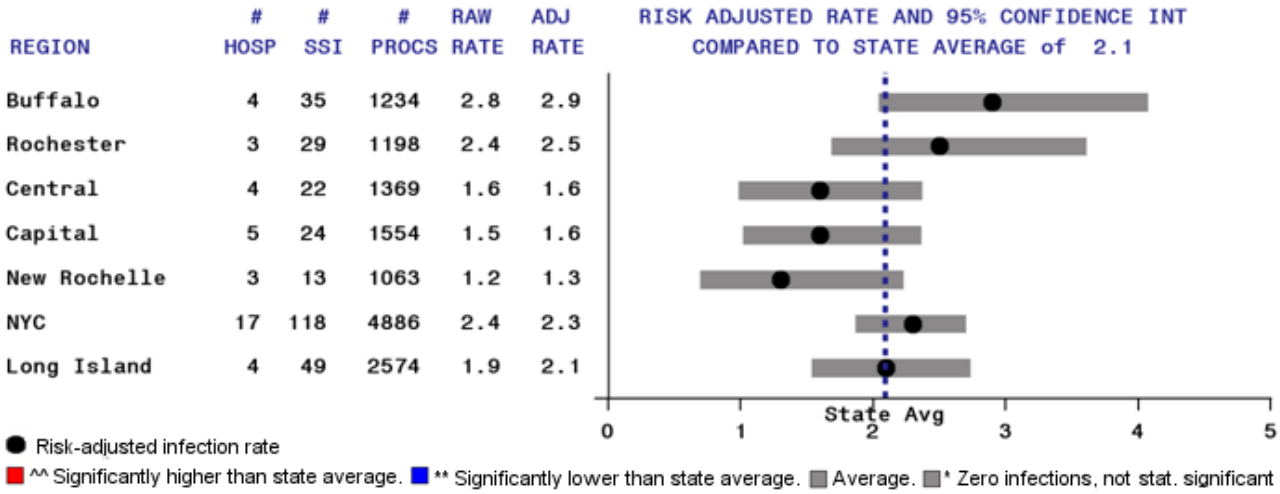
Figure VI - Comparison of New York State and National Coronary Artery Bypass Graft <u>Chest</u> Infection Rates



Risk Group	New York State 2007[1]				New York State 2008[1]					National 2006-7[2]		
	# Infect	# Proc	Rate	2007 vs. Nat	2008 vs. 2007	# Infect	# Proc.	Rate	2008 vs. Nat	# Infect	# Proc	Rate
Low	220	9,665	2.3	-	#L	178	9,579	1.9	-	1,096	51,794	2.1
High	166	4,602	3.6	-	#L	123	4,299	2.9	-	534	16,853	3.2
Total	386	14,267	2.7			301	13,878	2.2		1,630	68,647	2.4
	Adjusted Total[3]		2.6	-	#L	Adjusted Total[3]		2.1	*L			

[1] All New York State data reported as of April 6, 2009. NHSN procedures CBGB and CBGC. Includes non-readmitted cases identified using post discharge surveillance. Infect = Infections, Proc = Procedures, Nat = National, Rates are per 100 procedures.
[2] Most recently published National data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3] New York State data adjusted by NHSN risk category (Low = 0,1 High = 2,3)
#L indicates New York State 2008 is rate significantly lower than New York State 2007 rate
*L indicates New York State rate is significantly lower than National 2006-7 rate
- indicates no statistical difference between rates

Figure VII - Risk-adjusted Coronary Artery Bypass Chest Site Infection Rates, by Region, New York State 2008



Data reported as of April 6, 2009. NHSN procedure codes CBGB and CBGC.
Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures.
Adjusted using NHSN risk category, diabetes, BMI, ESRD, gender, COPD, and Medicaid.

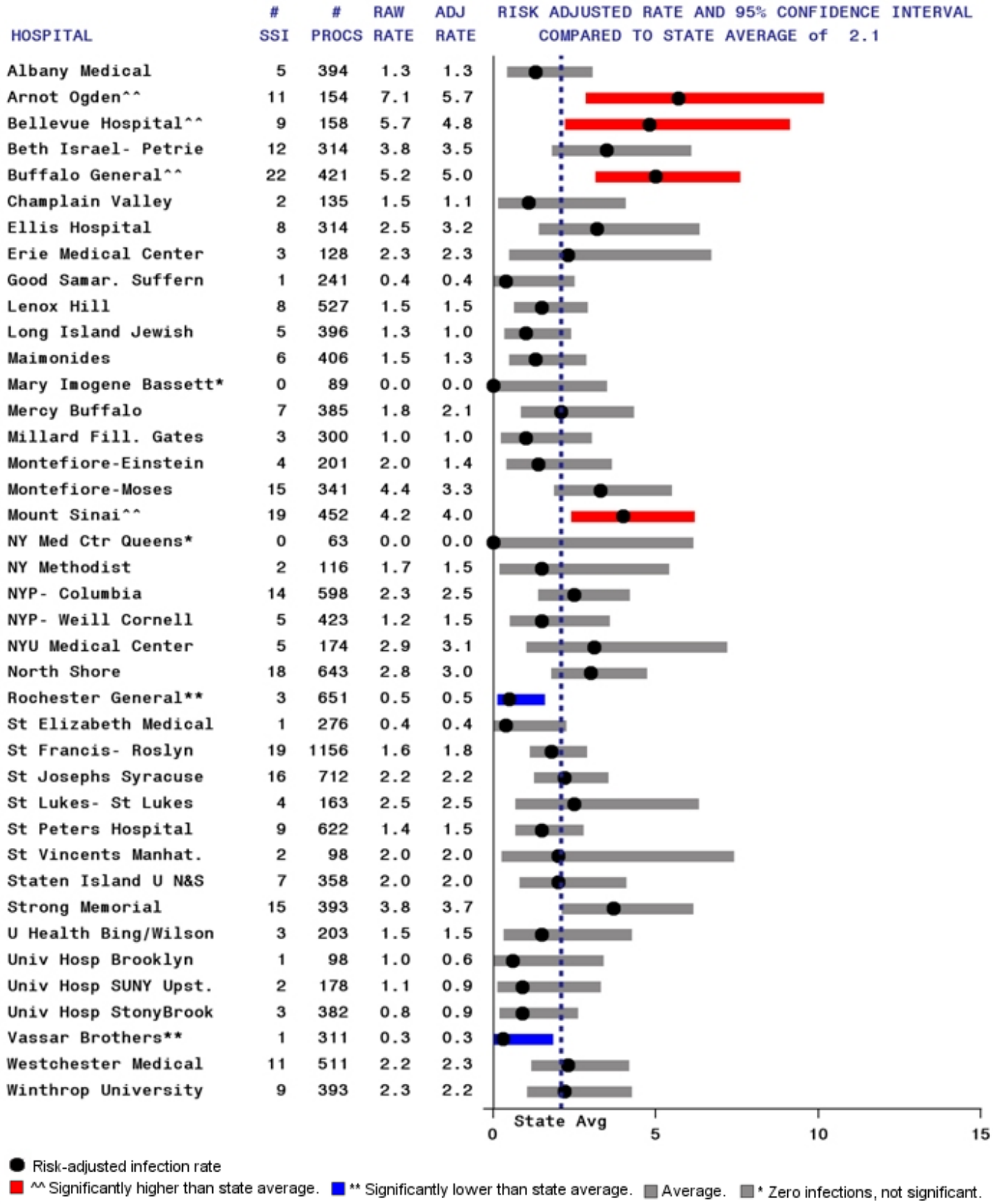
Table 3 - Method of Detection for Cardiac Artery Bypass Surgery Infections by Depth of Infection, New York State - 2008

Chest Site

Extent (Row%) (Col%)	When Detected				
	Initial Hospitalization	Readmitted to the Same Hospital	Readmitted to Another Hospital	Detected in Outpatient Settings	Total
Superficial	27 (27.8%) (28.4%)	56 (57.7%) (29.2%)	3 (3.1%) (100%)	11 (11.3%) (100%)	97 (32.2%)
Deep	37 (35.9%) (38.9%)	66 (64.1%) (34.4%)	0 (0%) (0%)	0 (0%) (0%)	103 (34.2%)
Organ Space	31 (30.7%) (32.6%)	70 (69.3%) (36.5%)	0 (0%) (0%)	0 (0%) (0%)	101 (33.6%)
Total	95 (31.6%)	192 (63.8%)	3 (1.0%)	11 (3.6%)	301

Data reported as of April 6, 2009. NHSN procedure codes CBGB and CBGC.

Figure VIII - Coronary Artery Bypass Graft Chest Site Infection Rates, New York State 2008



Data reported as of April 6, 2009. Excludes non-readmitted cases identified using post discharge surveillance. SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk category, diabetes, BMI, ESRD, gender, COPD, and Medicaid. NA: Hospitals with less than 20 procedures.

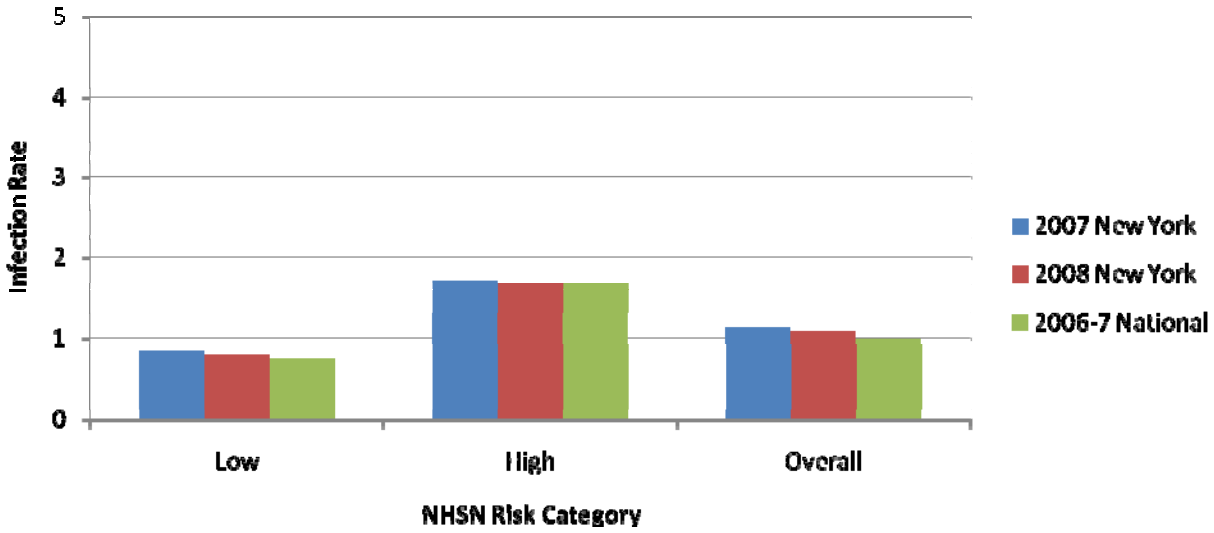
Table 4 - Microorganisms Identified in Coronary Artery Bypass Graft Surgery Chest Site Infections, New York State - 2008

Microorganism	Number Isolates	Percent of Infections
Staphylococcus aureus	114	37.9
(MRSA)	(47)	(15.6)
Coagulase negative staphylococci	62	20.6
Enterococci	19	6.3
(VRE)	(9)	(3.0)
Klebsiella sp.	18	6.0
Enterobacter sp.	18	6.0
Escherichia coli	16	5.3
Pseudomonas aeruginosa	16	5.3
Serratia marcescens	15	5.0
Proteus mirabilis	12	4.0
Candida albicans	7	2.3
Streptococci	7	2.3
Citrobacter sp.	5	1.7
Acinetobacter sp.	5	1.7
Other	14	4.7

New York State Data reported as of April 6, 2009.
Out of 301 chest infections (includes post-discharge surveillance).

CABG Surgical Site Infection Rate Tables – Donor Vessel Site Infections

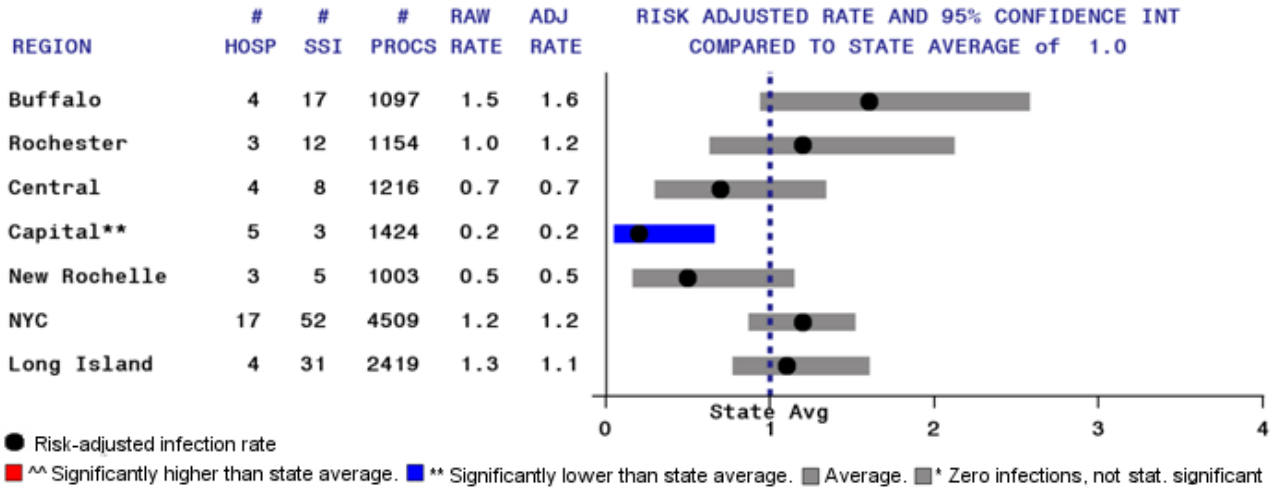
Figure IX - Comparison of New York State and National Coronary Artery Bypass Graft <u>Donor Site</u> Infection Rates



Risk Group	New York State 2007[1]				New York State 2008[1]					National 2006-7[2]		
	# Infect	# Proc	Rate	2007 vs. Nat	2008 vs. 2007	# Infect	# Proc.	Rate	2008 vs. Nat	# Infect	# Proc	Rate
Low	76	8,917	0.9	-	-	71	8,824	0.8	-	363	48,299	0.8
High	73	4,286	1.7	-	-	67	3,998	1.7	-	266	15,706	1.7
Total	149	13,203	1.1		-	138	12,822	1.1		629	64,005	1.0
	Adjusted Total[3]		1.0	-		Adjusted Total[3]		1.0	-			

[1] All New York State data reported as of April 6, 2009. NHSN procedure CBGB. Includes non-readmitted cases identified using post discharge surveillance and more than one donor site infection per person.
Infect = Infections, Proc = Procedures, Nat = National, Rates are per 100 procedures.
[2] Most recently published National data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3] New York State data adjusted by NHSN risk category (Low = 0,1 High = 2,3)
- indicates no statistical difference between rates

Figure X - Risk-adjusted Coronary Artery Bypass Donor Site Infection Rates, by Region, New York State 2008



Data reported as of April 6, 2009. NHSN procedure code CBGB.
Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures.
Adjusted using NHSN risk categories, BMI, CHF, gender, age, emergency/trauma, and COPD.

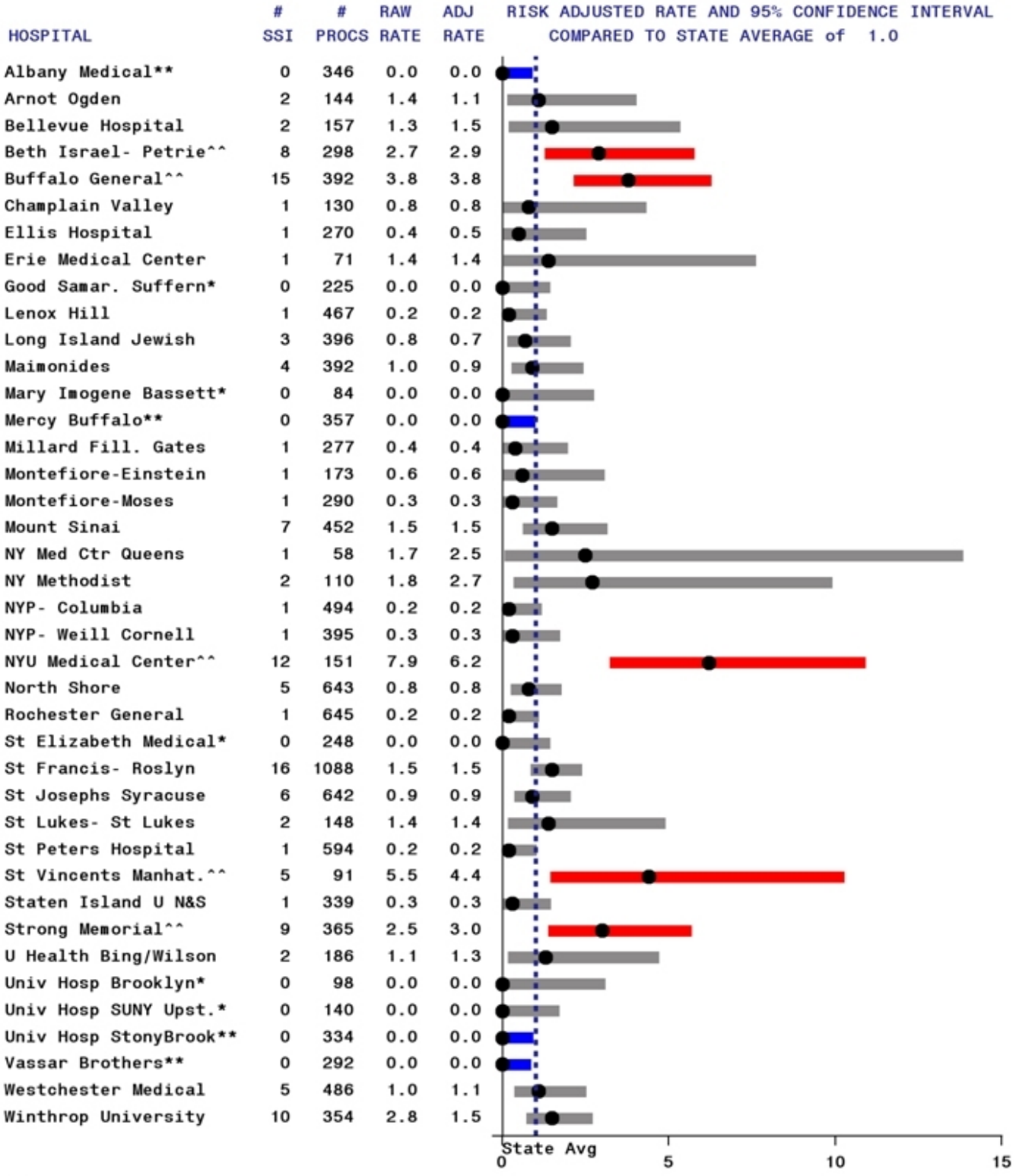
Table 5 - Method of Detection for Cardiac Artery Bypass Surgery Infections by Depth of Infection, New York State 2008

Donor Site

Extent (Row%) (Col%)	When Detected				
	Initial Hospitalization	Readmission to Same Hospital	Readmitted to Different Hospital	Detection in Outpatient Setting	Total
Superficial	13 (32.5%) (25.0%)	27 (67.5%) (36.0%)	0 (0%) (0%)	0 (0%) (0%)	40 (29.4%)
Deep	39 (40.6%) (75.0%)	48 (50.0%) (64.0%)	1 (1.0%) (100%)	8 (8.3%) (100%)	96 (70.6%)
Total	52 (38.2%)	75 (55.1%)	1 (0.7%)	8 (5.9%)	136

New York State Data reported as of April 6, 2009. NHSN procedure code CBGB.
Only one donor site infection per person is counted.

Figure XI - Coronary Artery Bypass Graft Donor Site Infection Rates, New York State 2008



Data as of April 6, 2009. NHSN code CBGB. Excludes non-readmitted cases identified using post discharge surveillance. Only one donor site infection per person is counted. Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk categories, BMI,CHF, gender, age, emergency/trauma, and COPD.
NA: Hospitals with less than 20 procedures.

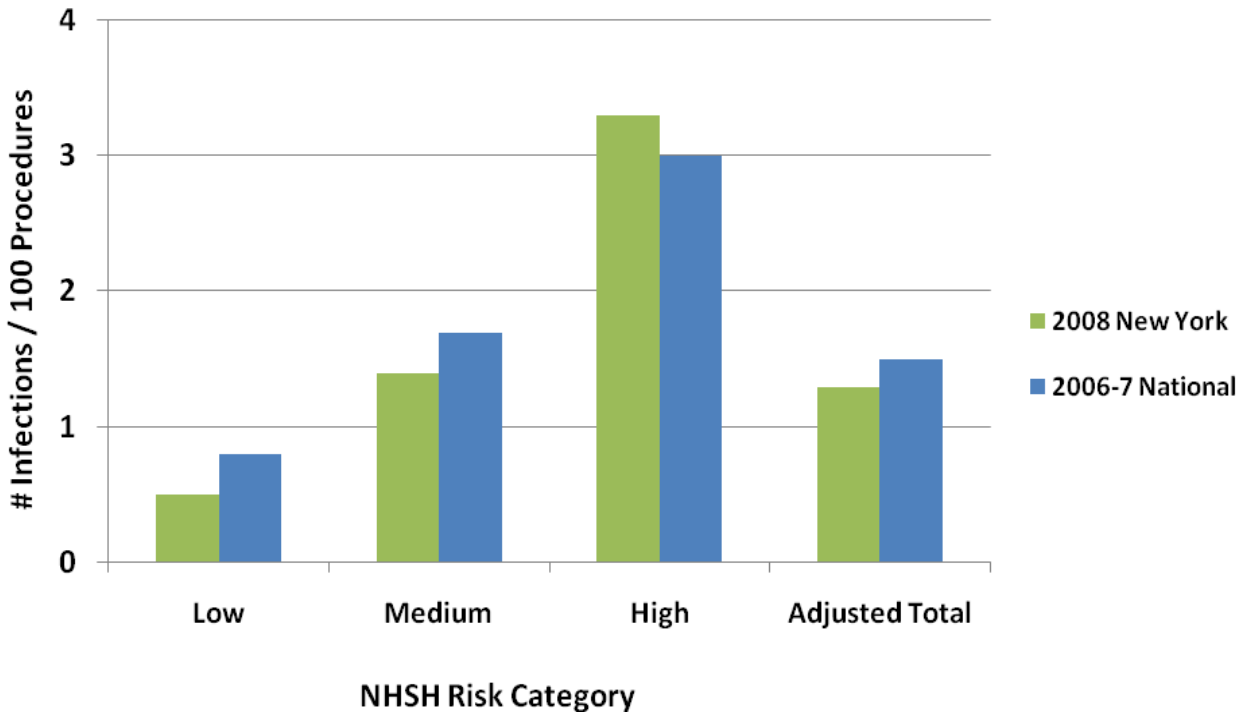
Table 6 - Microorganisms Identified in Coronary Artery Bypass Graft Surgery Donor Site Infections, New York State - 2008

Microorganism	Number Isolates	Percent Infections
Staphylococcus aureus	33	23.9
(MRSA)	(8)	(5.8)
Pseudomonas aeruginosa	17	12.3
Coagulase negative staphylococci	18	13.0
Enterococci	17	12.3
(VRE)	(9)	(6.5)
Escherichia coli	16	11.6
Proteus mirabilis	14	10.1
Klebsiella sp.	11	8.0
Enterobacter sp.	6	4.3
Streptococci	4	2.9
Acinetobacter sp.	3	2.2
Other	10	7.2

New York State Data reported as of April 6, 2009.
Out of 138 donor site infections (includes post-discharge surveillance).

Hip Replacement/Revision Surgical Site Infection Rate Tables

Figure XII - Comparison of New York State and National Hip Replacement Surgical Site Infection Rates



Risk Croup	New York State Data 2008[1]				National Data 2006-2007[2]		
	# Infect	# Proc	Rate	2008 vs National	# Infect	# Proc	Rate
Low	48	10,196	0.5	*L	131	17,521	0.8
Medium	150	11,101	1.4	*L	380	22,681	1.7
High	76	2,314	3.3	-	163	5,492	3.0
Total	274	23,611	1.2		674	45,694	1.5
	Adjusted Total[3]		1.3	-			

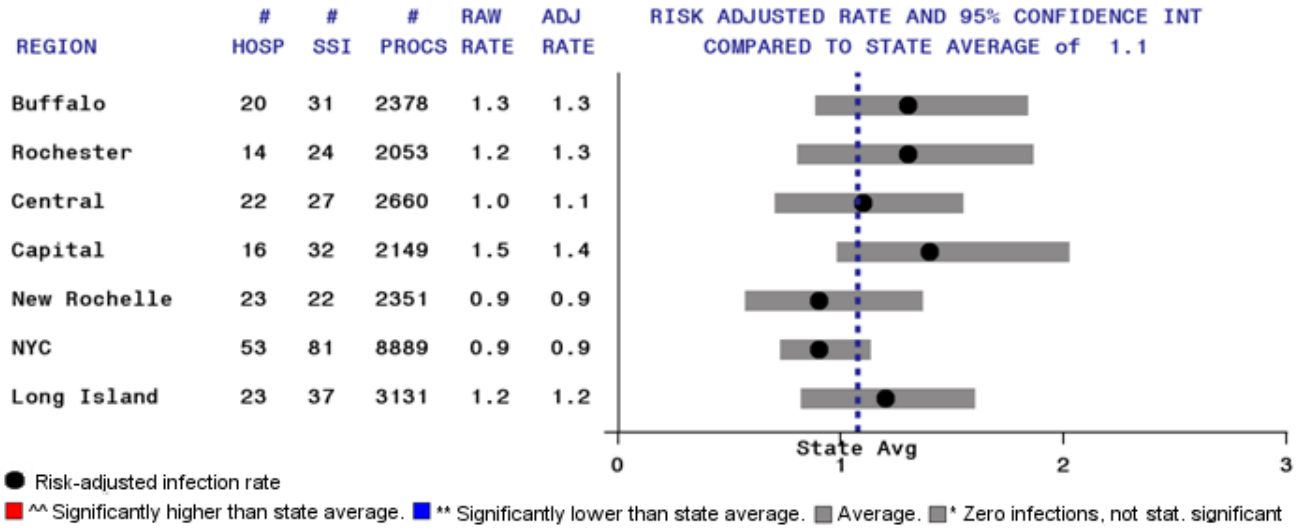
[1] New York State data reported as of April 8, 2009. Infect = Infections, Proc = Procedures. Includes non-readmitted cases identified using post discharge surveillance.
[2] Most recently published National data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3]New York State data adjusted by NHSN risk category (low=0, medium=1,high=2,3)
*L indicates New York State rate is significantly lower than National 2006-7 rate
- indicates no statistical difference between rates

Table 7 - Method of Detection for Hip Replacement Surgical Site Infections by Depth of infection, New York State 2008

Extent (Row%) (Col%)	When Detected				
	Initial Hospitalization	Readmitted to the Same Hospital	Readmitted to Another Hospital	Detected in Outpatient Settings	Total
Superficial Incisional	16 (17.8%) (50.0%)	56 (62.2%) (26.3%)	0 (0.0%) (0.0%)	18 (20.0%) (90.0%)	90 (32.8%)
Deep Incisional	14 (11.3%) (43.8%)	102 (82.3%) (47.9%)	6 (4.8%) (66.7%)	2 (1.6%) (10.0%)	124 (45.3%)
Organ Space	2 (3.3%) (6.2%)	55 (91.7%) (25.8%)	3 (5.0%) (33.3%)	0 (0.0%) (0.0%)	60 (21.9%)
Total	32 (11.7%)	213 (77.7%)	9 (3.3%)	20 (7.3%)	274

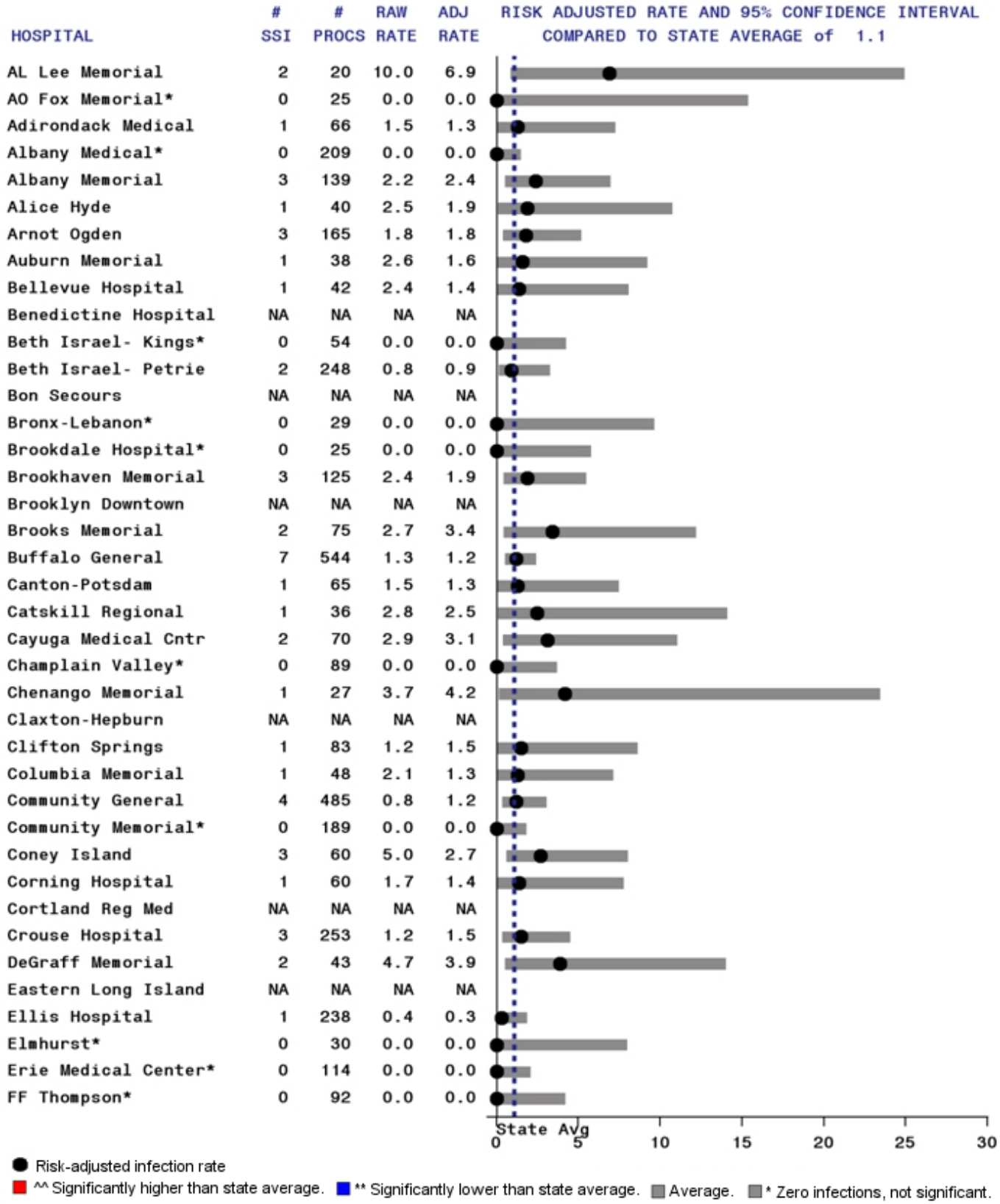
New York State data reported as of April 8, 2009

Figure XIII - Risk-adjusted Hip Replacement Infection Rates, by Region, New York State 2008



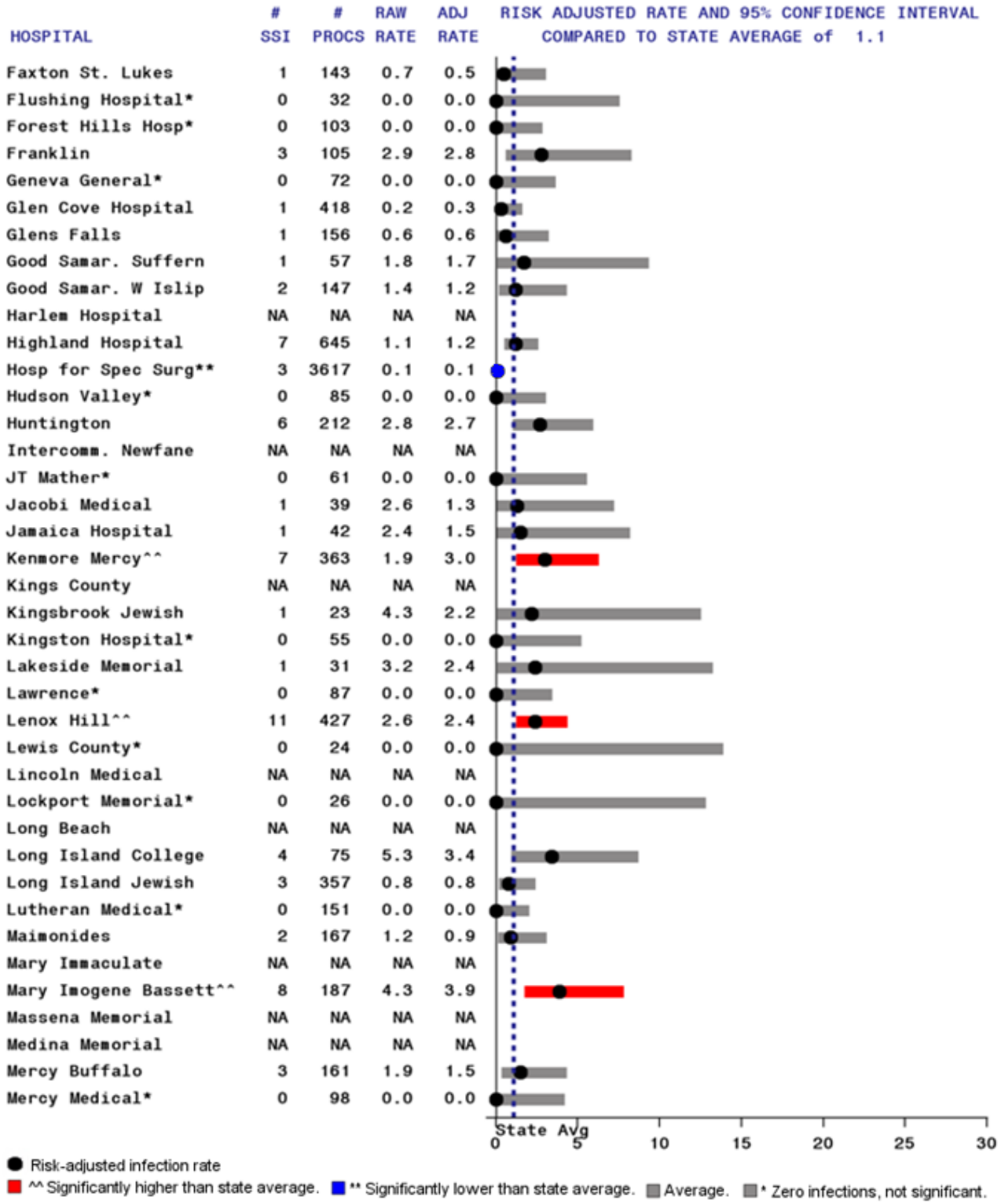
Data reported as of April 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance.
SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures.
Adjusted using NHSN risk categories and type of procedure.

Figure XIV - Hip Replacement Surgical Site Infection Rates, New York State 2008 (page 1 of 5)



Data reported as of April 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance. SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk category and type of procedure (initial/revision,total/partial). NA: Hospitals with less than 20 procedures.

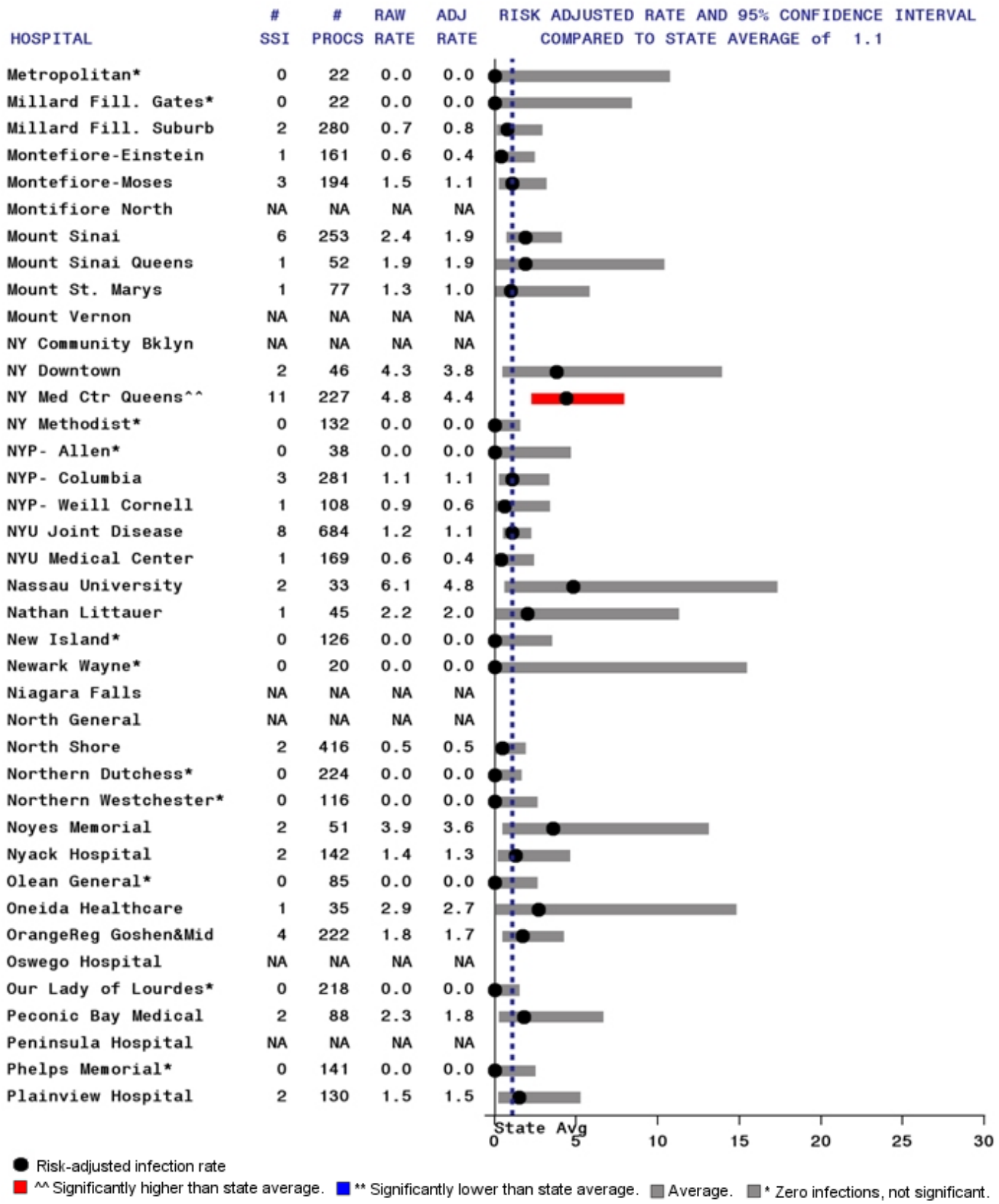
Figure XIV - Hip Replacement Surgical Site Infection Rates (page 2 of 5)



HOSPITAL	# SSI	# PROCS	RAW RATE	ADJ RATE
Faxton St. Lukes	1	143	0.7	0.5
Flushing Hospital*	0	32	0.0	0.0
Forest Hills Hosp*	0	103	0.0	0.0
Franklin	3	105	2.9	2.8
Geneva General*	0	72	0.0	0.0
Glen Cove Hospital	1	418	0.2	0.3
Glens Falls	1	156	0.6	0.6
Good Samar. Suffern	1	57	1.8	1.7
Good Samar. W Islip	2	147	1.4	1.2
Harlem Hospital	NA	NA	NA	NA
Highland Hospital	7	645	1.1	1.2
Hosp for Spec Surg**	3	3617	0.1	0.1
Hudson Valley*	0	85	0.0	0.0
Huntington	6	212	2.8	2.7
Intercomm. Newfane	NA	NA	NA	NA
JT Mather*	0	61	0.0	0.0
Jacobi Medical	1	39	2.6	1.3
Jamaica Hospital	1	42	2.4	1.5
Kenmore Mercy^^	7	363	1.9	3.0
Kings County	NA	NA	NA	NA
Kingsbrook Jewish	1	23	4.3	2.2
Kingston Hospital*	0	55	0.0	0.0
Lakeside Memorial	1	31	3.2	2.4
Lawrence*	0	87	0.0	0.0
Lenox Hill^^	11	427	2.6	2.4
Lewis County*	0	24	0.0	0.0
Lincoln Medical	NA	NA	NA	NA
Lockport Memorial*	0	26	0.0	0.0
Long Beach	NA	NA	NA	NA
Long Island College	4	75	5.3	3.4
Long Island Jewish	3	357	0.8	0.8
Lutheran Medical*	0	151	0.0	0.0
Maimonides	2	167	1.2	0.9
Mary Immaculate	NA	NA	NA	NA
Mary Imogene Bassett^^	8	187	4.3	3.9
Massena Memorial	NA	NA	NA	NA
Medina Memorial	NA	NA	NA	NA
Mercy Buffalo	3	161	1.9	1.5
Mercy Medical*	0	98	0.0	0.0

Data reported as of April 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance. SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk category and type of procedure (initial/revision, total/partial). NA: Hospitals with less than 20 procedures.

Figure XIV - Hip Replacement Surgical Site Infection Rates (page 3 of 5)

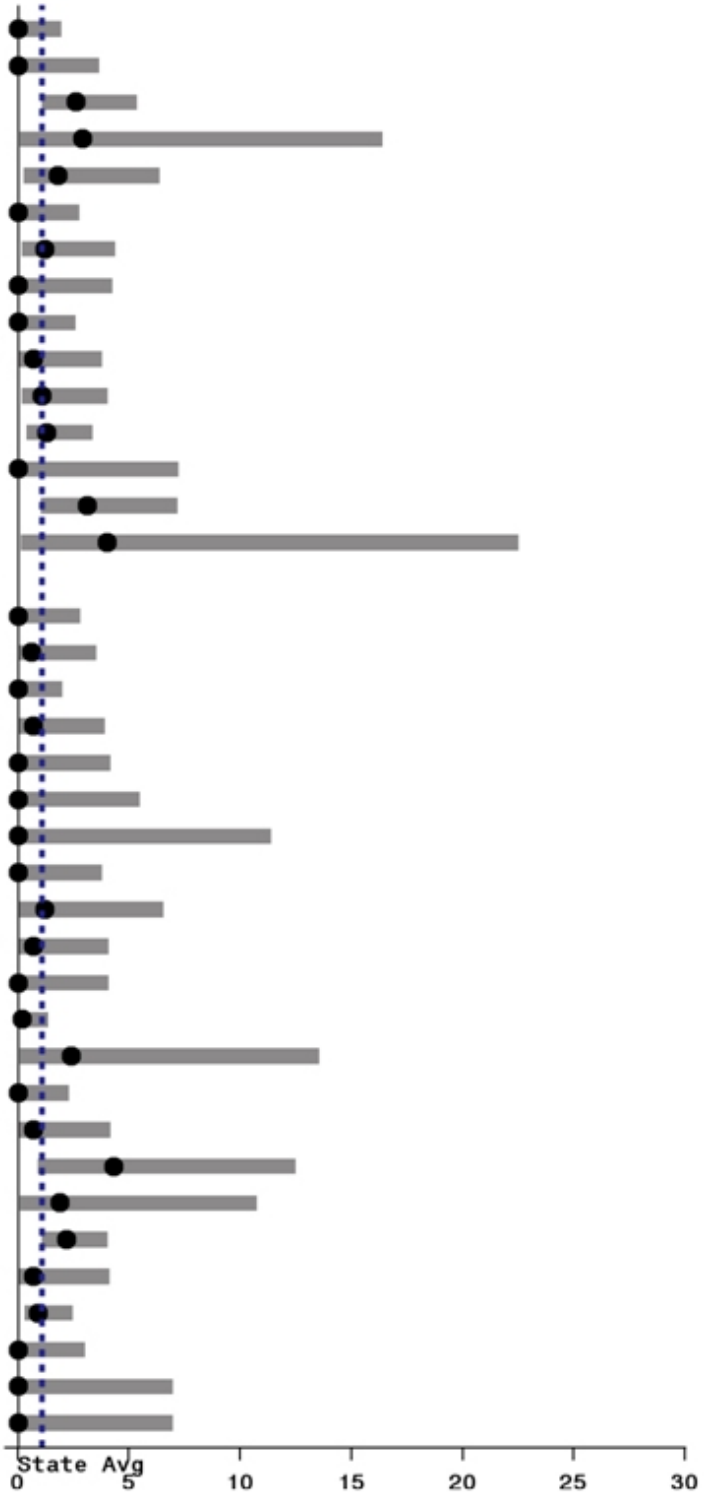


HOSPITAL	# SSI	# PROCS	RAW RATE	ADJ RATE
Metropolitan*	0	22	0.0	0.0
Millard Fill. Gates*	0	22	0.0	0.0
Millard Fill. Suburb	2	280	0.7	0.8
Montefiore-Einstein	1	161	0.6	0.4
Montefiore-Moses	3	194	1.5	1.1
Montifiore North	NA	NA	NA	NA
Mount Sinai	6	253	2.4	1.9
Mount Sinai Queens	1	52	1.9	1.9
Mount St. Marys	1	77	1.3	1.0
Mount Vernon	NA	NA	NA	NA
NY Community Bklyn	NA	NA	NA	NA
NY Downtown	2	46	4.3	3.8
NY Med Ctr Queens^^	11	227	4.8	4.4
NY Methodist*	0	132	0.0	0.0
NYP- Allen*	0	38	0.0	0.0
NYP- Columbia	3	281	1.1	1.1
NYP- Weill Cornell	1	108	0.9	0.6
NYU Joint Disease	8	684	1.2	1.1
NYU Medical Center	1	169	0.6	0.4
Nassau University	2	33	6.1	4.8
Nathan Littauer	1	45	2.2	2.0
New Island*	0	126	0.0	0.0
Newark Wayne*	0	20	0.0	0.0
Niagara Falls	NA	NA	NA	NA
North General	NA	NA	NA	NA
North Shore	2	416	0.5	0.5
Northern Dutchess*	0	224	0.0	0.0
Northern Westchester*	0	116	0.0	0.0
Noyes Memorial	2	51	3.9	3.6
Nyack Hospital	2	142	1.4	1.3
Olean General*	0	85	0.0	0.0
Oneida Healthcare	1	35	2.9	2.7
OrangeReg Goshen&Mid	4	222	1.8	1.7
Oswego Hospital	NA	NA	NA	NA
Our Lady of Lourdes*	0	218	0.0	0.0
Peconic Bay Medical	2	88	2.3	1.8
Peninsula Hospital	NA	NA	NA	NA
Phelps Memorial*	0	141	0.0	0.0
Plainview Hospital	2	130	1.5	1.5

Data reported as of April 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance. SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk category and type of procedure (initial/revision, total/partial). NA: Hospitals with less than 20 procedures.

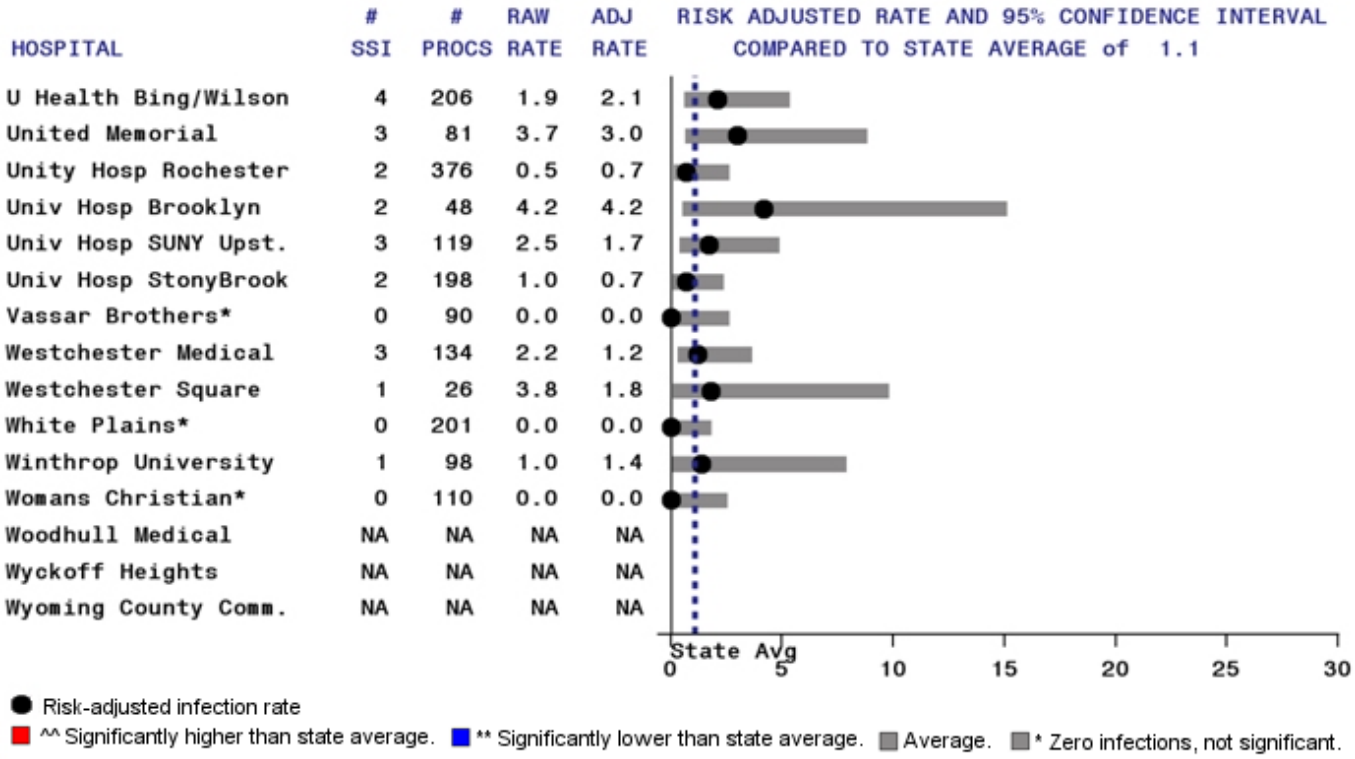
Figure XIV - Hip Replacement Surgical Site Infection Rates (page 4 of 5)

HOSPITAL	# SSI	# PROCS	RAW RATE	ADJ RATE
Putnam Hospital*	0	201	0.0	0.0
Richmond Univ*	0	65	0.0	0.0
Rochester General	7	326	2.1	2.6
Rome Memorial	1	34	2.9	2.9
Samaritan- Troy	2	93	2.2	1.8
Samaritan- Watertown*	0	137	0.0	0.0
Saratoga Hospital	2	151	1.3	1.2
Seton Health*	0	75	0.0	0.0
Sisters of Charity*	0	153	0.0	0.0
Sloan Kettering	1	59	1.7	0.7
Sound Shore Medical	2	149	1.3	1.1
South Nassau Comm.	4	244	1.6	1.3
Southampton*	0	46	0.0	0.0
Southside	5	146	3.4	3.1
St Anthony	1	32	3.1	4.0
St Barnabas	NA	NA	NA	NA
St Catherine Siena*	0	107	0.0	0.0
St Charles Hospital	1	218	0.5	0.6
St Elizabeth Medical*	0	149	0.0	0.0
St Francis- Pough.	1	152	0.7	0.7
St Francis- Roslyn*	0	58	0.0	0.0
St James Mercy*	0	37	0.0	0.0
St Johns Episcopal*	0	22	0.0	0.0
St Johns Queens*	0	51	0.0	0.0
St Johns Riverside	1	66	1.5	1.2
St Joseph Cheektow.	1	140	0.7	0.7
St Josephs Elmira*	0	45	0.0	0.0
St Josephs Syracuse	1	412	0.2	0.2
St Josephs Yonkers	1	36	2.8	2.4
St Lukes- Roosevelt*	0	124	0.0	0.0
St Lukes- St Lukes	1	128	0.8	0.7
St LukesNewburgh&Cor	3	86	3.5	4.3
St Marys Amsterdam	1	67	1.5	1.9
St Peters Hospital	10	521	1.9	2.2
St Vincents Manhat.	1	102	1.0	0.7
Staten Island U N&S	4	222	1.8	0.9
Strong Memorial*	0	50	0.0	0.0
Syosset Hospital*	0	37	0.0	0.0
TLC Lake Shore*	0	52	0.0	0.0



Data reported as of April 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance. SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk category and type of procedure (initial/revision, total/partial). NA: Hospitals with less than 20 procedures.

Figure XIV - Hip Replacement Surgical Site Infection Rates (page 5 of 5)



Data reported as of April 8, 2009. Excludes non-readmitted cases identified using post discharge surveillance. SSI=surgical site infections; Procs=procedures; Rates are per 100 procedures. Adjusted using NHSN risk category and type of procedure (initial/revision, total/partial). NA: Hospitals with less than 20 procedures.

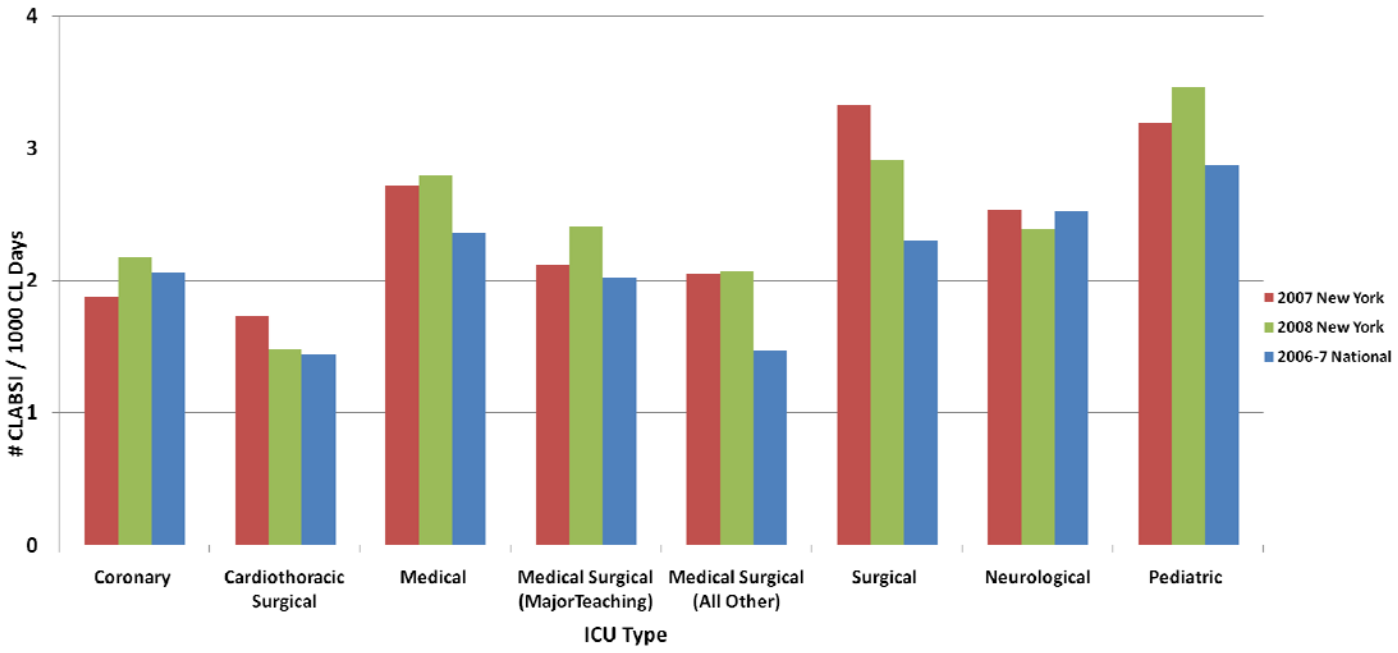
Table 8 - Microorganisms Identified in Hip Replacement Surgical Site Infections, New York State - 2008

Microorganism	Number of Isolates	Percent of Infections
Staphylococcus aureus	145	52.9
(MRSA)	(79)	(28.8)
Coagulase negative staphylococci	37	13.5
Enterococci	26	9.5
(VRE)	(9)	(3.3)
Escherichia coli	25	9.1
Pseudomonas aeruginosa	24	8.7
Proteus mirabilis	13	4.7
Klebsiella species	9	3.3
Acinetobacter baumannii	7	2.6
Streptococci	6	2.2
Candida albicans	3	1.1

New York State data reported as of April 8, 2009. 274 infections.

CLABSI Rate Tables – Adult/Pediatric Intensive Care Units

Figure XV - Comparison of New York State and National Central Line Associated Blood Stream Infection (CLABSI) Rates by ICU Type



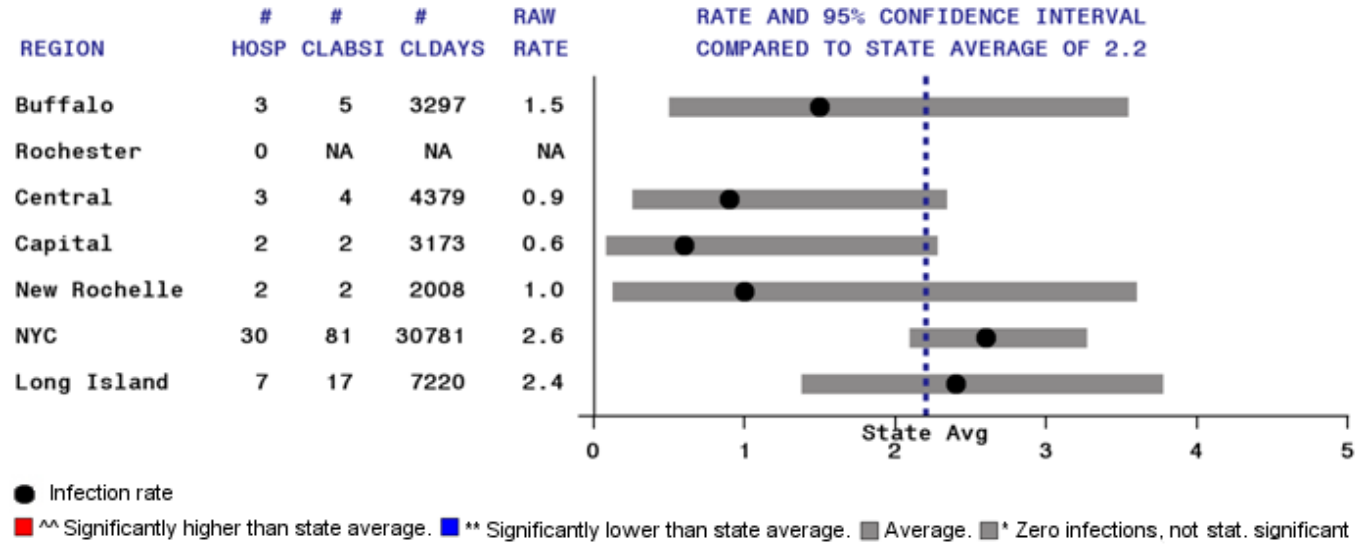
ICU Type	New York State 2007[1]				New York State2008[1]					National 2006-7[2]		
	# CLABSI	# CL Days	Rate	2007 vs. Nat	2008 vs. 2007	# CLA BSI	# CL Days	Rate	2008 vs. Nat	# CLA BSI	# CL Days	Rate
Coronary	74	39,312	1.9	-	-	111	50,858	2.2	-	373	181,079	2.1
Cardiothoracic Surgical	109	62,962	1.7	*H	#L	109	73,679	1.5	-	397	275,194	1.4
Medical	191	70,157	2.7	*H	#H	245	87,785	2.8	*H	1,073	454,838	2.4
Medical Surgical (MajorTeaching)	100	47,447	2.1	-	-	117	48,030	2.4	*H	692	342,214	2.0
Medical Surgical (All Other)	331	160,858	2.1	*H	-	359	174,178	2.1	*H	972	662,489	1.5
Surgical	221	66,400	3.3	*H	#L	220	75,544	2.9	*H	881	383,126	2.3
Neurological	37	14,580	2.5	-		42	17,577	2.4	-	173	68,550	2.5
Pediatric	90	28,173	3.2	-		103	29,698	3.5	*H	404	140,848	2.9

[1] New York State data reported as of April 8, 2009. Includes untreated events with single contaminated specimen.
CL Days = Central Line Days, Nat = National, Rates are per 1000 CL Days.
[2] Most recently published National data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
*H indicates New York State rate is significantly higher than National 2006-7 rate.
#L,#H indicates New York State 2008 rate is significantly lower or higher than New York State 2007 rate.
- Indicates not statistical difference between rates.

Adult/Pediatric CLABSI Rates by Region by Type of ICU

Figure XVI - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Coronary Intensive Care Units, by Region, New York State 2008

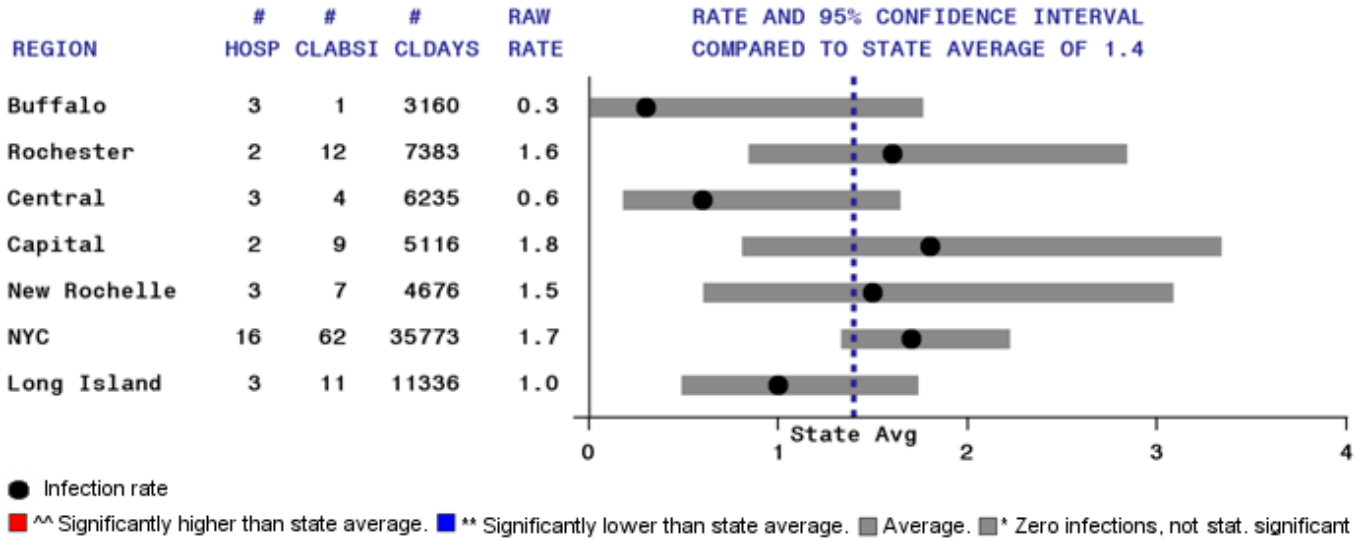
REGION	# HOSP	# CLABSI	# CLDAYS	RAW RATE
Buffalo	3	5	3297	1.5
Rochester	0	NA	NA	NA
Central	3	4	4379	0.9
Capital	2	2	3173	0.6
New Rochelle	2	2	2008	1.0
NYC	30	81	30781	2.6
Long Island	7	17	7220	2.4



Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: No hospitals in region have coronary intensive care units.
Excludes untreated events with single contaminated specimen.

Figure XVII - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Cardiothoracic Intensive Care Units, by Region, New York State 2008

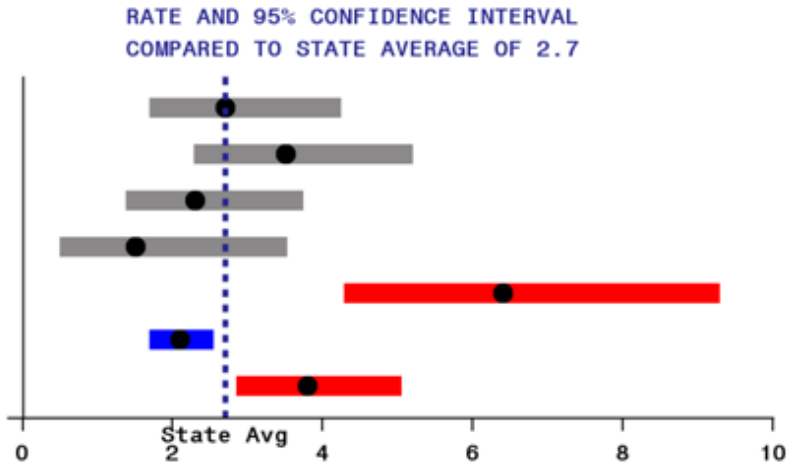
REGION	# HOSP	# CLABSI	# CLDAYS	RAW RATE
Buffalo	3	1	3160	0.3
Rochester	2	12	7383	1.6
Central	3	4	6235	0.6
Capital	2	9	5116	1.8
New Rochelle	3	7	4676	1.5
NYC	16	62	35773	1.7
Long Island	3	11	11336	1.0



Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
Excludes untreated events with single contaminated specimen.

Figure XVIII - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Medical Intensive Care Units, by Region, New York State - 2008

REGION	# HOSP	# CLABSI	# CLDAYS	RAW RATE
Buffalo	4	20	7300	2.7
Rochester	4	25	7117	3.5
Central	4	17	7289	2.3
Capital	1	5	3321	1.5
New Rochelle^^	4	28	4360	6.4
NYC**	20	94	45306	2.1
Long Island^^	6	50	13092	3.8



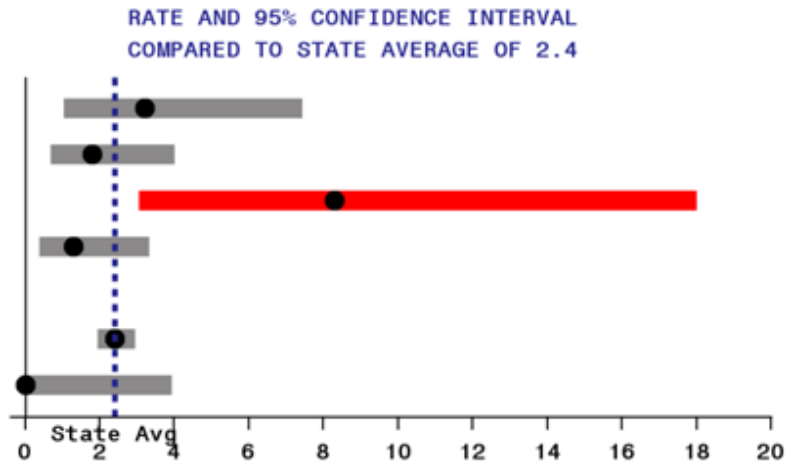
● Infection rate

■ ^^ Significantly higher than state average. ■ ** Significantly lower than state average. ■ Average. ■ * Zero infections, not stat. significant

Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
Excludes untreated events with single contaminated specimen.

Figure XIX - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Medical-Surgical Intensive Care Units in Major Teaching Hospitals, by Region, New York State 2008

REGION	# HOSP	# CLABSI	# CLDAYS	RAW RATE
Buffalo	1	5	1576	3.2
Rochester	1	6	3266	1.8
Central^^	1	6	726	8.3
Capital	1	4	3086	1.3
New Rochelle	0	NA	NA	NA
NYC	12	92	38432	2.4
Long Island*	1	0	944	0.0

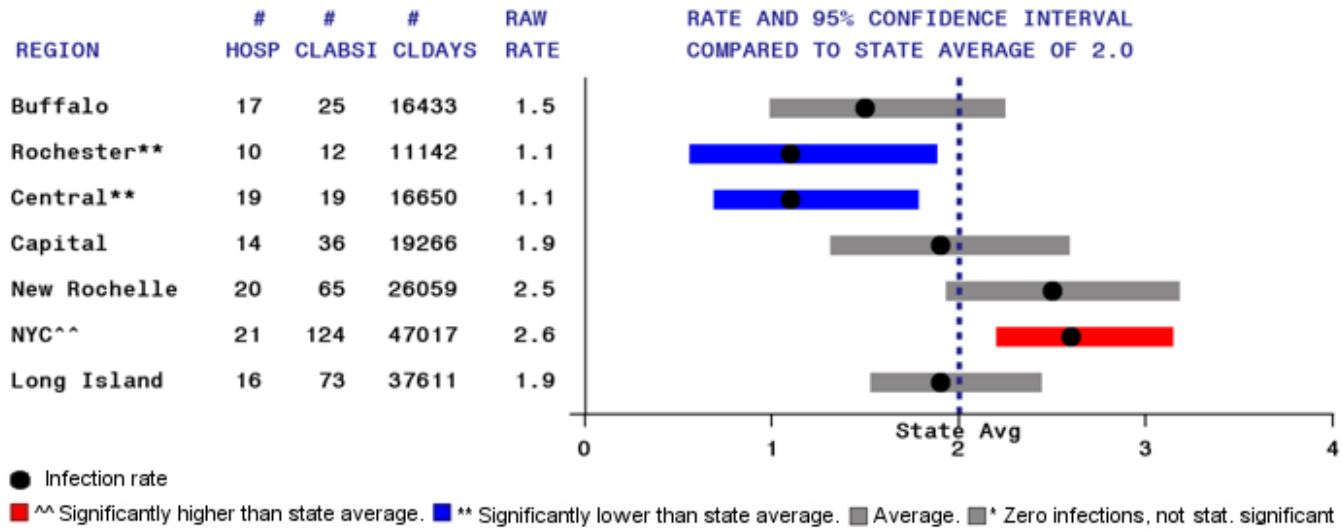


● Infection rate

■ ^^ Significantly higher than state average. ■ ** Significantly lower than state average. ■ Average. ■ * Zero infections, not stat. significant

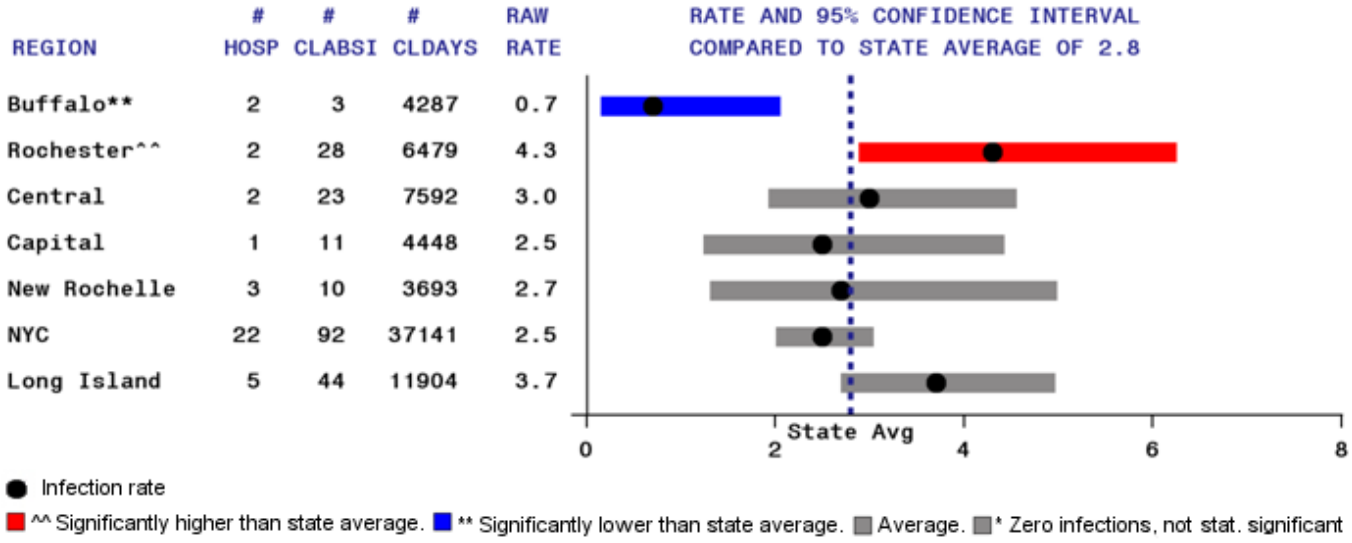
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: No teaching hospitals in region with medical-surgical intensive care units.
Excludes untreated events with single contaminated specimen.

Figure XX - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Medical-Surgical Intensive Care Units in Non-Major Teaching Hospitals, by Region, New York State 2008



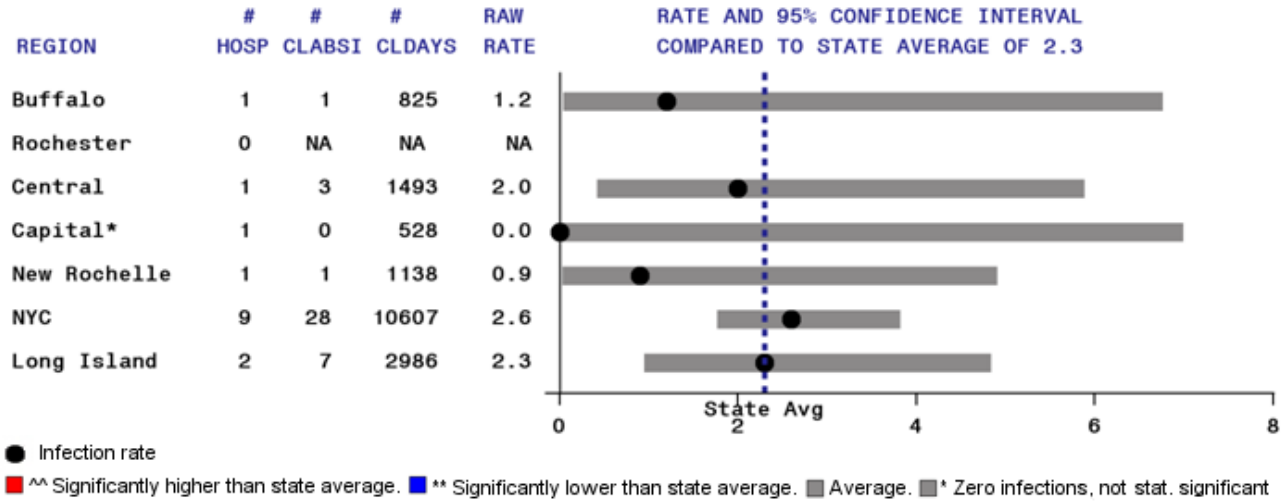
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
Excludes untreated events with single contaminated specimen.

Figure XXI - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Surgical Intensive Care Units, by Region, New York State 2008



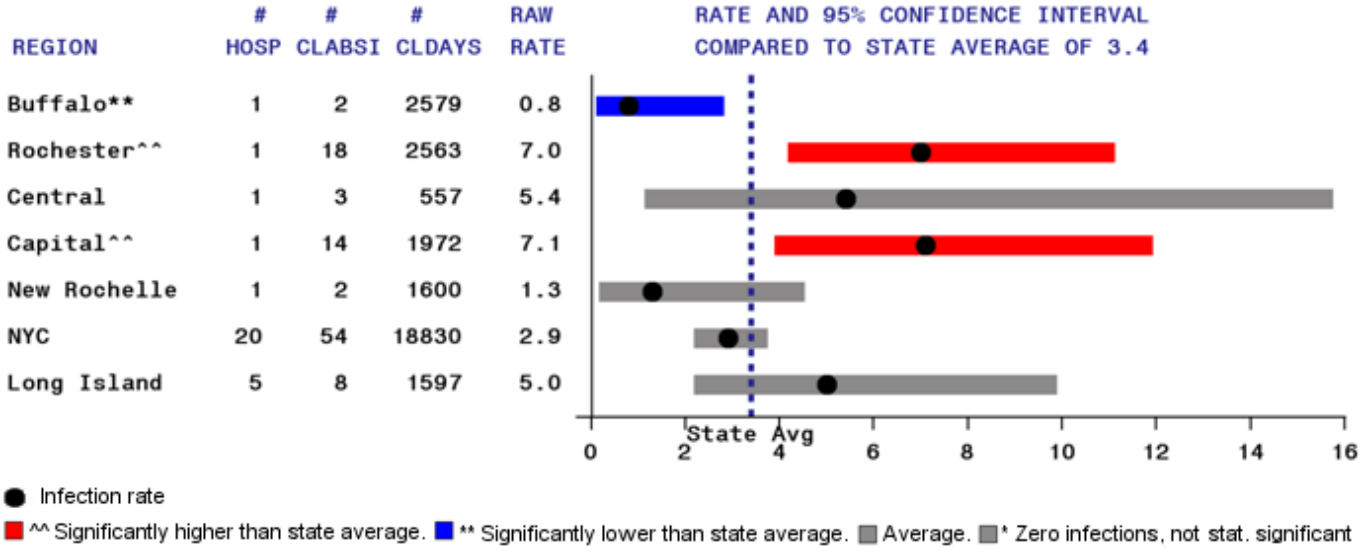
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
Excludes untreated events with single contaminated specimen.

Figure XXII - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Neurosurgical Intensive Care Units, by Region, New York State 2008



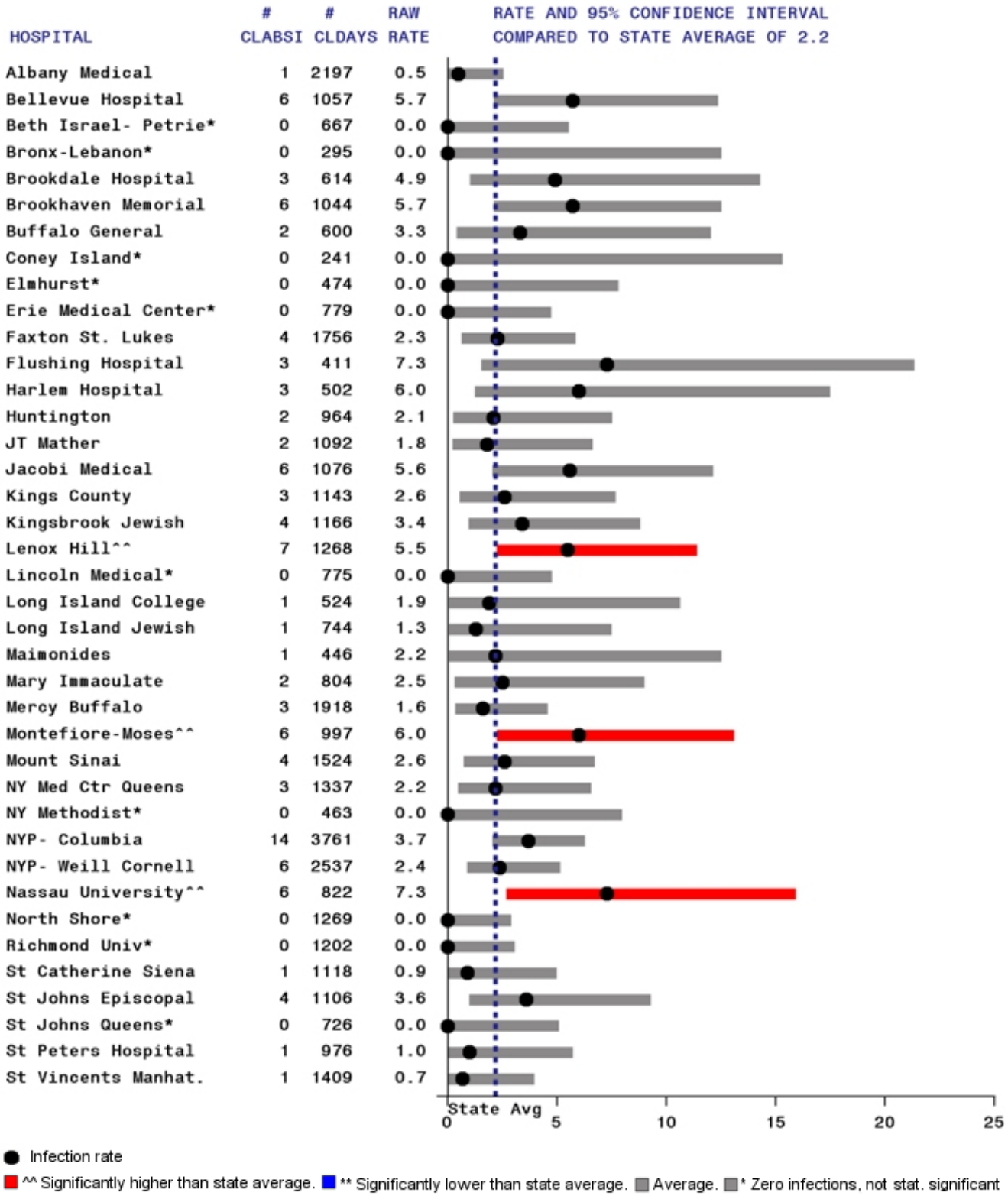
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: No hospitals in region have neurosurgical intensive care units.
Excludes untreated events with single contaminated specimen.

Figure XXIII - Central Line-Associated Blood Stream Infection Rates in Pediatric Intensive Care Units, by Region, New York State 2008



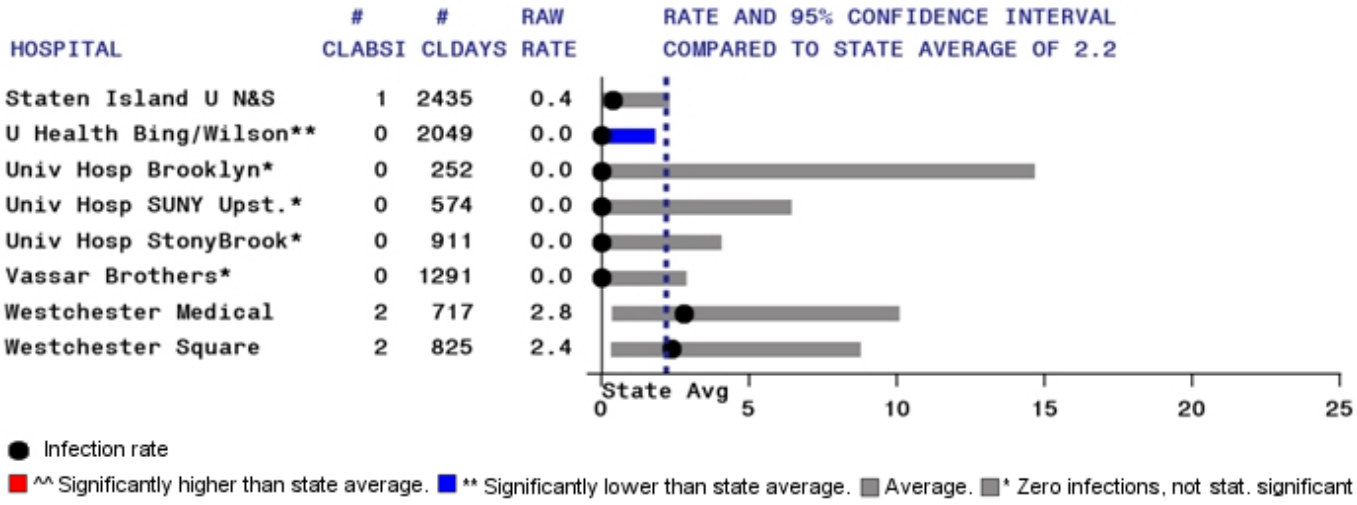
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
Excludes untreated events with single contaminated specimen.

Figure XXIV - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Coronary Intensive Care Units, New York State 2008 (page 1 of 2)



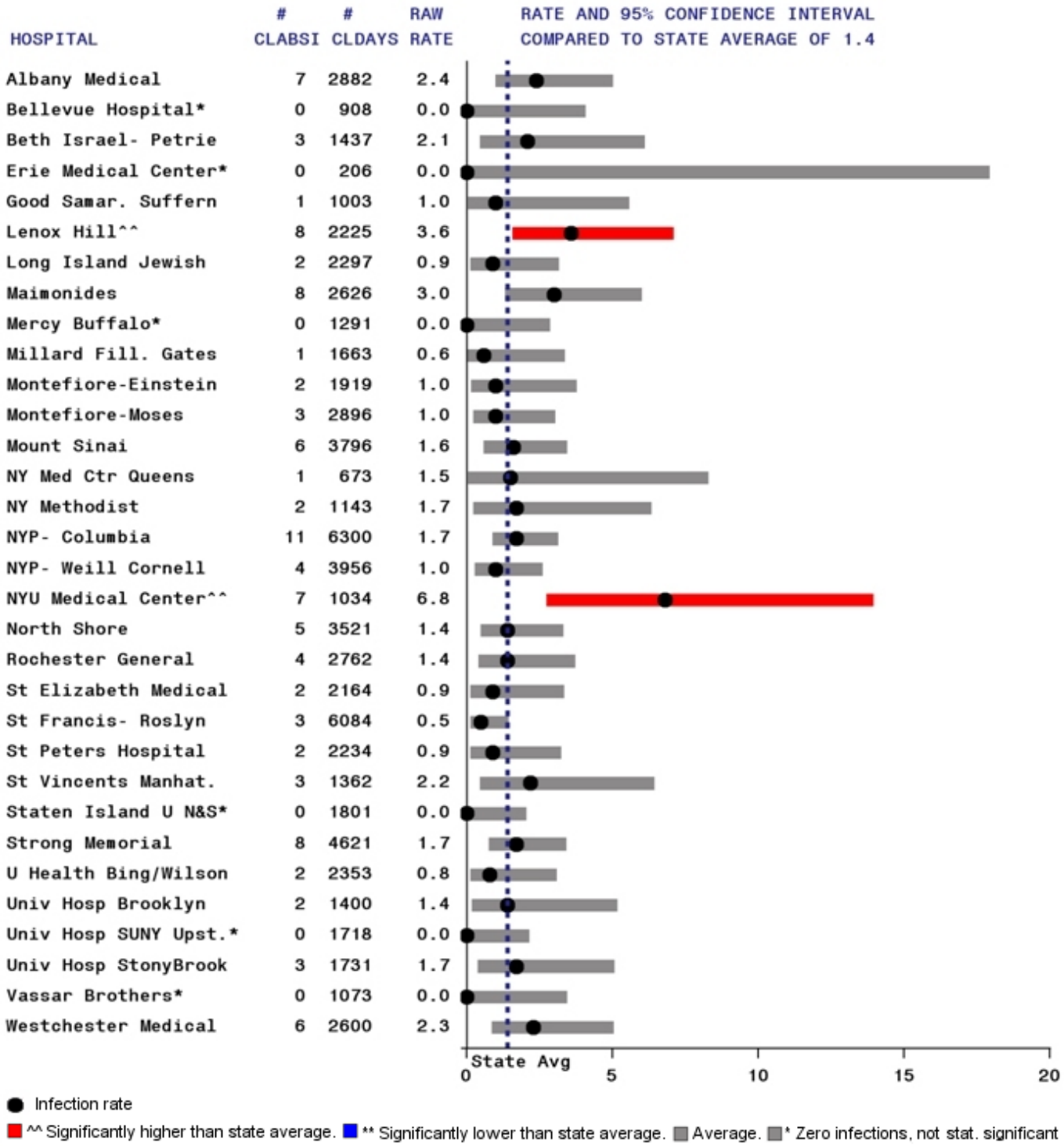
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXIV - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Coronary Intensive Care Units (page 2 of 2)



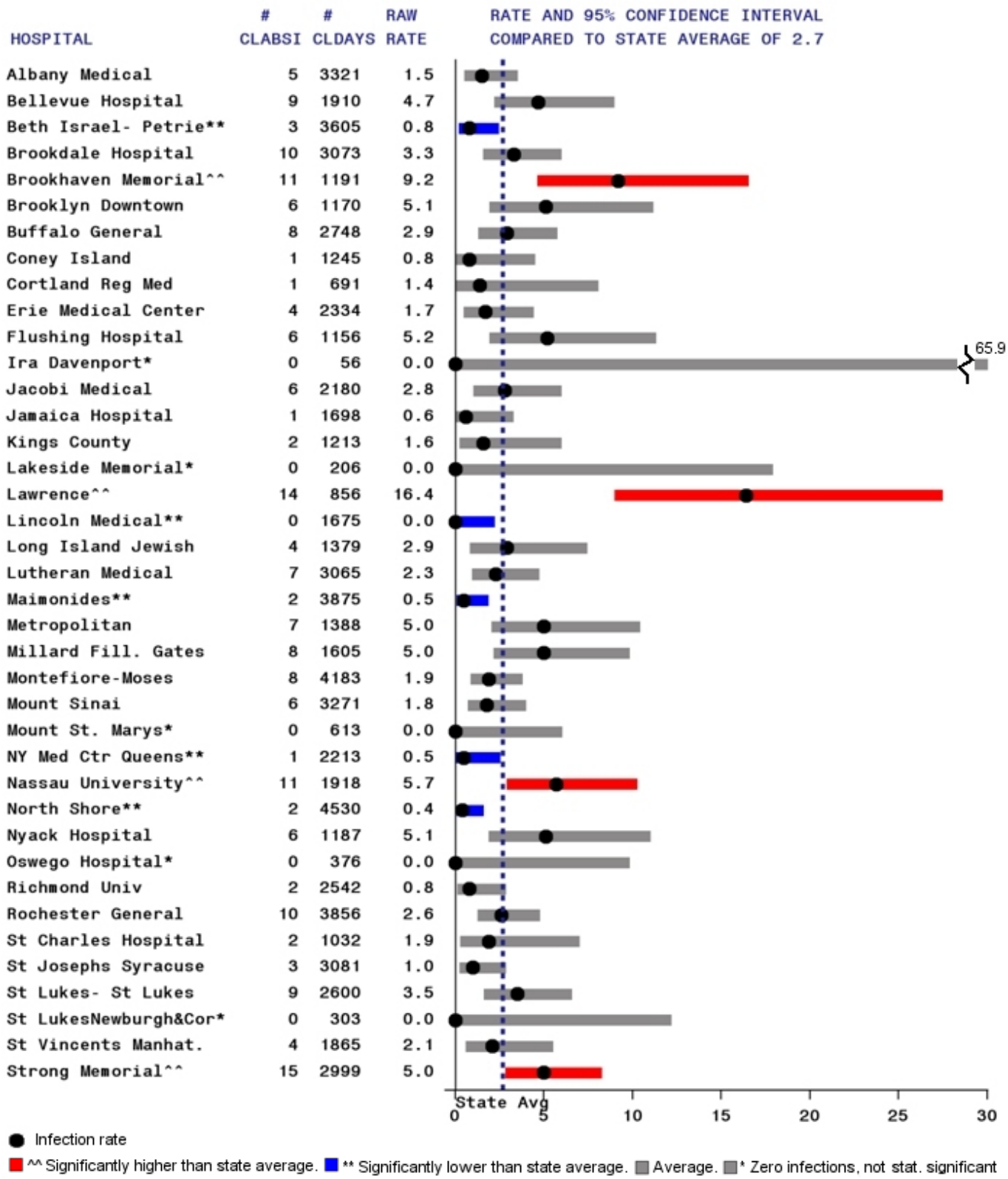
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXV - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Cardiothoracic Intensive Care Units, New York State 2008



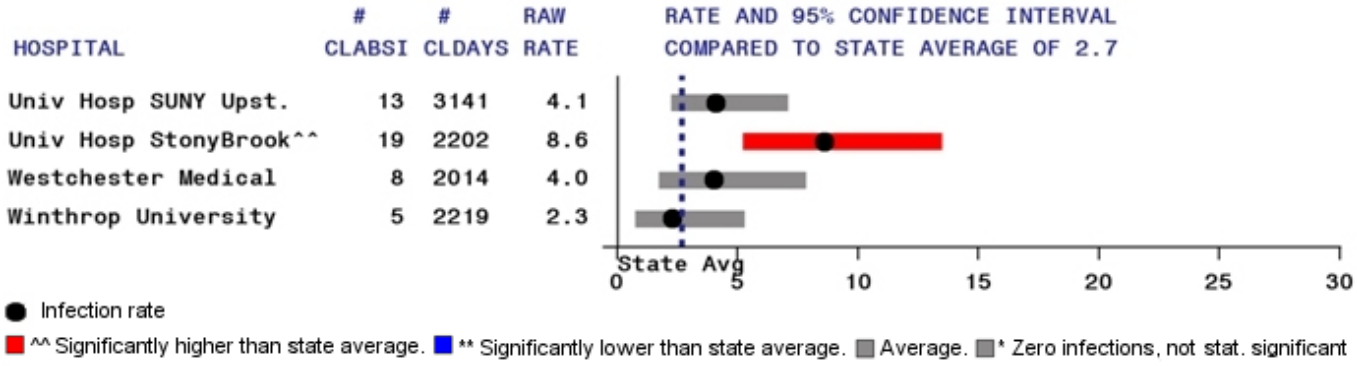
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXVI - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Medical Intensive Care Units, New York State 2008 (page 1 of 2)



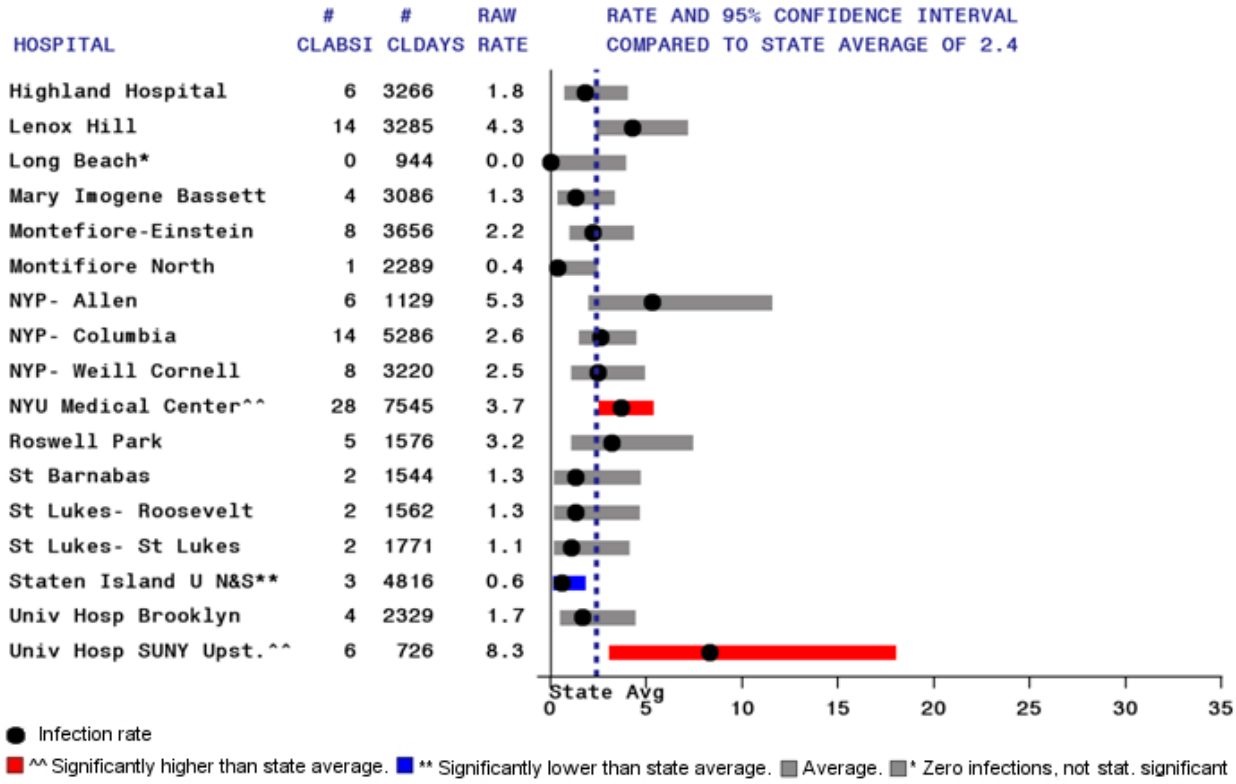
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXVI - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Medical Intensive Care Units (page 2 of 2)



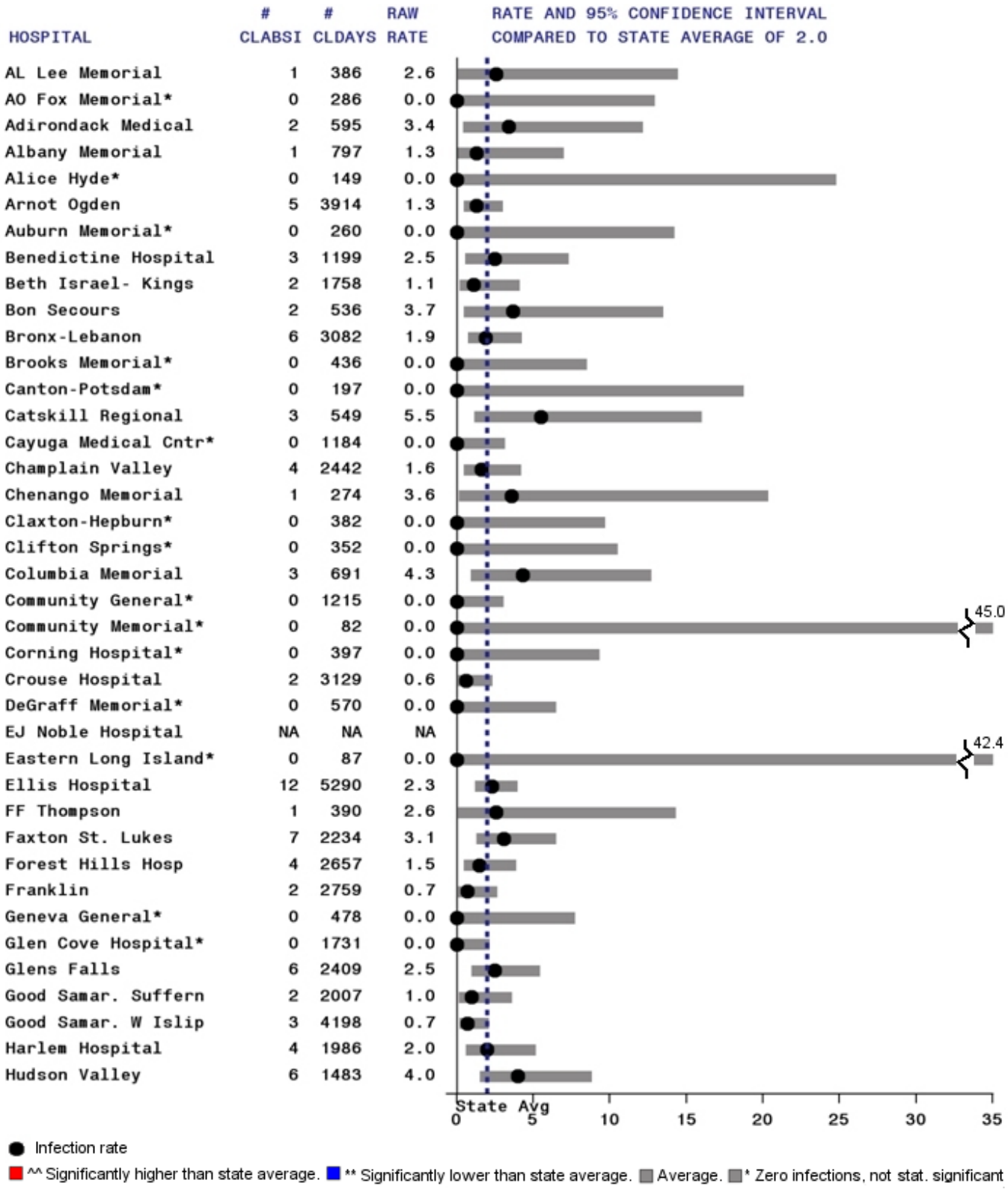
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXVII - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Medical-Surgical Intensive Care Units in Major Teaching Hospitals, New York State 2008



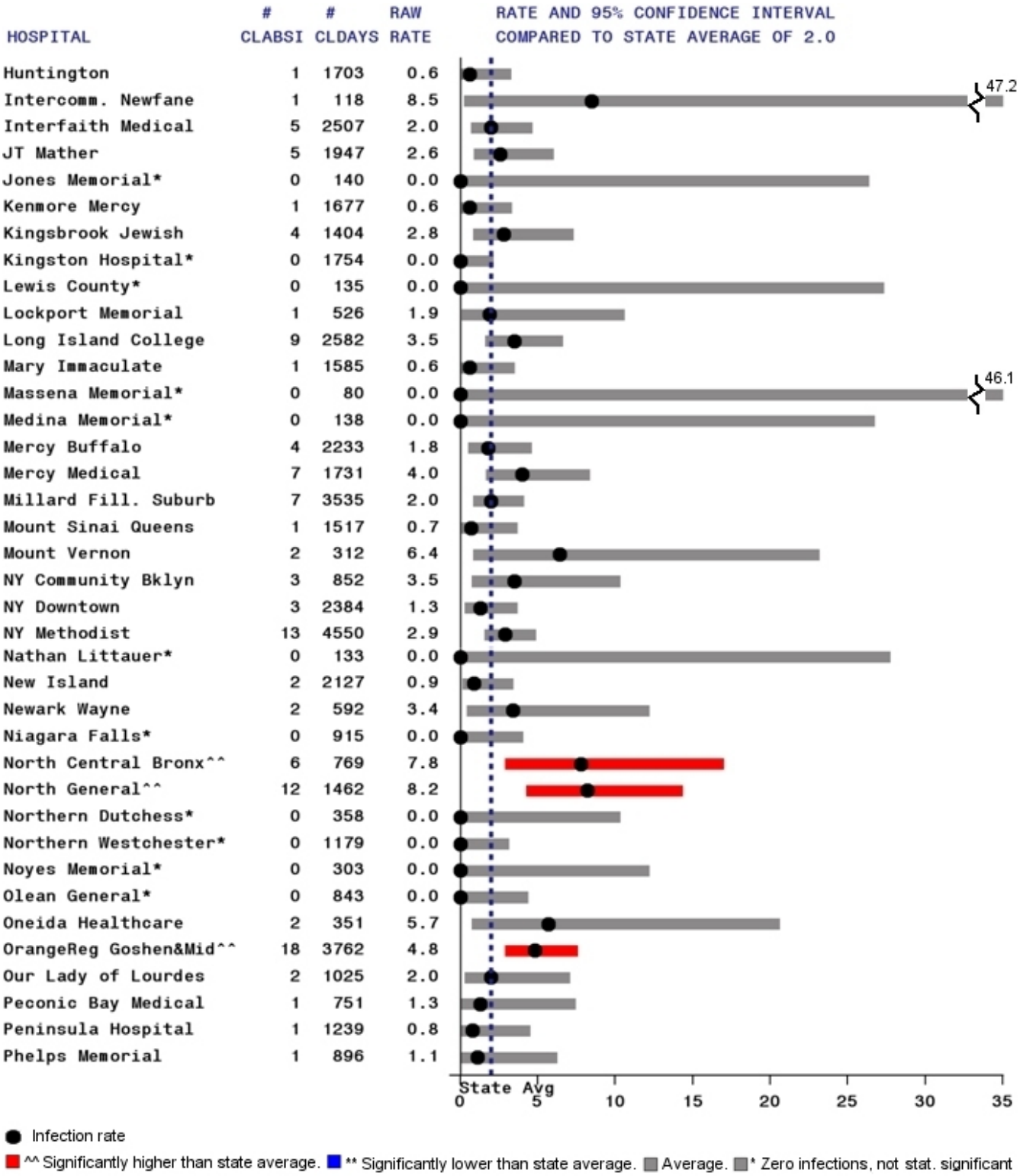
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXVIII - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Medical-Surgical Intensive Care Units in Non-Major Teaching Hospitals, New York State 2008 (page 1 of 3)



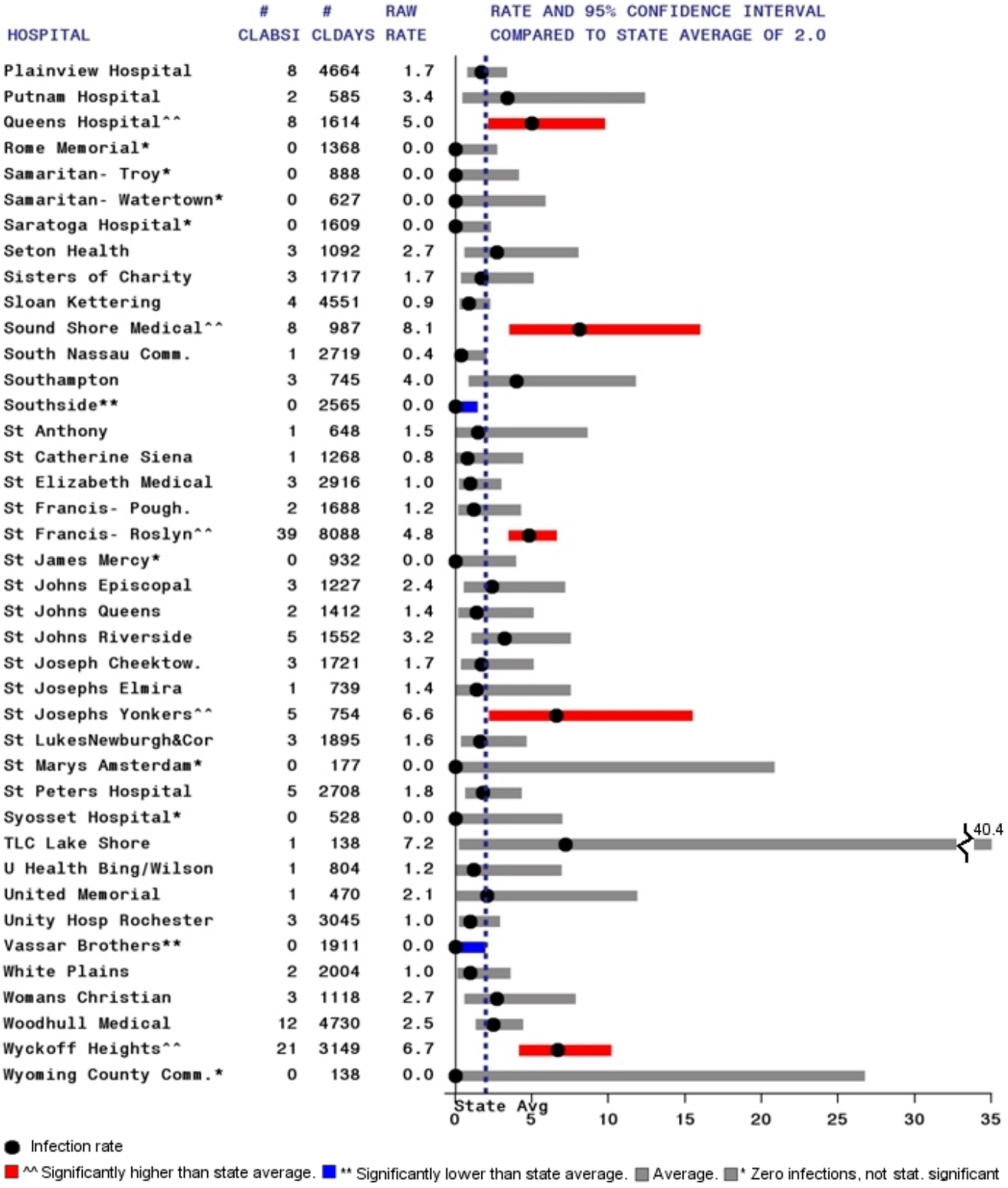
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXVIII - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Medical-Surgical Intensive Care Units in Non-Major Teaching Hospitals (page 2 of 3)



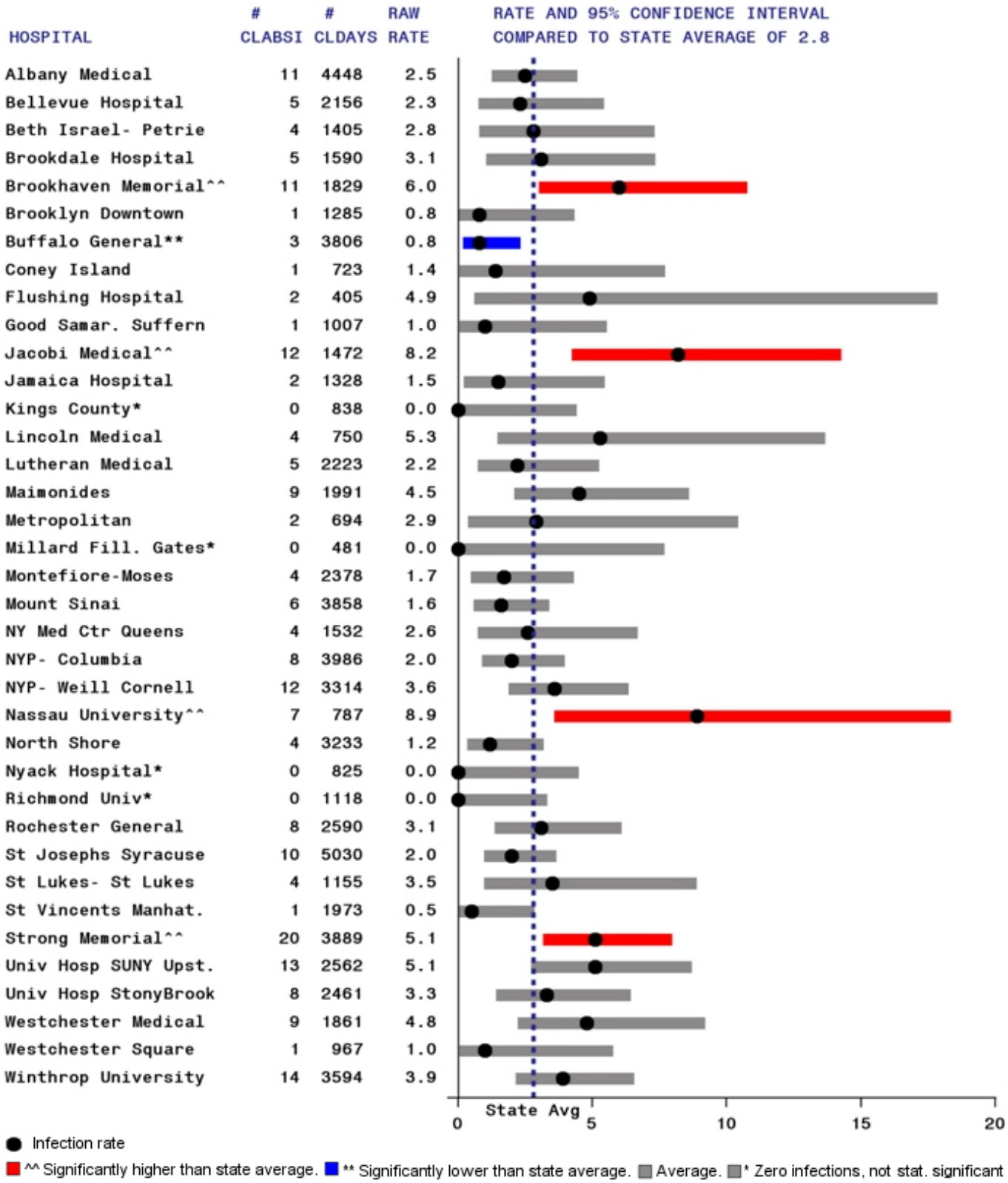
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXVIII - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Medical-Surgical Intensive Care Units in Non-Major Teaching Hospitals (page 3 of 3)



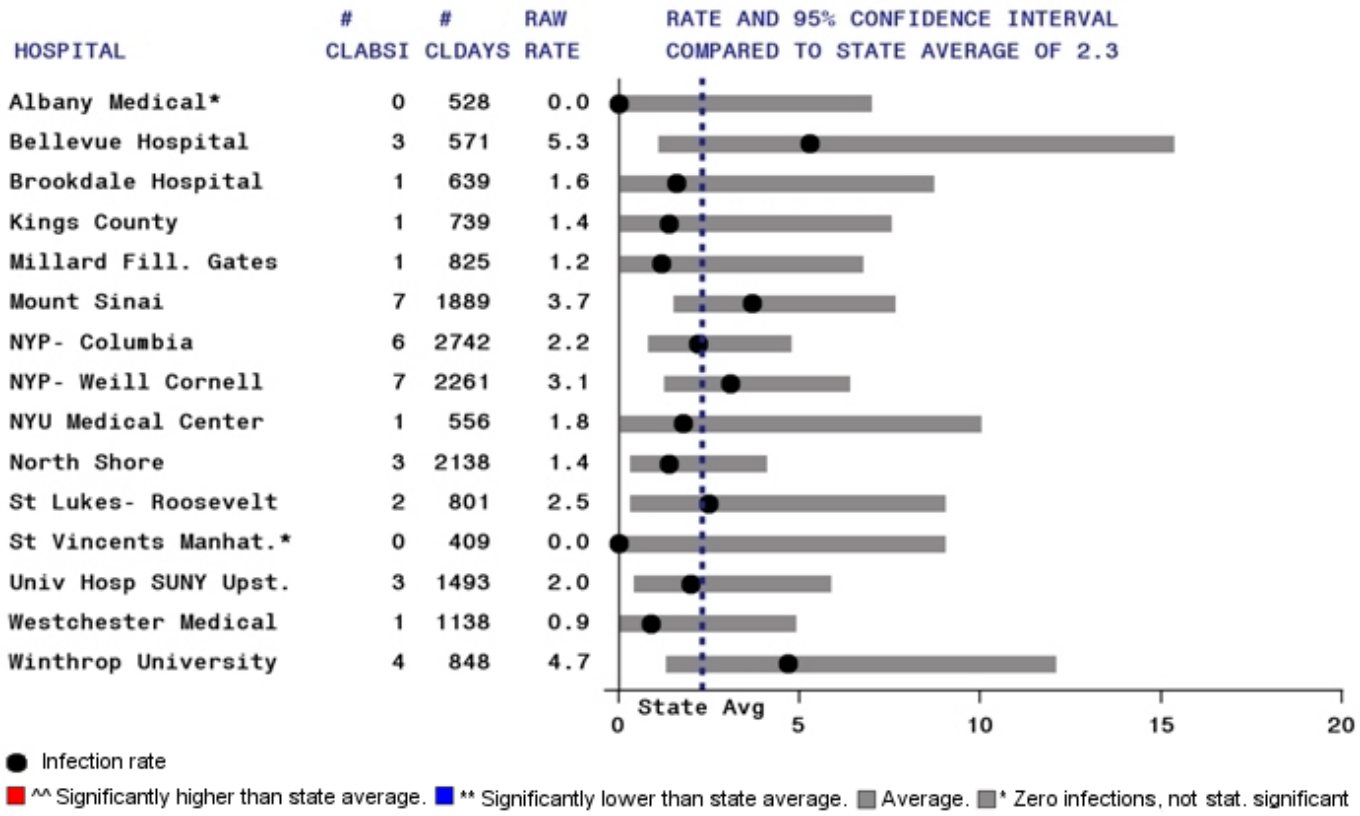
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXIX - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Surgical Intensive Care Units, New York State 2008



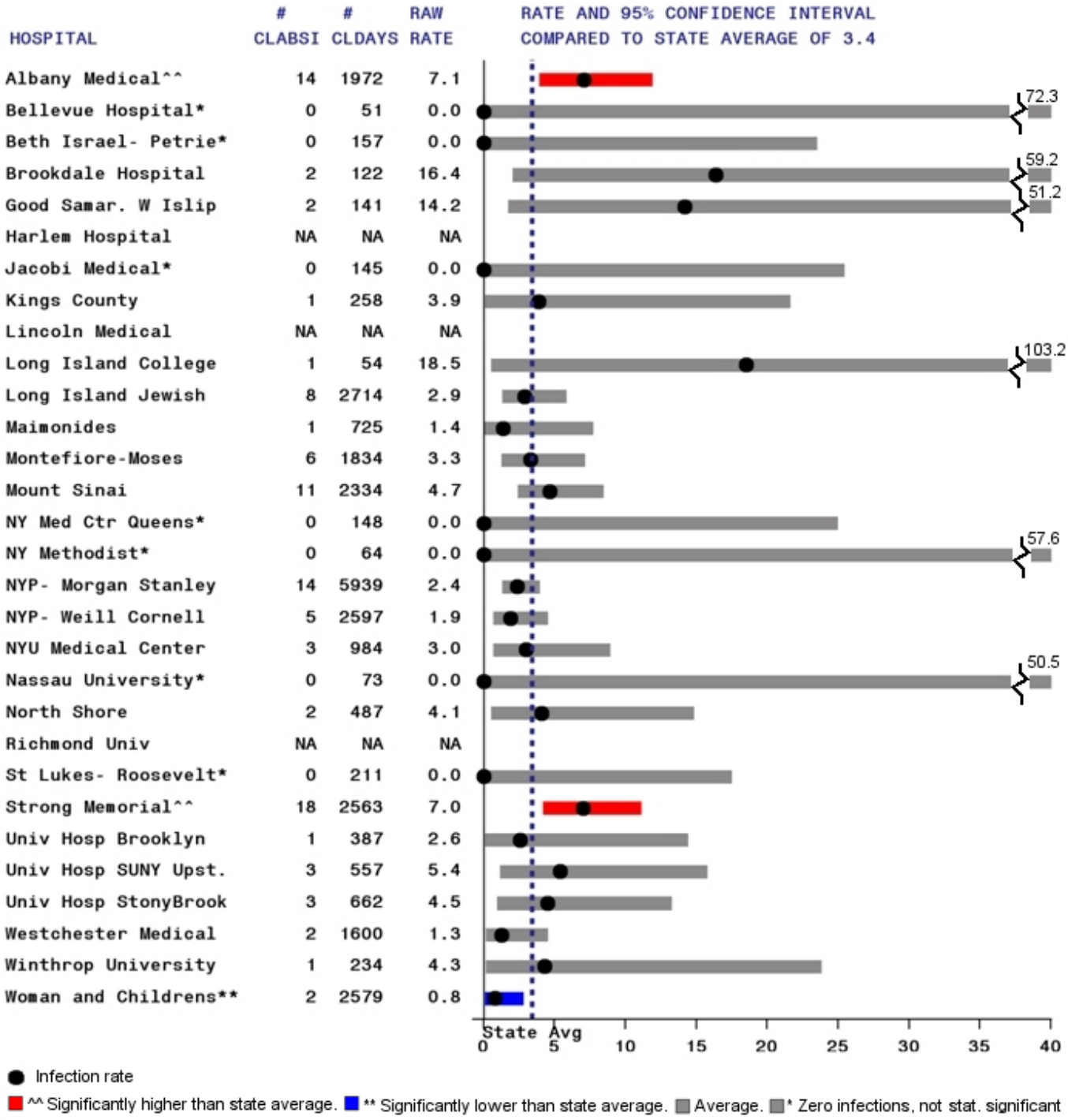
Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXX - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Neurosurgical Intensive Care Units, New York State 2008



Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

Figure XXXI - Central Line-Associated Blood Stream Infection Rates, Pediatric Intensive Care Units, New York State 2008



Data reported as of April 8, 2009. Rates are per 1000 central line days (CLDAYS).
NA: Hospitals with less than 50 central line days.
Excludes untreated events with single contaminated specimen.

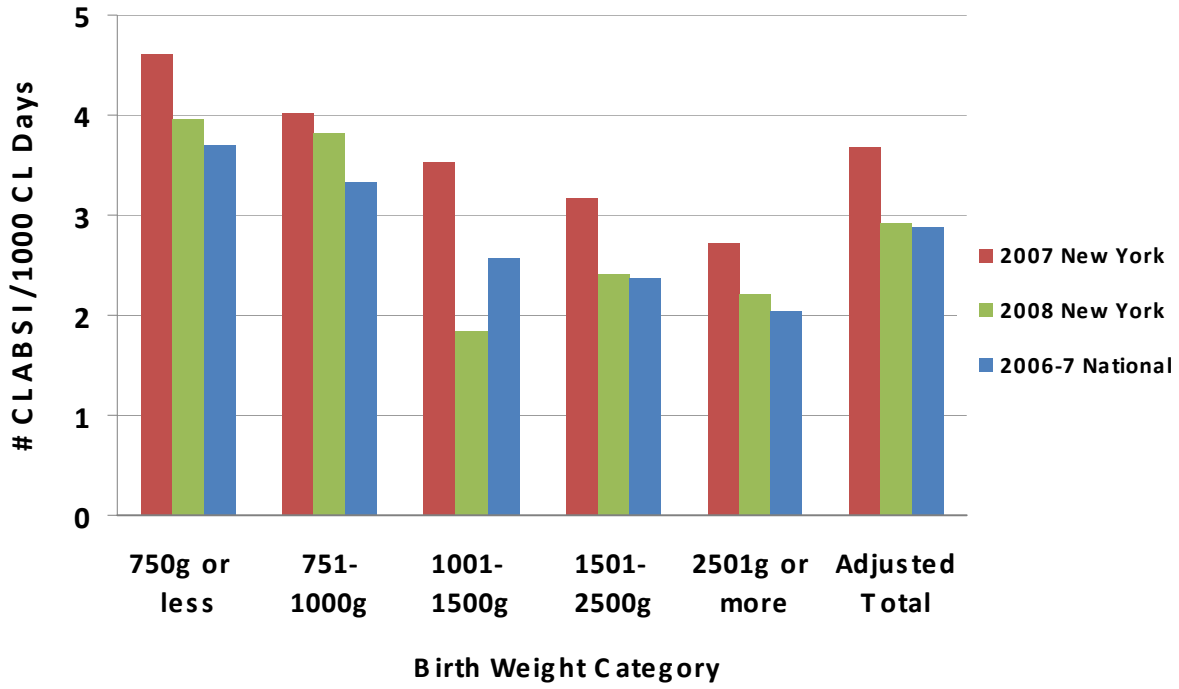
Table 9 - Microorganisms Identified in Central Line Associated Blood Stream Infections – Adult and Pediatric Intensive Care Units, New York State - 2008

Microorganism	Number Isolates	Percent Infections
Enterococci	337	25.8
(VRE)	(175)	(13.4)
Klebsiella species	151	11.6
Coagulase negative staphylococci	131	10.0
Candida albicans	120	9.2
Staphylococcus aureus	112	8.6
(MRSA)	(73)	(5.6)
Acinetobacter species	102	7.8
Other Candida species	87	6.7
Pseudomonas aeruginosa	56	4.3
Enterobacter cloacae	49	3.8
Escherichia coli	43	3.3
Serratia marcescens	31	2.4
Streptococci	18	1.4

New York State data reported as of April 8, 2009
Out of 1306 infections.

CLABSI Rate Tables – Neonatal Intensive Care Units

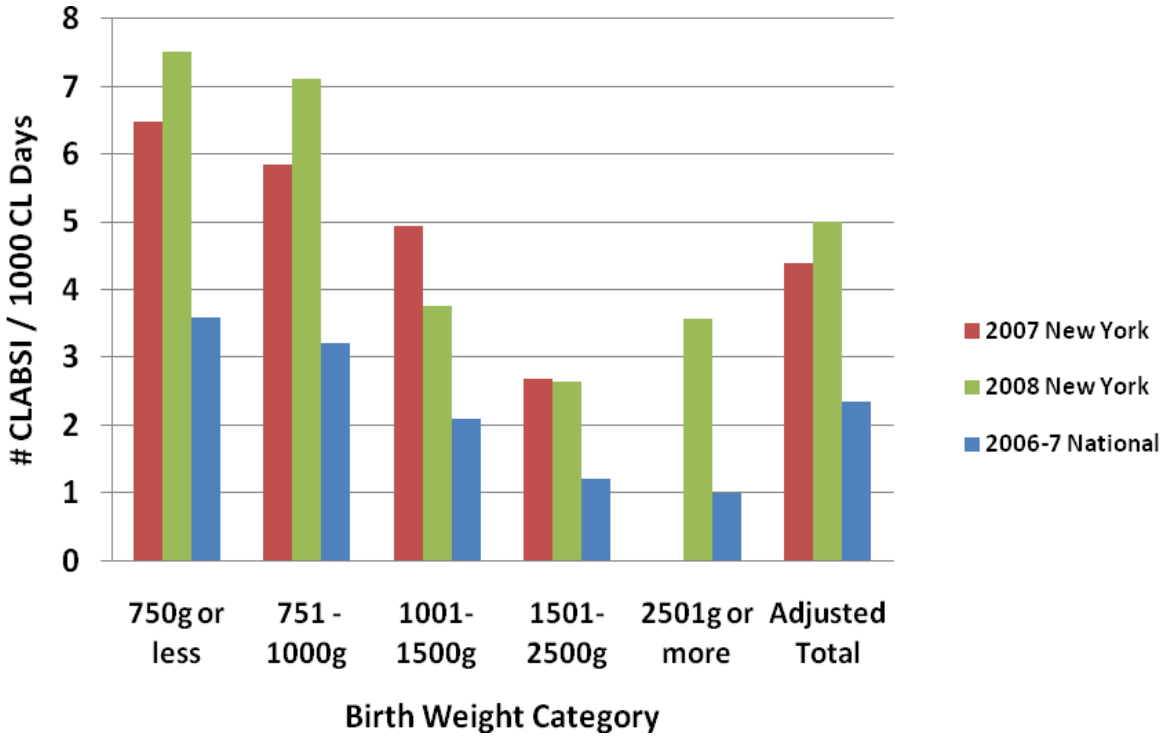
Figure XXXII - Comparison of New York State and National Central Line Associated Blood Stream Infections (CLABSI) by Birth Weight for Level III and RPC Neonatal Intensive Care Units (NICU)



	New York State 2007[1]				New York State2008[1]					National 2006-7[2]		
Birth Weight	**# CLABSI**	**# CL Days**	**Rate**	**2007 vs. Nat**	**2008 vs. 2007**	**# CLA BSI**	**# CL Days**	**Rate**	**2008 vs. Nat**	**# CLA BSI**	**# CL Days**	**Rate**
750g or less	61	13,261	4.6	-	-	52	13,157	4.0	-	225	60,850	3.7
751-1000g	51	12,688	4.0	-	-	55	14,409	3.8	-	185	55,445	3.3
1001-1500g	44	12,461	3.5	*H	#L	24	12,990	1.8	-	144	55,874	2.6
1501-2500g	24	7,541	3.2	-	-	20	8,297	2.4	-	105	44,402	2.4
2501g or more	18	6,596	2.7	-	-	15	6,764	2.2	-	87	42,611	2.0
Total	198	52,547	3.8		#L	166	55,617	3.0		746	259,182	2.9
	Adjusted Rate[3]		3.7	*H		Adjusted Rate[3]		2.9	-			

[1] New York State data reported as of April 8, 2009. Includes clinical sepsis and untreated events with single contaminated specimen. CL Days = Central Line Days, Nat = National, Rates are per 1000 CL Days.
[2] Most recently published National Data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3] New York State rate adjusted by NHSN Birth Weight Category.
*H indicates New York State rate is significantly higher than the National 2006-7 Rate
#L indicates New York State 2008 rate is significantly lower than the New York State 2007 rate
- indicates no statistical difference between rates

Figure XXXIII - Comparison of New York State and National Central Line Associated Blood Stream Infections (CLABSI) by Birth Weight for Level II/ III Neonatal Intensive Care Units (NICU)

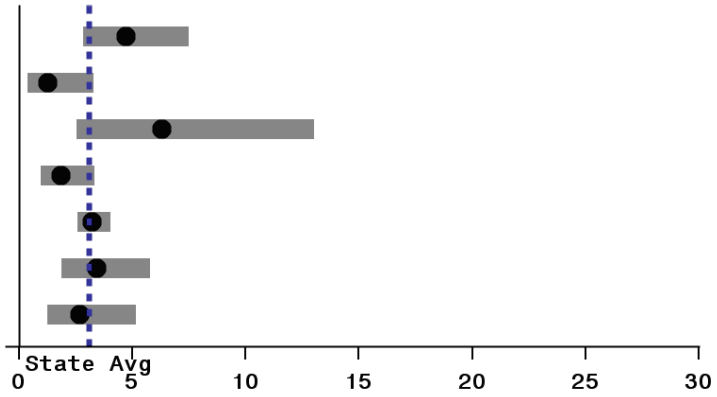


	New York State 2007[1]				New York State2008[1]					National 2006-7[2]		
Birth Weight	**# CLABSI**	**# CL Days**	**Rate**	**2007 vs. Nat**	**2008 vs. 2007**	**# CLABSI**	**# CL Days**	**Rate**	**2008 vs. Nat**	**# CLABSI**	**# CL Days**	**Rate**
750g or less	7	1,080	6.5	-	-	16	2,129	7.5	*H	112	31,202	3.6
751-1000g	6	1,025	5.8	-	-	12	1,685	7.1	*H	83	25,852	3.2
1001-1500g	5	1,011	4.9	-	-	6	1,599	3.8		63	30,026	2.1
1501-2500g	1	374	2.7	-	-	2	759	2.6		26	21,431	1.2
2501g or more	0	336	0.0	-	-	2	562	3.6		21	21,031	1.0
Total	19	3,826	5.0		-	38	6,734	5.6		305	129,542	2.4
	Adjusted Rate[3]		4.4	*H		Adjusted Rate[3]		5.0	*H			

[1] New York State data reported as of April 8, 2009. Includes clinical sepsis and untreated events with single contaminated specimen. CL Days = Central Line Days, Nat = National, Rates are per 1000 CL Days.
[2] Most recently published National Data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3] New York State rate adjusted by NHSN Birth Weight Category.
*H indicates New York State Rate is significantly higher than National 2006-7 Rate
- indicates no statistical difference between rates

Figure XXXIV - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Regional Perinatal Centers, by Region, New York State 2008

REGION	# HOSP	# CLABSI	# CLDAYS	RAW RATE	ADJ RATE
Buffalo	1	18	4147	4.3	4.7
Capital	1	4	3352	1.2	1.3
Central	1	7	1140	6.1	6.3
Long Island	3	11	6041	1.8	1.8
NYC	11	77	23542	3.3	3.2
New Rochelle	1	14	3789	3.7	3.4
Rochester	1	9	3416	2.6	2.7



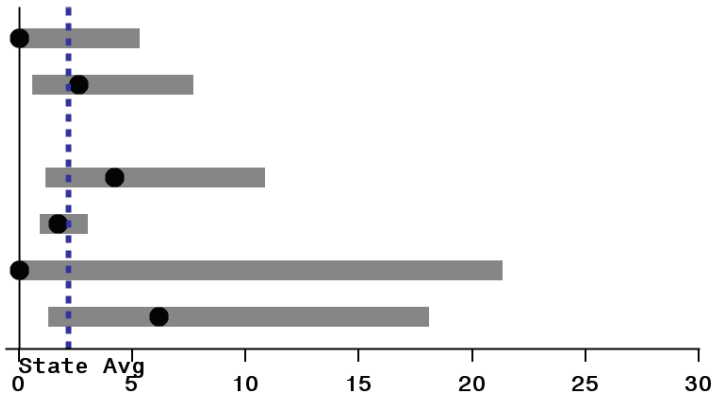
Risk-adjusted infection rate

^^ Significantly higher than state average. ** Significantly lower than state average. Average. * Zero infections, not stat. significant

Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
Hosp=hospital, CL Days = Central Line Days, Adj Rate = Rate adjusted by NHSN Birth Weight Category.
Rates are per 1000 central line days (CLDAYS).

Figure XXXV - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Level III Neonatal Intensive Care Units, by Region, New York State 2008

REGION	# HOSP	# CLABSI	# CLDAYS	RAW RATE	ADJ RATE
Buffalo*	1	0	649	0.0	0.0
Capital	1	3	962	3.1	2.6
Central	0	NA	NA	NA	NA
Long Island	3	4	950	4.2	4.2
NYC	12	12	6981	1.7	1.7
New Rochelle*	3	0	206	0.0	0.0
Rochester	1	3	442	6.8	6.2



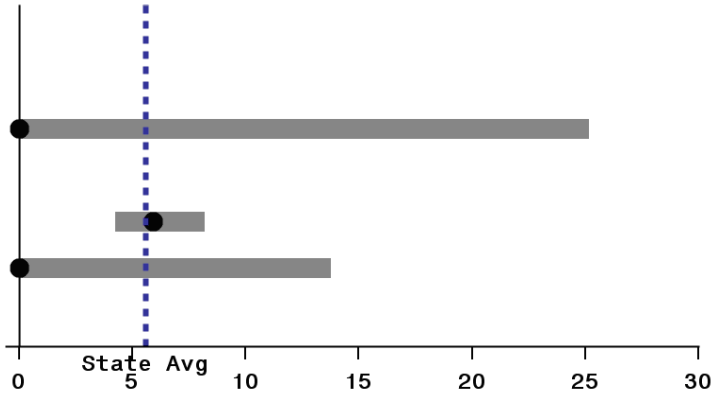
Risk-adjusted infection rate

^^ Significantly higher than state average. ** Significantly lower than state average. Average. * Zero infections, not stat. significant

Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single, contaminated specimen.
Hosp=hospital, CL Days = Central Line Days, Adj Rate = Rate adjusted by NHSN Birth Weight Category.
Rates are per 1000 central line days (CLDAYS). NA: No hospitals in region have level 3 neonatal intensive care units.

Figure XXXVI - Central Line-Associated Blood Stream Infection (CLABSI) Rates in Level II/III Neonatal Intensive Care Units, by Region, New York State 2008

REGION	# HOSP	# CLABSI	# CLDAYS	RAW RATE	ADJ RATE
Buffalo	0	NA	NA	NA	NA
Capital	0	NA	NA	NA	NA
Central*	2	0	160	0.0	0.0
Long Island	0	NA	NA	NA	NA
NYC	11	38	6364	6.0	5.9
New Rochelle*	1	0	210	0.0	0.0
Rochester	0	NA	NA	NA	NA

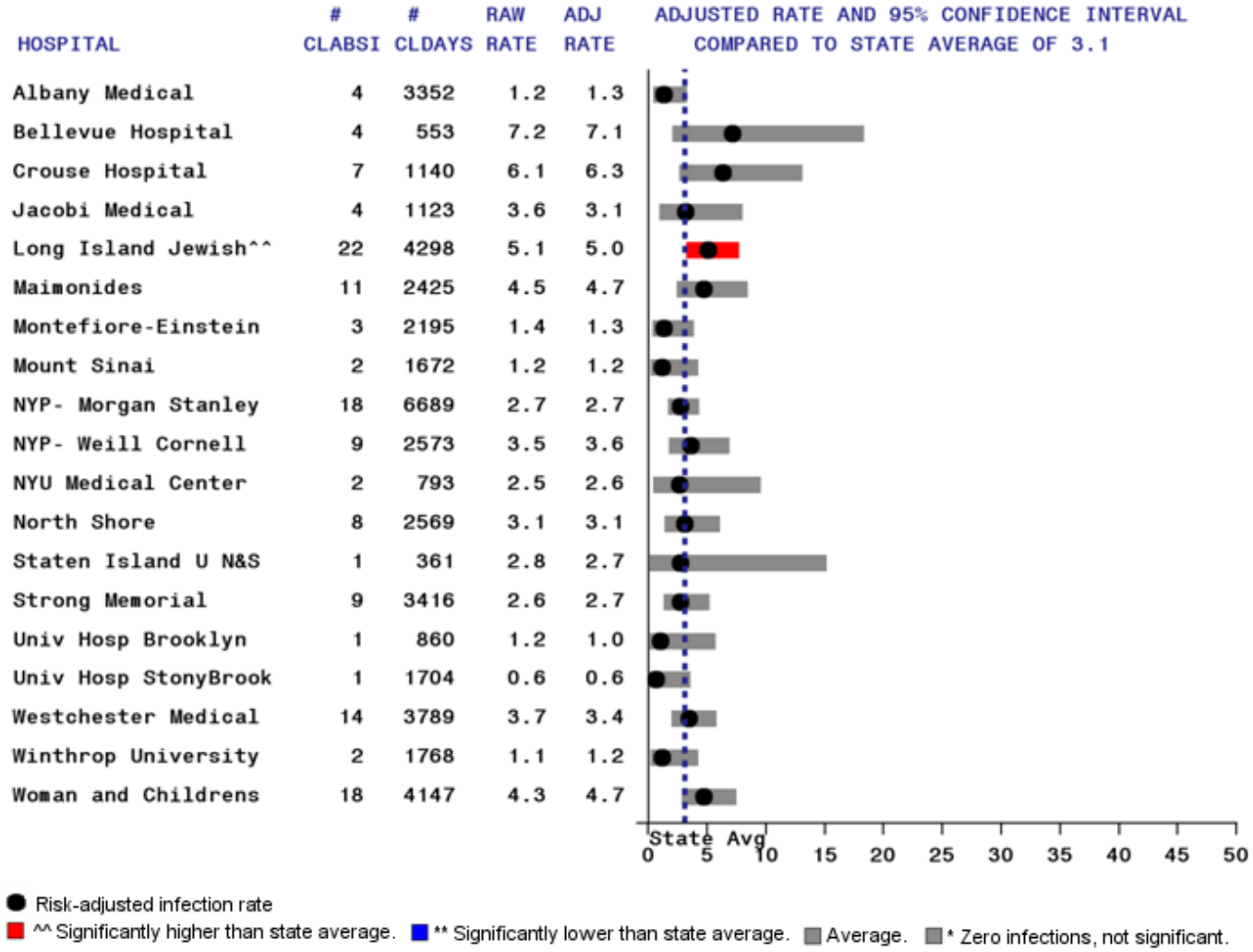


Risk-adjusted infection rate

^^ Significantly higher than state average. ** Significantly lower than state average. Average. * Zero infections, not stat. significant

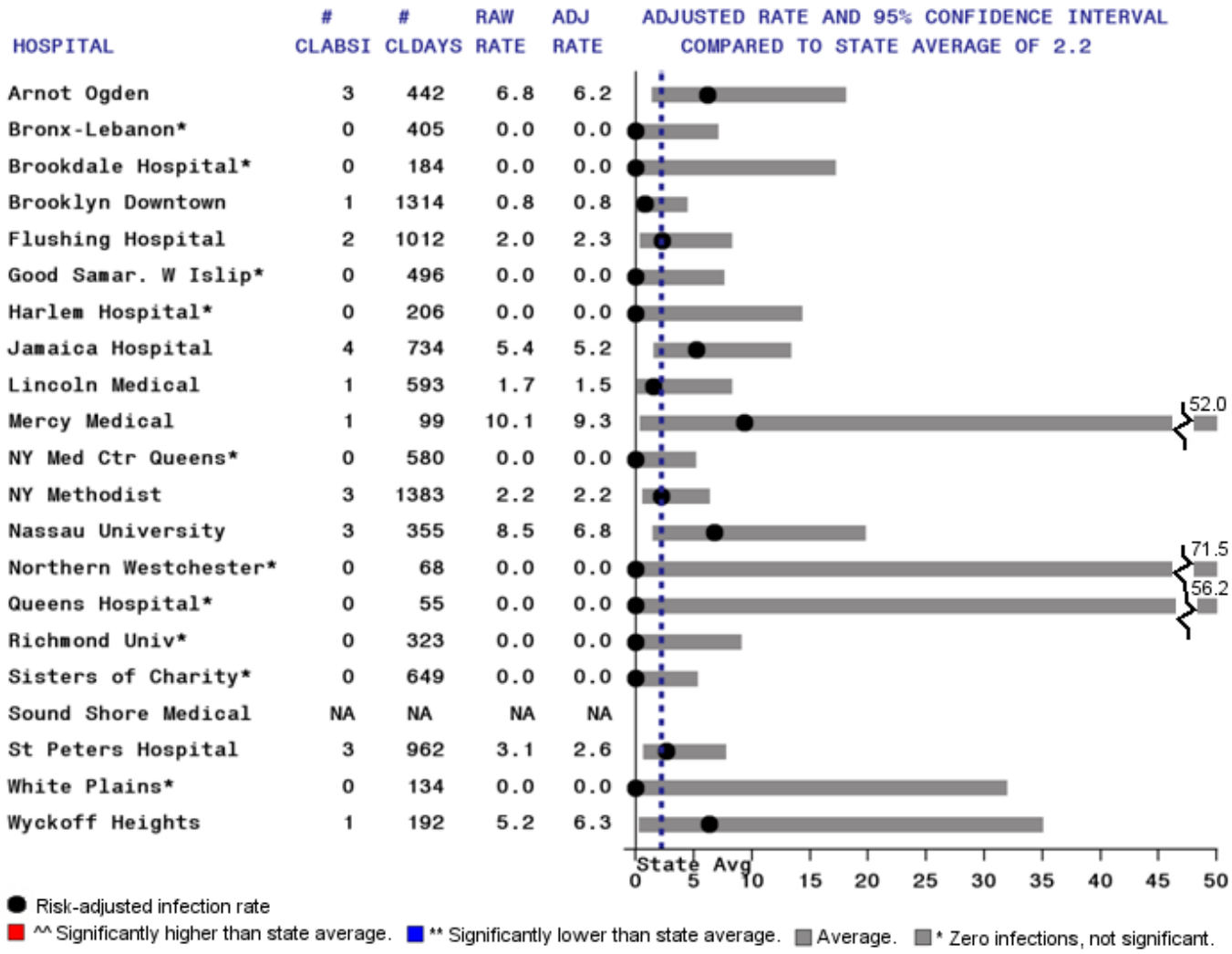
Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
Hosp=hospital, CL Days = Central Line Days, Adj Rate = Rate adjusted by NHSN Birth Weight Category.
Rates are per 1000 central line days (CLDAYS). NA: No hospitals in region have level 2/3 neonatal intensive care units.

Figure XXXVII - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Regional Perinatal Center Intensive Care Units, New York State 2008



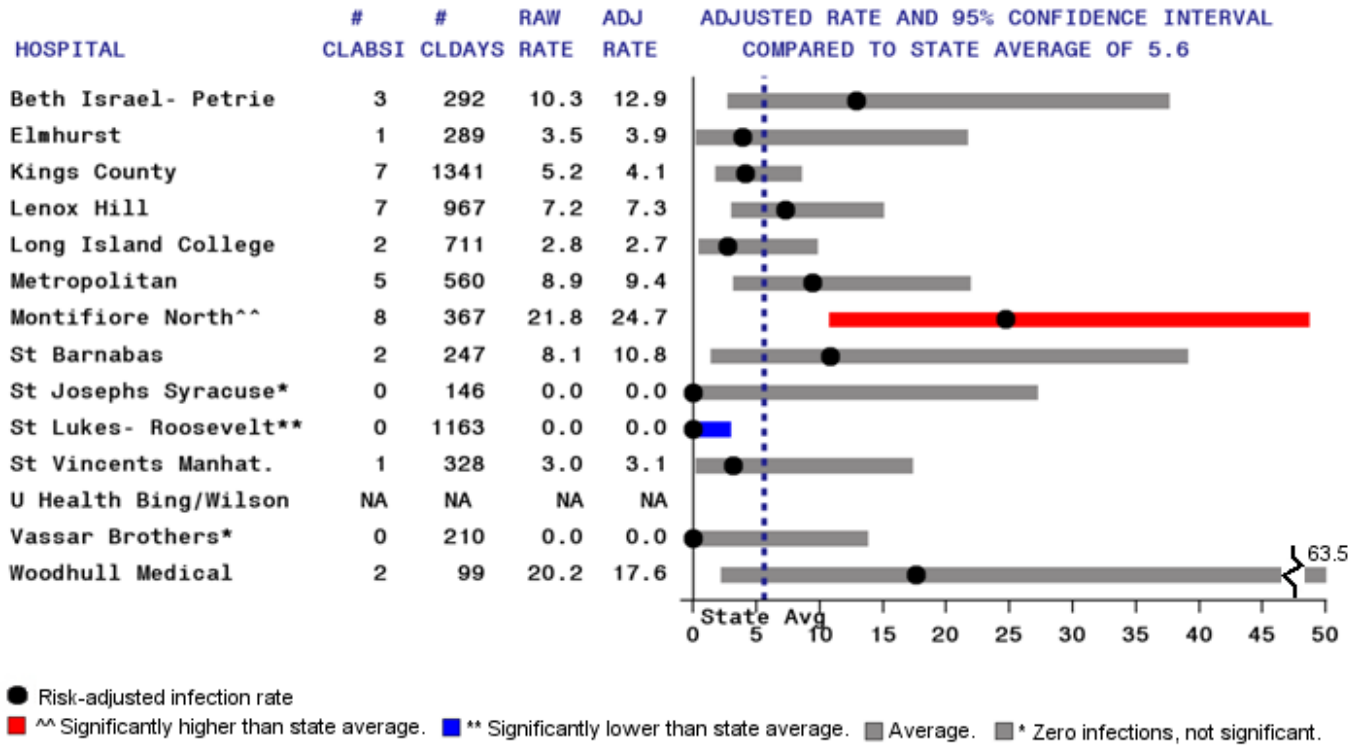
Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
CL Days = Central Line Days, Adj Rate = Rate adjusted by NHSN Birth Weight Category.
Rates are per 1000 central line days (CLDAYS).

Figure XXXVIII - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Level III Neonatal Intensive Care Units, New York State 2008



Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
CL Days = Central Line Days, Adj Rate = Rate adjusted by NHSN Birth Weight Category.
Rates are per 1000 central line days (CLDAYS). NA: Hospitals with less than 50 central line days.

Figure XXXIX - Central Line-Associated Blood Stream Infection (CLABSI) Rates, Level II/III Neonatal Intensive Care Units, New York State 2008



Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
CL Days = Central Line Days, Adj Rate = Rate adjusted by NHSN Birth Weight Category.
Rates are per 1000 central line days (CLDAYS). NA: Hospitals with less than 50 central line days.

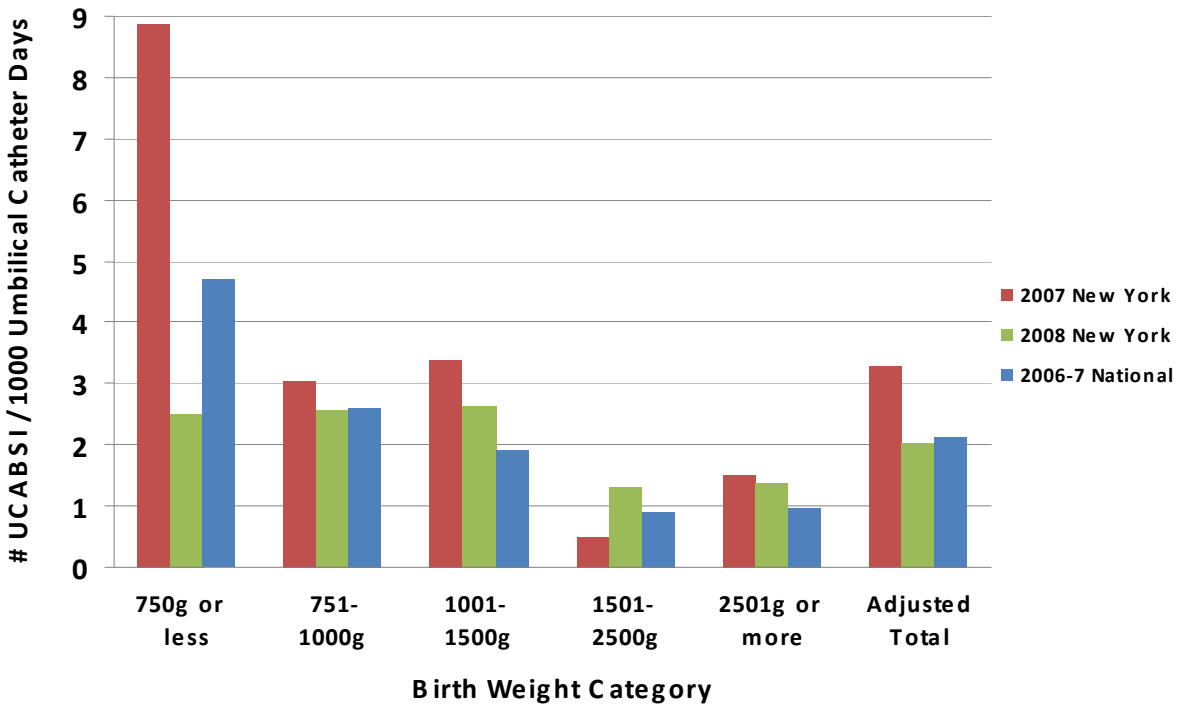
Table 10 - Microorganisms Associated with Central Line Associated Blood Stream Infections (CLABSI) in Neonatal Intensive Care Units (NICUs), New York State 2008

Microorganism	Number of Isolates	Percent of Infections
Coagulase negative staphylococci	78	47.0
Staphylococcus aureus	34	20.5
(MRSA)	(3)	(1.8)
Enterococci	18	10.8
(VRE)	(1)	(0.6)
Candida parapsilosis	16	9.6
Klebsiella sp.	13	7.8
Candida albicans	9	5.4
Escherichia coli	6	3.6
Enterobacter sp.	6	3.6
Pseudomonas sp.	4	2.4
Citrobacter sp.	2	1.2
Streptococci	2	1.2
Other	13	7.8

New York State NHSN data reported as of April 8, 2009
Out of 166 CLABSI (includes post-discharge surveillance).

Umbilical Catheter-Associated Bloodstream Infection Rate Tables – NICUs

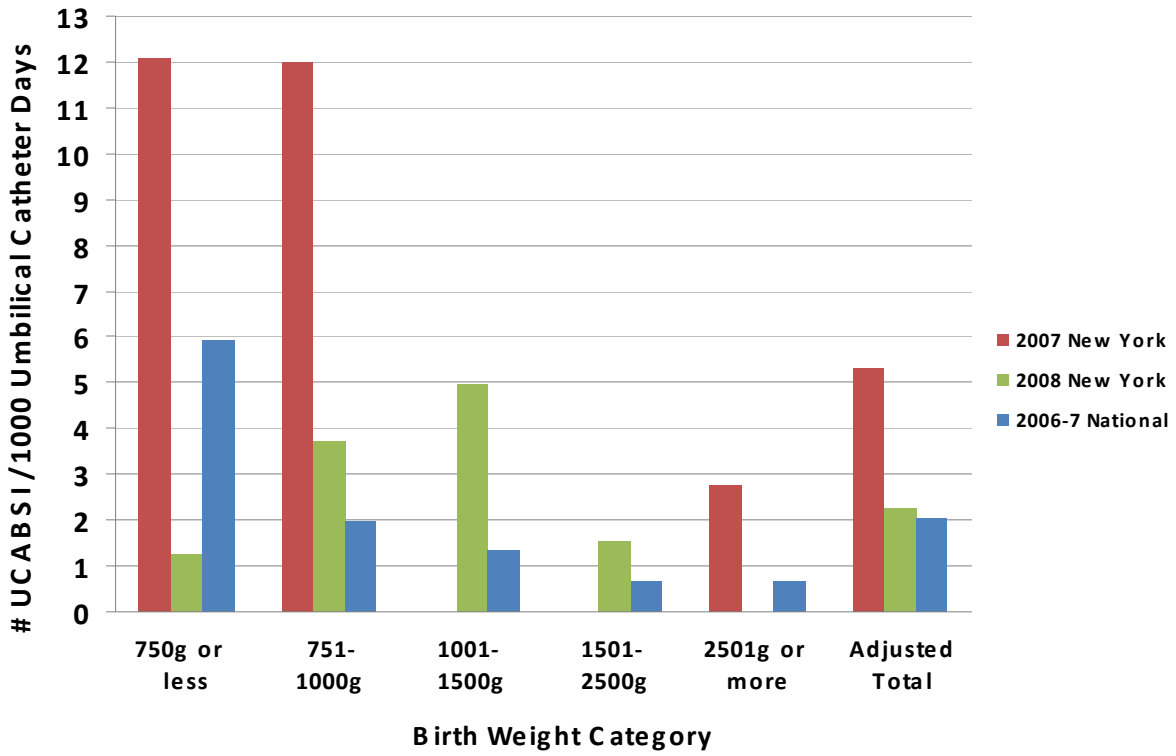
Figure XL - Comparison of New York State and National Umbilical Catheter Associated Blood Stream Infections (UCABSI) by Birth Weight for Level III and RPC Neonatal Intensive Care Units (NICU)



Birth Weight	New York State 2007[1]				New York State 2008[1]					National 2006-7[2]		
	# UCA BSI	# UC Days	Rate	2007 vs. Nat	2008 vs. 2007	# UCA BSI	# UC Days	Rate	2008 vs. Nat	# UCA BSI	# UC Days	Rate
750g or less	31	3,493	8.9	*H	#L	10	3,992	2.5	*L	79	16,762	4.7
751-1000g	11	3,631	3.0	-	-	10	3,873	2.6	-	39	15,034	2.6
1001-1500g	13	3,828	3.4	*H	-	12	4,552	2.6	-	32	16,681	1.9
1501-2500g	2	3,973	0.5	-	-	5	3,821	1.3	-	15	16,321	0.9
2501g or more	8	5,302	1.5	-	-	7	5,051	1.4	-	22	22,978	1.0
Total	65	20,227	3.2		#L	44	21,289	2.1		187	87,776	2.1
	Adjusted Rate[3]		3.3	*H		Adjusted Rate[3]		2.0	-			

[1] New York State data reported as of April 8, 2009. Includes clinical sepsis and untreated events with single contaminated specimen. UC Days = Umbilical catheter days, Nat = National, Rate is per 1000 catheter days.
[2] Most recently published National Data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3] New York State data adjusted by NHSN Birth Weight category.
*L, *H indicates New York State Rate is significantly lower or higher than National 2006-7 Rate
#L indicates 2008 New York State rate is significantly lower than the 2007 New York State rate
- indicates no significant difference between rates

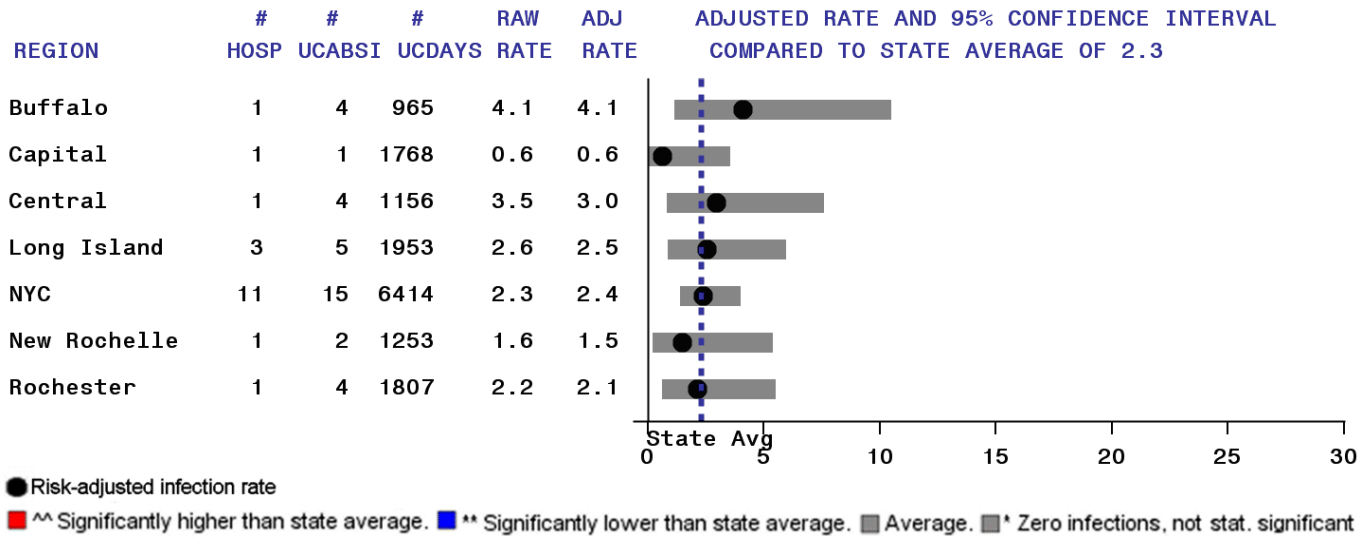
Figure XLI - Comparison of New York State and National Umbilical Catheter-Associated Blood Stream Infections (UCABSI) by Birth Weight for Level II/III Neonatal Intensive Care Units (NICU)



Birth Weight	New York State 2007[1]				New York State 2008[1]					National 2006-7[2]		
	# UCA BSI	# UC Days	Rate	2007 vs. Nat	2008 vs. 2007	# UCA BSI	# UC Days	Rate	2008 vs. Nat	# UCA BSI	# UC Days	Rate
750g or less	6	497	12.1	-	#L	1	792	1.3	-	56	9,418	5.9
751-1000g	6	500	12.0	*H		3	806	3.7	-	17	8,696	2.0
1001-1500g	0	446	0.0	-		4	801	5.0	*H	12	8,957	1.3
1501-2500g	0	328	0.0	-		1	641	1.6	-	6	8,806	0.7
2501g or more	1	361	2.8	-		0	583	0.0	-	9	13,055	0.7
Total	13	2,132	6.1		#L	9	3,623	2.5		100	48,932	2.0
	Adjusted Rate[3]		5.3	*H		Adjusted Rate[3]		2.2	-			

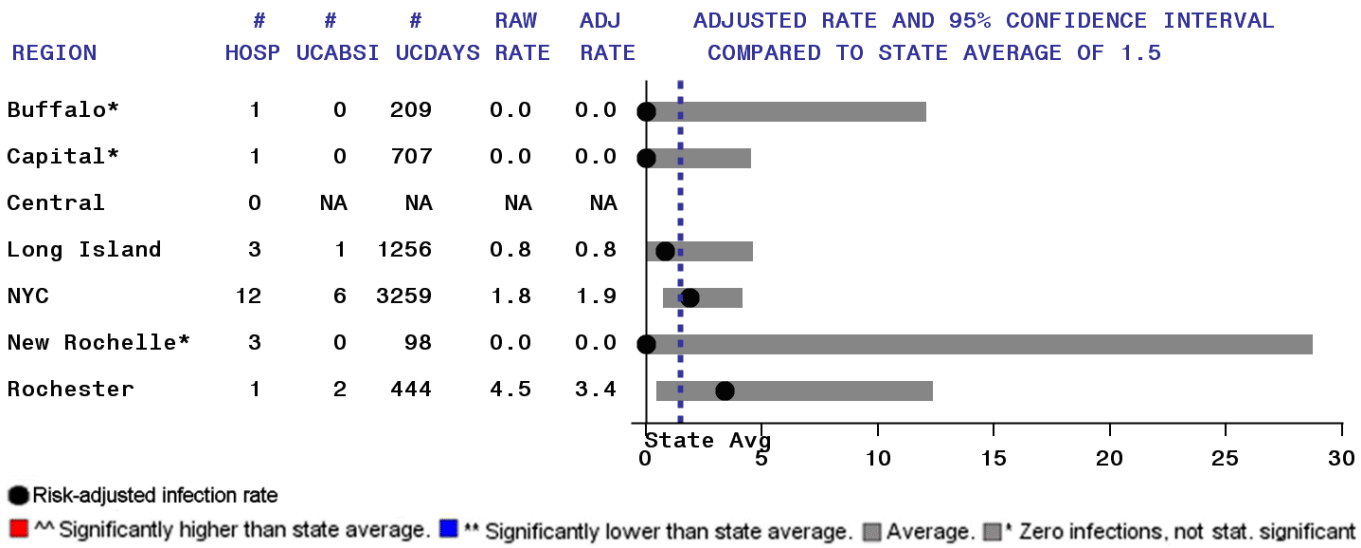
[1] New York State data reported as of April 8, 2009. Includes clinical sepsis and untreated events with single contaminated specimen. UC Days = Umbilical catheter days, Nat = National, Rate is per 1000 catheter days.
[2] Most recently published National Data. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36:609-26.
[3] New York State data adjusted by NHSN Birth Weight category.
*L, *H indicates New York State Rate is significantly lower or higher than National 2006-7 Rate
#L indicates 2008 New York State rate is significantly lower than the 2007 New York State rate
- indicates no significant difference between rates

Figure XLII - Umbilical Catheter-Associated Blood Stream Infection (UCABSI) Rates in Regional Perinatal Centers, by Region, New York State 2008



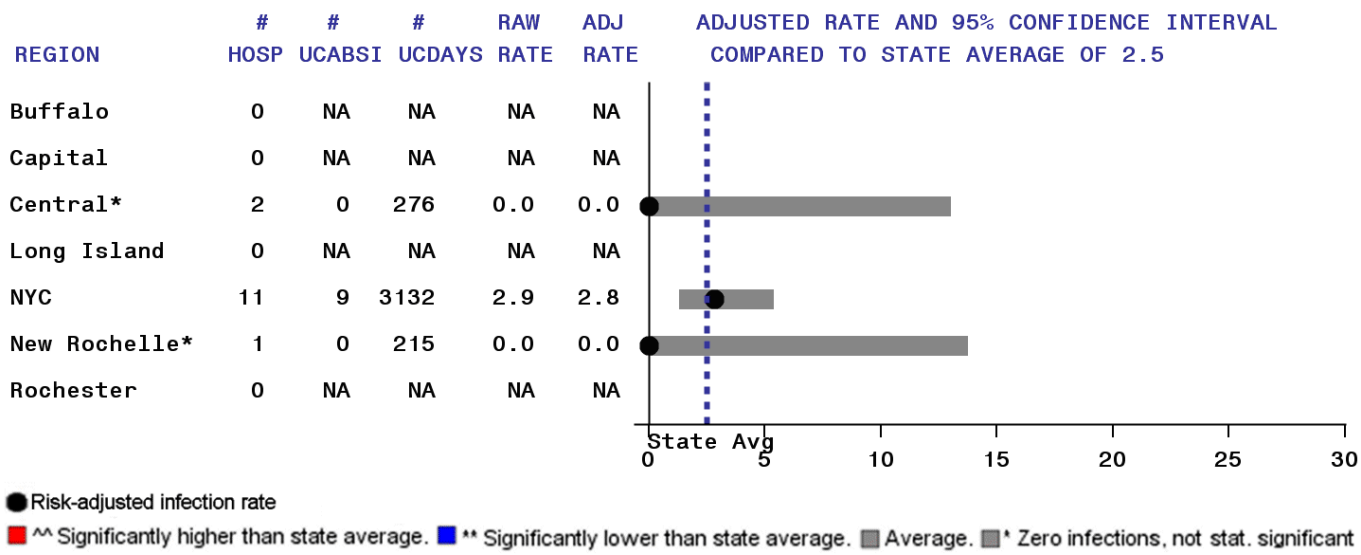
Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen. Hosp=hospital, Rates are per 1000 umbilical catheter days (UCDAYS). Adj Rate = Rate adjusted by NHSN Birth Weight Category.

Figure XLIII - Umbilical Catheter-Associated Blood Stream Infection (UCABSI) Rates in Level III Neonatal Intensive Care Units, by Region, New York State 2008



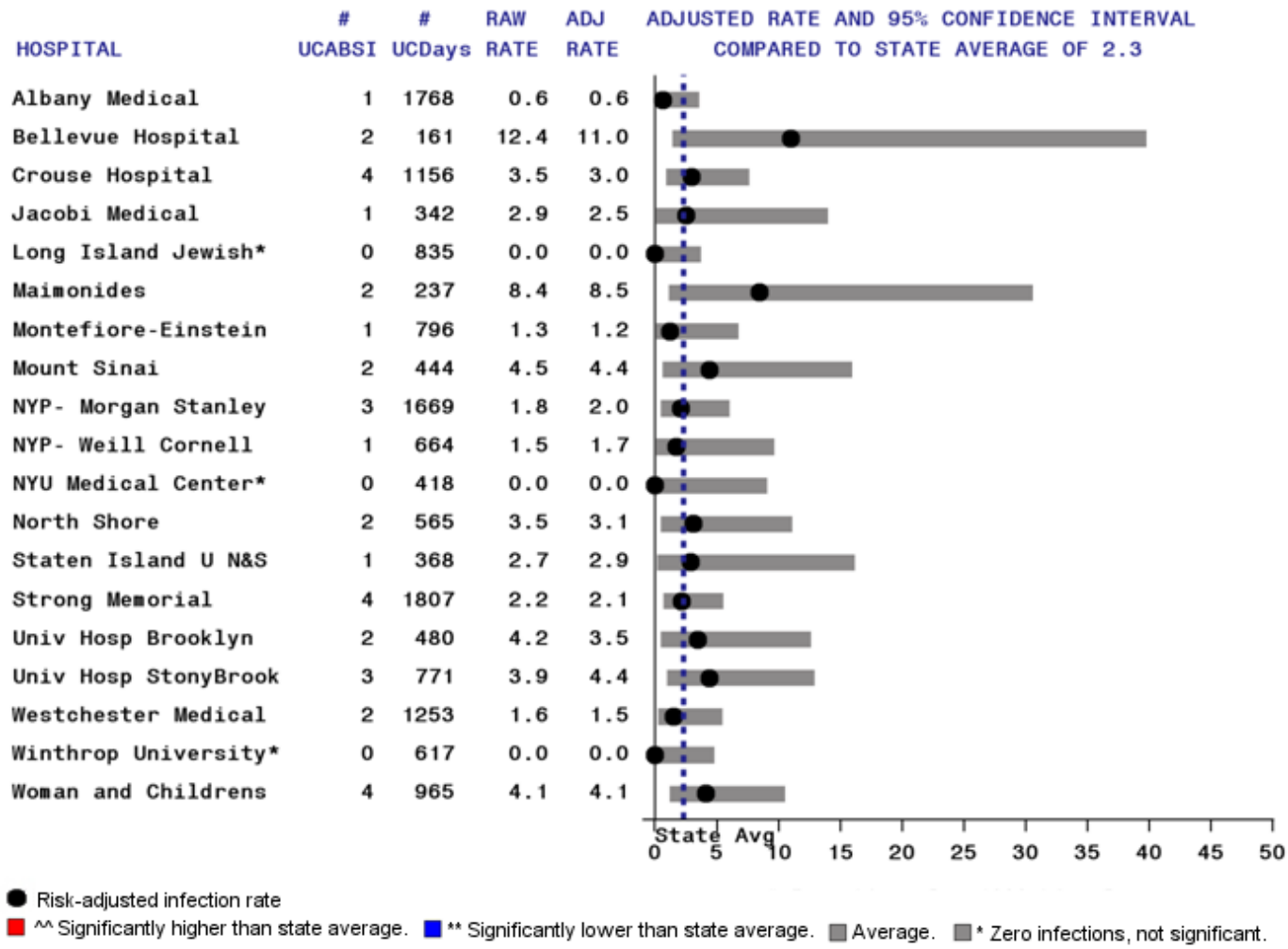
Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen. Hosp=hospital, Rates are per 1000 umbilical catheter days (UCDAYS). Adj Rate = Rate adjusted by NHSN Birth Weight Category. NA: No hospitals in region have level III neonatal intensive care units.

Figure XLIV - Umbilical Catheter-Associated Blood Stream Infection (UCABSI) Rates in Level II/III Neonatal Intensive Care Units, by Region, New York State 2008



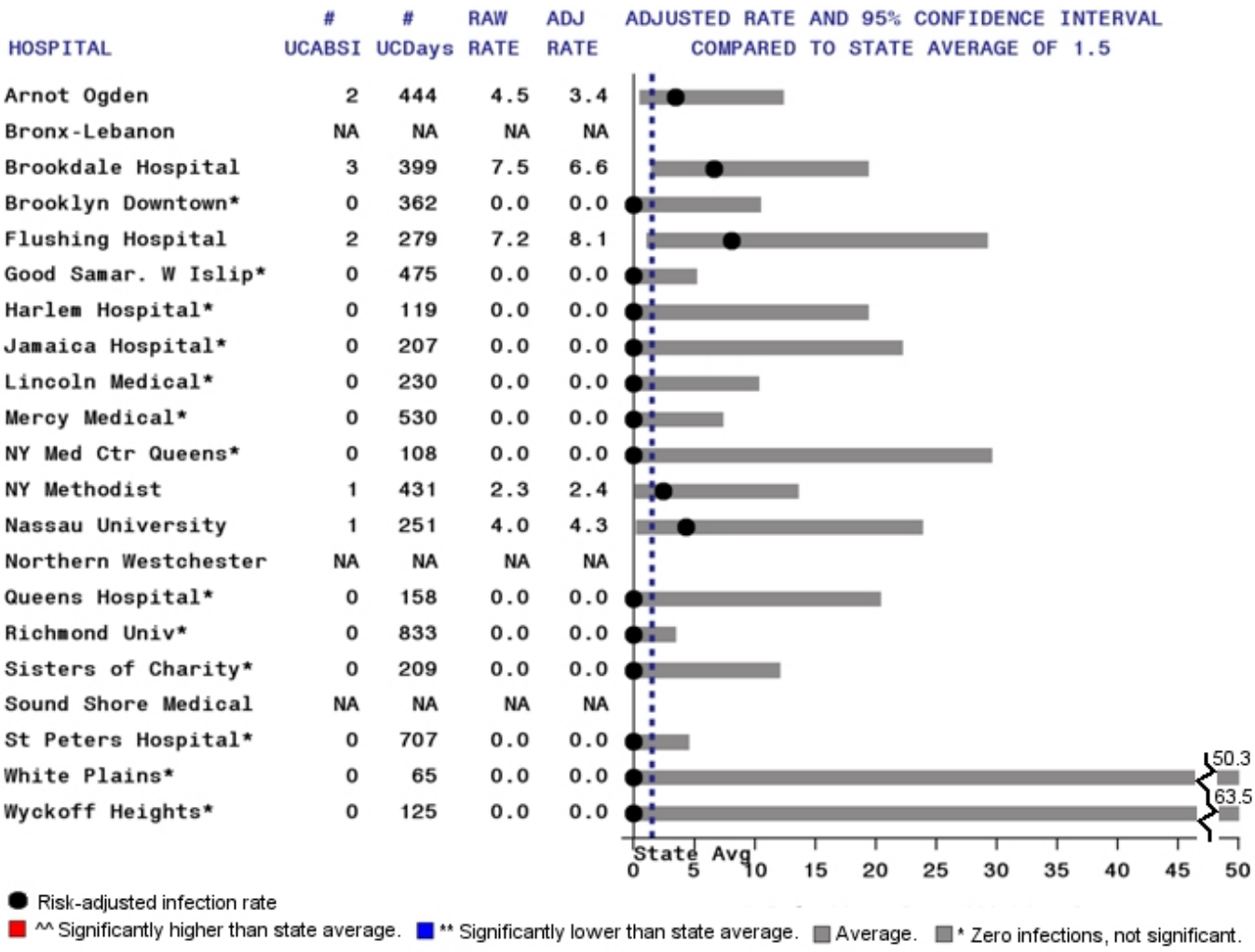
Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen. Hosp=hospital, Rates are per 1000 umbilical catheter days (UCDAYS). Adj Rate = Rate adjusted by NHSN Birth Weight Category. NA: No hospitals in region have level II/III neonatal intensive care units.

Figure XLV - Umbilical Catheter-Associated Blood Stream Infection (UCABSI) Rates, Regional Perinatal Center Intensive Care Units, New York State 2008



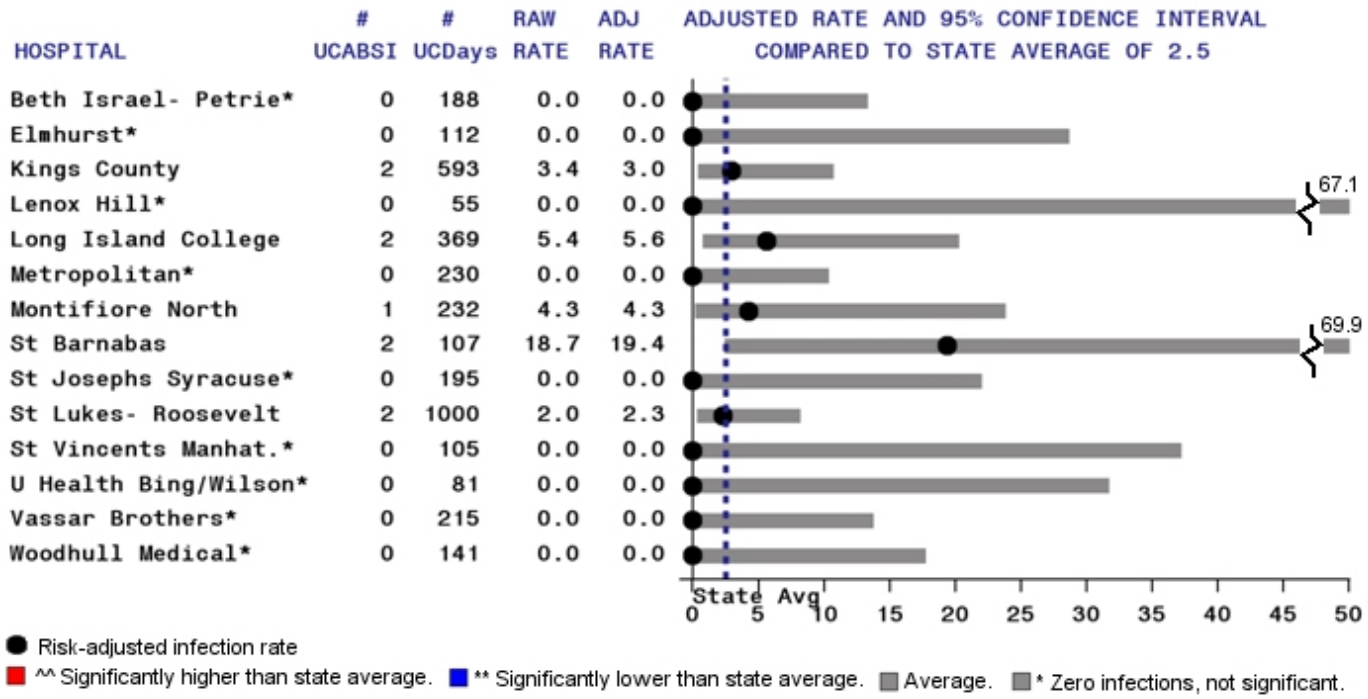
Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
Rates are per 1000 umbilical catheter days (UCDAYS). Adj Rate = Rate adjusted by NHSN Birth Weight Category.

Figure XLVI - Umbilical Catheter-Associated Blood Stream Infection (UCABSI) Rates, Level III Neonatal Intensive Care Units, New York State 2008



Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
Rates are per 1000 umbilical catheter days (UCDAYS). Adj Rate = Rate adjusted by NHSN Birth Weight Category.
NA: Hospitals with less than 50 umbilical catheter days.

Figure XLVII - Umbilical Catheter-Associated Blood Stream Infection (UCABSI) Rates, Level II/III Neonatal Intensive Care Units, New York State 2008



Data reported as of April 8, 2009. Excludes clinical sepsis and untreated events with single contaminated specimen.
Rates are per 1000 umbilical catheter days (UCDAYS). Adj Rate = Rate adjusted by NHSN Birth Weight Category.
NA: Hospitals with less than 50 umbilical catheter days.

Table 11 - Microorganisms Associated with Umbilical Catheter Associated Blood Stream Infections (UCABSI) in Neonatal Intensive Care Units (NICUs), New York State 2008

Microorganism	Number of Isolates	Percent of Infections
Coagulase negative staphylococci	22	41.5
Staphylococcus aureus	9	17.0
(MRSA)	(0)	(0)
Enterococci	4	7.5
(VRE)	(0)	(0)
Candida parapsilosis	3	5.7
Escherichia coli	2	3.8
Enterobacter sp.	2	3.8
Candida albicans	1	1.9
Klebsiella sp.	1	1.9
Pseudomonas sp.	1	1.9
Other	3	5.7

New York State NHSN data reported as of April 8, 2009
Out of 53 UCABSI (includes post-discharge surveillance).

Table 12 - Infection Preventionist Personnel Resources in NYS Hospitals

Hospitals in the lowest quartile (i.e., with the lowest infection prevention staffing ratios for each measure) are designated with an "L" in the table.

Hospital	FTE for IP	AC Beds	AC Bed Rank	Aggregate AC Beds	Aggregate Rank
Adirondack Medical Center - Lake Placid	0.1	1	----	1	----
Adirondack Medical Center - Saranac Lake	1.0	40	----	228	----
Albany Medical Center Hospital	5.0	621	----	1106	----
Albany Memorial Hospital	0.5	82	----	124	----
Albert Lindley Lee Memorial Hospital	0.8	37	----	104	----
Alice Hyde Medical Center	0.8	35	----	239	----
Arnot Ogden Medical Center	1.5	160	----	555	L
Auburn Memorial Hospital	0.4	99	L	129	----
Aurelia Osborn Fox Memorial Hospital	1.0	50	----	293	----
Bellevue Hospital Center – NYC	5.0	875	----	1694	----
Benedictine Hospital	0.5	214	L	224	L
Bertrand Chaffee Hospital	0.8	24	----	27	----
Beth Israel Medical Center - Kings Hwy	1.0	209	L	355	L
Beth Israel Medical Center - Petrie Campus	5.0	742	----	2124	L
Bon Secours Community Hospital	1.0	75	----	153	----
Bronx-Lebanon - Fulton Division	4.0	565	----	876	----
Brookdale Hospital Medical Center	2.0	420	L	949	L
Brookhaven Memorial Hospital	1.3	321	L	460	L
Brooklyn Hospital Center - Downtown	1.0	300	L	554	L
Brooks Memorial Hospital	1.0	65	----	173	----
Canton-Potsdam Hospital	1.0	84	----	178	----
Carthage Area Hospital	0.5	20	----	239	L
Catskill Regional Medical Center	0.7	98	----	259	L
Catskill Regional Medical Ctr Hermann Site	0.3	25	----	25	----
Cayuga Medical Center At Ithaca	0.9	108	----	194	----
Champlain Valley Physicians Hospital	1.0	254	L	515	L
Chenango Memorial Hospital Inc	1.0	52	----	226	----
City Hospital Center At Elmhurst	3.5	517	----	1070	----
Claxton Hepburn Hospital	1.0	71	----	412	L
Clifton Springs Hospital And Clinic	0.5	70	----	195	L
Clifton-Fine Hospital	0.4	3	----	14	----
Cobleskill Regional Hospital	0.3	25	----	85	----
Columbia Memorial Hospital	1.0	110	----	241	----
Community General Hospital - Syracuse	1.5	130	----	196	----
Community Memorial Hospital Inc	0.5	35	----	111	----
Coney Island Hospital	4.5	357	----	546	----
Corning Hospital	0.3	40	----	48	----
Cortland Regional Medical Center	0.8	100	----	162	----
Crouse Hospital	2.0	280	----	602	----
Cuba Memorial Hospital	0.4	20	----	70	----
Delaware Valley Hospital	0.6	25	----	105	----
Eastern Long Island Hospital	0.1	70	L	125	L
Edward John Noble Hospital Of Gouverneur	0.9	18	----	130	----
Elizabethtown Community Hospital	0.6	25	----	25	----
Ellenville Regional Hospital	0.2	25	----	55	L
Ellis Hospital	2.0	220	----	396	----

Hospital	FTE for IP	AC Beds	AC Bed Rank	Aggregate AC Beds	Aggregate Rank
Erie County Medical Center	1.9	480	L	600	----
F F Thompson Hospital	1.0	60	----	201	----
Faxton-St Lukes Healthcare - Faxton Div	0.1	20	L	120	L
Faxton-St Lukes Healthcare - St Lukes Div	1.9	250	----	412	----
Flushing Hospital Medical Center	2.5	250	----	470	----
Forest Hills Hospital	1.0	240	L	284	----
Franklin Hospital	1.0	225	L	291	----
Geneva General Hospital	1.1	60	----	286	----
Glen Cove Hospital	1.0	195	L	278	----
Glens Falls Hospital	2.0	280	----	496	----
Good Samaritan Hospital Med Center W Islip	4.0	355	----	566	----
Good Samaritan Hospital Of Suffern	2.0	370	----	601	----
Harlem Hospital Center	4.0	285	----	446	----
Highland Hospital	2.0	260	----	484	----
Hospital For Special Surgery	2.0	162	----	222	----
Hudson Valley Hospital Center	0.8	100	----	160	----
Huntington Hospital	1.9	270	----	406	----
Inter-community Memorial At Newfane	0.5	26	----	80	----
Interfaith Medical Center	1.0	339	L	552	L
Ira Davenport Memorial Hospital Inc	0.5	35	----	118	----
Jacobi Medical Center	4.0	490	----	1456	L
Jamaica Hospital Medical Center	3.5	300	----	552	----
John T Mather - Port Jefferson	2.0	248	----	358	----
Kaleida - Buffalo General Hospital	2.0	339	----	505	----
Kaleida - Degraff Memorial Hospital	0.5	70	----	132	----
Kaleida - Millard Fillmore Hospital	1.0	189	L	227	----
Kaleida - Millard Fillmore Suburban Hospital	1.0	268	L	288	----
Kaleida - Women and Children's - Buffalo	2.0	200	----	434	----
Keller Army Community Hospital	1.0	20	----	71	----
Kenmore Mercy Hospital	1.0	125	----	205	----
Kings County Hospital Center	5.0	674	----	1783	L
Kingsbrook Jewish Medical Center	3.0	326	----	744	----
Kingston Hospital	0.5	180	L	295	L
Lakeside Memorial Hospital	0.8	30	----	93	----
Lawrence Hospital Center	1.9	145	----	173	----
Lenox Hill Hospital	2.0	420	L	635	----
Lewis County General Hospital	0.8	25	----	131	----
Lincoln Medical & Mental Health Center	4.7	347	----	605	----
Little Falls Hospital	0.7	18	----	55	----
Lockport Memorial Hospital	0.3	80	L	136	L
Long Beach Medical Center	1.0	100	----	292	----
Long Island College Hospital	2.0	337	----	1140	L
Long Island Jewish Medical Center	3.2	863	L	1098	----
Lutheran Medical Center	2.0	395	L	467	----
Maimonides Medical Center	6.0	665	----	1033	----
Margaretville Hospital	0.6	5	----	75	----
Mary Imogene Bassett Hospital	2.0	180	----	714	L
Massena Memorial Hospital	0.5	50	----	194	L
Medina Memorial Hospital	0.6	50	----	192	----
Memorial Hosp a/k/a Jones	1.0	20	----	136	----
Memorial Sloan Kettering	6.0	437	----	636	----
Mercy Hospital - Buffalo	2.4	322	----	596	----
Mercy Medical Center – Nassau Co.	2.0	220	----	448	----

Hospital	FTE for IP	AC Beds	AC Bed Rank	Aggregate AC Beds	Aggregate Rank
Metropolitan Hospital Center	2.3	290	----	432	----
Montefiore Med Ctr - Weiler Hosp-Einstein	2.0	390	L	615	----
Montefiore Medical Center - Moses Div	4.0	700	----	1140	----
Montefiore Medical Center - North Division	2.0	254	----	488	----
Moses-Ludington Hospital	0.8	3	----	3	----
Mount Sinai Hospital	7.0	1002	----	1513	----
Mount Sinai Hospital of Queens	1.6	192	----	320	----
Mount St Marys Hospital and Health Center	0.8	120	----	142	----
Mount Vernon Hospital	1.0	196	L	314	----
Nassau University Medical Center	3.0	530	----	729	----
Nathan Littauer Hospital	0.8	48	----	146	----
New Island Hospital	0.3	110	L	222	L
New York Community Hospital Brooklyn	1.0	134	----	141	----
New York Downtown Hospital	0.0	139	L	289	L
New York Eye And Ear Infirmary	0.4	15	----	95	----
New York Hospital Med Center Of Queens	3.2	439	----	699	----
New York Methodist	3.0	651	L	817	----
New York Presbyterian - Allen Pavilion	1.0	201	L	433	L
New York Presb-Columbia&Morgan Stanley	6.0	896	----	1085	----
New York Presbyterian - Weill Cornell	5.0	800	----	1125	----
New York Westchester Square Medical	0.9	148	----	268	----
Newark-Wayne Community Hospital	0.7	49	----	146	----
Niagara Falls Memorial Medical Center	0.8	183	L	285	L
Nicholas H Noyes Memorial Hospital	0.5	45	----	183	L
North Central Bronx Hospital	2.0	223	----	335	----
North General Hospital	1.0	200	L	668	L
North Shore University Hospital	4.3	827	L	1347	----
Northern Dutchess Hospital	0.4	52	----	118	----
Northern Westchester Hospital	1.0	235	L	360	L
Nyack Hospital	1.0	220	L	292	----
NYU Hospitals Center & Joint Disease	5.0	790	----	998	----
O'Connor Hospital	0.4	9	----	69	----
Olean General Hospital	1.0	141	----	320	----
Oneida Healthcare Center	1.3	101	----	216	----
Orange Regional Medical Center-Goshen	0.9	174	L	286	----
Orange Regional Med Center-Middletown	1.2	260	L	374	----
Oswego Hospital	0.6	161	L	219	L
Our Lady Of Lourdes Memorial Hospital Inc	1.0	111	----	321	----
Peconic Bay Medical Center	1.0	90	----	142	----
Peninsula Hospital Center	1.0	140	----	262	----
Phelps Memorial Hospital Assn	1.0	150	----	297	----
Plainview Hospital	1.0	225	L	466	L
Putnam Hospital Center	1.0	164	----	174	----
Queens Hospital Center	3.0	261	----	1088	L
Richmond University Medical Center	2.0	237	----	371	----
River Hospital	0.2	6	----	80	L
Rochester General Hospital	4.0	500	----	924	----
Rockefeller University Hospital	0.5	5	----	15	----
Rome Memorial Hospital	2.0	116	----	184	----
Roswell Park Cancer Institute	2.0	110	----	310	----
Samaritan Hospital - Troy	0.5	150	L	192	L
Samaritan Medical Center - Watertown	1.0	150	----	478	L
Saratoga Hospital	1.0	176	----	338	----

Hospital	FTE for IP	AC Beds	AC Bed Rank	Aggregate AC Beds	Aggregate Rank
Schuyler Hospital	1.0	20	----	84	----
Seton Health System-St Mary's Campus	1.3	125	----	257	----
Sisters Of Charity Hospital	1.0	193	L	489	L
SJRH St Johns Division	2.0	300	----	470	----
Soldiers And Sailors Meml Hosp of Yates	1.0	20	----	134	----
Sound Shore Medical Ctr Of Westchester	1.0	160	----	230	----
South Nassau Communities Hospital	2.0	386	L	533	----
Southampton Hospital	1.0	75	----	283	----
Southside Hospital	2.0	224	----	340	----
St Anthony Community Hospital	0.3	45	----	103	L
St Barnabas Hospital	2.5	450	----	660	----
St Catherine of Siena Medical Center	1.9	311	----	434	----
St Charles Hospital	1.0	301	L	317	----
St Elizabeth Medical Center	1.3	149	----	254	----
St Francis Hospital - Beacon Division	0.1	97	L	97	L
St Francis Hospital – Poughkeepsie	0.9	222	L	347	L
St Francis Hospital – Roslyn	2.0	279	----	459	----
St James Mercy Hospital	0.3	124	L	310	L
St Johns Episcopal Hospital South Shore	1.0	215	L	451	L
St Joseph Hospital Of Cheektowaga	1.0	85	----	159	----
St Josephs Hospital Health Center - Syracuse	2.8	341	----	591	----
St Josephs Hospital of Elmira	0.5	155	L	329	L
St Josephs Hospital Yonkers	1.0	150	----	390	L
St Luke's Cornwall Hospital/Cornwall	0.4	125	L	135	----
St Luke's Cornwall Hospital/Newburgh	1.6	180	----	328	----
St Lukes Roosevelt - Roosevelt	1.6	372	L	636	L
St Lukes Roosevelt - St Lukes Division	1.4	360	L	573	L
St Marys Hospital At Amsterdam	1.0	85	----	163	----
St Peters Hospital	2.0	442	L	567	----
Staten Island University Hospital – North	7.0	522	----	773	----
Staten Island University Hospital – South	2.0	181	----	277	----
Strong Memorial Hospital	4.0	739	----	1945	L
SVCMC-St Vincent's Manhattan	4.0	480	----	678	----
Syosset Hospital	1.0	103	----	131	----
TLC Health Network Lake Shore Hospital	1.5	43	----	131	----
TLC Health Network Tri-County Memorial	0.2	28	----	28	----
United Health Services - Binghamton	0.5	200	L	368	L
United Health Services Hospitals - Wilson	1.5	280	----	404	----
Unity Hospital of Rochester	2.0	327	----	722	L
United Memorial Medical Center North St	1.0	131	----	191	----
University Hospital – Stony Brook	6.0	540	----	1062	----
University Hospital of Brooklyn	3.8	376	----	686	----
University Hospital SUNY Health Science	3.0	303	----	1182	L
Vassar Brothers Medical Center	2.0	365	----	532	----
Westchester Medical Center	6.6	650	----	987	----
White Plains Hospital Center	1.6	291	----	427	----
Winthrop University Hospital	4.0	581	----	1015	----
Woman's Christian Association	1.0	100	----	275	----
Woodhull Medical & Mental Health Center	3.0	376	----	582	----
Wyckoff Heights Medical Center	2.0	350	----	366	----
Wyoming County Community Hospital	0.3	45	----	125	L

FTE=full time equivalent staff, AC=acute care, IP=Infection Preventionist, L=lowest 25th percent

Summary Table

Table 13 - Summary of Hospital-Acquired Infection Data, New York State 2008

	Colon		Hip		Coronary Artery Bypass Chest		Coronary Artery Bypass Donor		Coronary ICU		Cardio thoracic ICU		Medical ICU		Medical Surgical ICU		Surgical ICU		Neurosurgical ICU		Pediatric ICU		Neonatal ICU			
Hospital	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	CLABSI Adj rate	UCABSI/ UCDays	UCABSI Adj rate
State Average	4.4		1.1		2.1		1.0		2.2		1.4		2.7		Teaching/Not 2.4/ 2.0		2.8		2.3		3.4		RPC/Lev3/Lev2-3 3.1 /2.2/ 5.6		RPC/Lev3/Lev2-3 2.3 /1.5/ 2.5	
AL Lee Memorial	NA	NA	2/ 20	6.9											1/ 386	2.6										
AO Fox Memorial	2/ 44	4.9	0/ 25	* 0.0											0/ 286	* 0.0										
Adirondack Medical	NA	NA	1/ 66	1.3											2/ 595	3.4										
Albany Medical	22/360	6.3	0/ 209	* 0.0	5/ 394	1.3	0/ 346	** 0.0	1/2197	0.5	7/2882	2.4	5/3321	1.5			11/4448	2.5	0/ 528	* 0.0	14/1972	^^ 7.1	4/3352	1.3	1/1768	0.6
Albany Memorial	5/ 81	6.7	3/ 139	2.4											1/ 797	1.3										
Alice Hyde	0/ 27	* 0.0	1/ 40	1.9											0/ 149	* 0.0										
Arnot Ogden	7/ 58	^^11.8	3/ 165	1.8	11/ 154	^^ 5.7	2/ 144	1.1							5/3914	1.3							3/ 442	6.2	2/ 444	3.4
Auburn Memorial	0/ 44	* 0.0	1/ 38	1.6											0/ 260	* 0.0										
Bellevue Hospital	6/118	4.8	1/ 42	1.4	9/ 158	^^ 4.8	2/ 157	1.5	6/1057	5.7	0/ 908	* 0.0	9/1910	4.7			5/2156	2.3	3/ 571	5.3	0/ 51	* 0.0	4/ 553	7.1	2/ 161	11.0
Benedictine Hospital	0/ 61	* 0.0	NA	NA											3/1199	2.5										
Beth Israel- Kings	0/ 56	* 0.0	0/ 54	* 0.0											2/1758	1.1										
Beth Israel- Petrie	22/230	^^ 9.4	2/ 248	0.9	12/ 314	3.5	8/ 298	^^ 2.9	0/ 667	* 0.0	3/1437	2.1	3/3605	** 0.8			4/1405	2.8			0/ 157	* 0.0	3/ 292	12.9	0/ 188	* 0.0
Betrand Chaffee	NA	NA																								
Bon Secours	1/ 32	3.1	NA	NA											2/ 536	3.7										
Bronx-Lebanon	0/ 52	* 0.0	0/ 29	* 0.0					0/ 295	* 0.0					6/3082	1.9							0/ 405	* 0.0	NA	NA
Brookdale Hospital	1/ 56	1.7	0/ 25	* 0.0					3/ 614	4.9			10/3073	3.3			5/1590	3.1	1/ 639	1.6	2/ 122	16.4	0/ 184	* 0.0	3/ 399	6.6
Brookhaven Memorial	2/144	1.3	3/ 125	1.9					6/1044	5.7			11/1191	^^ 9.2			11/1829	^^ 6.0								
Brooklyn Downtown	3/ 83	3.5	NA	NA									6/1170	5.1			1/1285	0.8					1/1314	0.8	0/ 362	* 0.0
Brooks Memorial	NA	NA	2/ 75	3.4											0/ 436	* 0.0										
Buffalo General	11/153	7.0	7/ 544	1.2	22/ 421	^^ 5.0	15/ 392	^^ 3.8	2/ 600	3.3			8/2748	2.9			3/3806	** 0.8								
Canton-Potsdam	1/ 36	2.7	1/ 65	1.3											0/ 197	* 0.0										
Carthage Area	NA	NA																								
Catskill Regional	1/ 39	2.6	1/ 36	2.5											3/ 549	5.5										
Cayuga Medical Cntr	5/ 76	6.6	2/ 70	3.1											0/1184	* 0.0										
Champlain Valley	10/ 93	^^11.2	0/ 89	* 0.0	2/ 135	1.1	1/ 130	0.8							4/2442	1.6										
Chenango Memorial	NA	NA	1/ 27	4.2											1/ 274	3.6										
Claxton-Hepburn	1/ 28	3.7	NA	NA											0/ 382	* 0.0										
Clifton Springs	5/ 38	^^13.8	1/ 83	1.5											0/ 352	* 0.0										
Columbia Memorial	1/ 59	1.7	1/ 48	1.3											3/ 691	4.3										
Community General	2/138	1.4	4/ 485	1.2											0/1215	* 0.0										

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	Colon		Hip		Coronary Artery Bypass Chest		Coronary Artery Bypass Donor		Coronary ICU		Cardio thoracic ICU		Medical ICU		Medical Surgical ICU		Surgical ICU		Neurosurgical ICU		Pediatric ICU		Neonatal ICU			
Hospital	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	CLABSI Adj rate	UCABSI/ UCDays	UCABSI Adj rate
State Average	4.4		1.1		2.1		1.0		2.2		1.4		2.7		Teaching/Not 2.4/ 2.0		2.8		2.3		3.4		RPC/Lev3/Lev2-3 3.1 /2.2/ 5.6		RPC/Lev3/Lev2-3 2.3 /1.5/ 2.5	
Community Memorial	NA	NA	0/ 189	* 0.0											0/ 82	* 0.0										
Coney Island	4/ 36	10.3	3/ 60	2.7					0/ 241	* 0.0			1/1245	0.8			1/ 723	1.4								
Corning Hospital	0/ 32	* 0.0	1/ 60	1.4											0/ 397	* 0.0										
Cortland Reg Med	0/ 22	* 0.0	NA	NA									1/ 691	1.4												
Crouse Hospital	2/229	** 0.9	3/ 253	1.5											2/3129	0.6							7/1140	6.3	4/1156	3.0
DeGraff Memorial	0/ 39	* 0.0	2/ 43	3.9											0/ 570	* 0.0										
EJ Noble Hospital	NA	NA													NA	NA										
Eastern Long Island	NA	NA	NA	NA											0/ 87	* 0.0										
Ellis Hospital	17/237	7.1	1/ 238	0.3	8/ 314	3.2	1/ 270	0.5							12/5290	2.3										
Elmhurst	1/ 72	1.5	0/ 30	* 0.0					0/ 474	* 0.0													1/ 289	3.9	0/ 112	* 0.0
Erie Medical Center	3/ 86	3.4	0/ 114	* 0.0	3/ 128	2.3	1/ 71	1.4	0/ 779	* 0.0	0/ 206	* 0.0	4/2334	1.7												
FF Thompson	1/ 48	2.0	0/ 92	* 0.0											1/ 390	2.6										
Faxton St. Lukes	1/127	0.8	1/ 143	0.5					4/1756	2.3					7/2234	3.1										
Flushing Hospital	3/ 48	6.4	0/ 32	* 0.0					3/ 411	7.3			6/1156	5.2			2/ 405	4.9					2/1012	2.3	2/ 279	8.1
Forest Hills Hosp	8/135	6.0	0/ 103	* 0.0											4/2657	1.5										
Franklin	1/114	0.9	3/ 105	2.8											2/2759	0.7										
Geneva General	1/ 47	2.0	0/ 72	* 0.0											0/ 478	* 0.0										
Glen Cove Hospital	1/ 52	1.7	1/ 418	0.3											0/1731	* 0.0										
Glens Falls	8/139	5.9	1/ 156	0.6											6/2409	2.5										
Good Samar. Suffern	4/107	3.8	1/ 57	1.7	1/ 241	0.4	0/ 225	* 0.0			1/1003	1.0			2/2007	1.0	1/1007	1.0								
Good Samar. W Islip	13/281	4.8	2/ 147	1.2											3/4198	0.7					2/ 141	14.2	0/ 496	* 0.0	0/ 475	* 0.0
Harlem Hospital	1/ 49	1.9	NA	NA					3/ 502	6.0					4/1986	2.0					NA	NA	0/ 206	* 0.0	0/ 119	* 0.0
Highland Hospital	13/219	6.0	7/ 645	1.2											6/3266	1.8										
Hosp for Spec Surg			3/3617	** 0.1																						
Hudson Valley	4/ 72	5.4	0/ 85	* 0.0											6/1483	4.0										
Huntington	6/147	4.0	6/ 212	2.7					2/ 964	2.1					1/1703	0.6										
Intercomm. Newfane	NA	NA	NA	NA											1/ 118	8.5										
Interfaith Medical	NA	NA													5/2507	2.0										
Ira Davenport													0/ 56	* 0.0												
JT Mather	10/144	7.2	0/ 61	* 0.0					2/1092	1.8					5/1947	2.6										
Jacobi Medical	6/ 66	8.6	1/ 39	1.3					6/1076	5.6			6/2180	2.8			12/1472	^^ 8.2			0/ 145	* 0.0	4/1123	3.1	1/ 342	2.5

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NA: Fewer than 20 procedures or 50 line days reported Blank: No procedures or ICUs at hospital

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	Colon		Hip		Coronary Artery Bypass Chest		Coronary Artery Bypass Donor		Coronary ICU		Cardio thoracic ICU		Medical ICU		Medical Surgical ICU		Surgical ICU		Neurosurgical ICU		Pediatric ICU		Neonatal ICU			
Hospital	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	CLABSI Adj rate	UCABSI/ UCDays	UCABSI Adj rate
State Average	4.4		1.1		2.1		1.0		2.2		1.4		2.7		Teaching/Not 2.4/ 2.0		2.8		2.3		3.4		RPC/Lev3/Lev2-3 3.1 /2.2/ 5.6		RPC/Lev3/Lev2-3 2.3 /1.5/ 2.5	
Jamaica Hospital	5/ 66	7.3	1/ 42	1.5									1/1698	0.6			2/1328	1.5					4/ 734	5.2	0/ 207	* 0.0
Jones Memorial	0/ 22	* 0.0													0/ 140	* 0.0										
Kenmore Mercy	1/137	0.8	7/ 363	^^ 3.0											1/1677	0.6										
Kings County	2/ 82	2.2	NA	NA					3/1143	2.6			2/1213	1.6			0/ 838	* 0.0	1/ 739	1.4	1/ 258	3.9	7/1341	4.1	2/ 593	3.0
Kingsbrook Jewish	6/ 55	9.8	1/ 23	2.2					4/1166	3.4					4/1404	2.8										
Kingston Hospital	0/ 77	** 0.0	0/ 55	* 0.0											0/1754	* 0.0										
Lakeside Memorial	NA	NA	1/ 31	2.4									0/ 206	* 0.0												
Lawrence	2/ 77	2.6	0/ 87	* 0.0									14/ 856	^^16.4												
Lenox Hill	11/207	5.1	11/ 427	^^ 2.4	8/ 527	1.5	1/ 467	0.2	7/1268	^^ 5.5	8/2225	^^ 3.6			14/3285	4.3							7/ 967	7.3	0/ 55	* 0.0
Lewis County	2/ 21	9.1	0/ 24	* 0.0											0/ 135	* 0.0										
Lincoln Medical	2/ 73	2.5	NA	NA					0/ 775	* 0.0			0/1675	** 0.0			4/ 750	5.3			NA	NA	1/ 593	1.5	0/ 230	* 0.0
Lockport Memorial	1/ 27	3.9	0/ 26	* 0.0											1/ 526	1.9										
Long Beach	2/ 23	8.1	NA	NA											0/ 944	* 0.0										
Long Island College	12/101	^^11.6	4/ 75	3.4					1/ 524	1.9					9/2582	3.5					1/ 54	18.5	2/ 711	2.7	2/ 369	5.6
Long Island Jewish	3/337	** 0.9	3/ 357	0.8	5/ 396	1.0	3/ 396	0.7	1/ 744	1.3	2/2297	0.9	4/1379	2.9							8/2714	2.9	22/4298	^^ 5.0	0/ 835	* 0.0
Lutheran Medical	4/128	3.2	0/ 151	* 0.0									7/3065	2.3			5/2223	2.2								
Maimonides	16/233	6.9	2/ 167	0.9	6/ 406	1.3	4/ 392	0.9	1/ 446	2.2	8/2626	3.0	2/3875	** 0.5			9/1991	4.5			1/ 725	1.4	11/2425	4.7	2/ 237	8.5
Mary Immaculate	2/ 33	5.9	NA	NA					2/ 804	2.5					1/1585	0.6										
Mary Imogene Bassett	10/104	9.2	8/ 187	^^ 3.9	0/ 89	* 0.0	0/ 84	* 0.0							4/3086	1.3										
Massena Memorial	NA	NA	NA	NA											0/ 80	* 0.0										
Medina Memorial	0/ 24	* 0.0	NA	NA											0/ 138	* 0.0										
Mercy Buffalo	11/204	5.8	3/ 161	1.5	7/ 385	2.1	0/ 357	** 0.0	3/1918	1.6	0/1291	* 0.0			4/2233	1.8										
Mercy Medical	0/ 65	* 0.0	0/ 98	* 0.0											7/1731	4.0							1/ 99	9.3	0/ 530	* 0.0
Metropolitan	5/ 42	11.8	0/ 22	* 0.0									7/1388	5.0			2/ 694	2.9					5/ 560	9.4	0/ 230	* 0.0
Millard Fill. Gates	1/ 27	3.3	0/ 22	* 0.0	3/ 300	1.0	1/ 277	0.4			1/1663	0.6	8/1605	5.0			0/ 481	* 0.0	1/ 825	1.2						
Millard Fill. Suburb	8/159	5.0	2/ 280	0.8											7/3535	2.0										
Montefiore-Einstein	3/129	2.3	1/ 161	0.4	4/ 201	1.4	1/ 173	0.6			2/1919	1.0			8/3656	2.2							3/2195	1.3	1/ 796	1.2
Montefiore-Moses	11/212	5.2	3/ 194	1.1	15/ 341	3.3	1/ 290	0.3	6/ 997	^^ 6.0	3/2896	1.0	8/4183	1.9			4/2378	1.7			6/1834	3.3				
Montifiore North	2/ 36	5.0	NA	NA											1/2289	0.4							8/ 367	^^24.7	1/ 232	4.3
Mount Sinai	12/205	5.9	6/ 253	1.9	19/ 452	^^ 4.0	7/ 452	1.5	4/1524	2.6	6/3796	1.6	6/3271	1.8			6/3858	1.6	7/1889	3.7	11/2334	4.7	2/1672	1.2	2/ 444	4.4
Mount Sinai Queens	4/ 65	5.9	1/ 52	1.9											1/1517	0.7										

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Hospital	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	CLABSI Adj rate	UCABSI/ UCDays	UCABSI Adj rate
State Average	4.4		1.1		2.1		1.0		2.2		1.4		2.7		Teaching/Not 2.4/ 2.0		2.8		2.3		3.4		RPC/Lev3/Lev2-3 3.1 /2.2/ 5.6		RPC/Lev3/Lev2-3 2.3 /1.5/ 2.5	
Mount St. Marys	9/ 71	^^12.8	1/ 77	1.0									0/ 613	* 0.0												
Mount Vernon	0/ 21	* 0.0	NA	NA											2/ 312	6.4										
NY Community Bklyn	3/ 45	6.2	NA	NA											3/ 852	3.5										
NY Downtown	2/ 40	5.1	2/ 46	3.8											3/2384	1.3										
NY Med Ctr Queens	7/263	2.6	11/ 227	^^ 4.4	0/ 63	* 0.0	1/ 58	2.5	3/1337	2.2	1/ 673	1.5	1/2213	** 0.5			4/1532	2.6			0/ 148	* 0.0	0/ 580	* 0.0	0/ 108	* 0.0
NY Methodist	1/103	1.0	0/ 132	* 0.0	2/ 116	1.5	2/ 110	2.7	0/ 463	* 0.0	2/1143	1.7			13/4550	2.9					0/ 64	* 0.0	3/1383	2.2	1/ 431	2.4
NYP- Allen	0/ 30	* 0.0	0/ 38	* 0.0											6/1129	5.3										
NYP- Columbia	19/301	6.3	3/ 281	1.1	14/ 598	2.5	1/ 494	0.2	14/3761	3.7	11/6300	1.7			14/5286	2.6	8/3986	2.0	6/2742	2.2						
NYP- Morgan Stanley	1/ 32	3.1																			14/5939	2.4	18/6689	2.7	3/1669	2.0
NYP- Weill Cornell	25/545	4.7	1/ 108	0.6	5/ 423	1.5	1/ 395	0.3	6/2537	2.4	4/3956	1.0			8/3220	2.5	12/3314	3.6	7/2261	3.1	5/2597	1.9	9/2573	3.6	1/ 664	1.7
NYU Joint Disease			8/ 684	1.1																						
NYU Medical Center	11/223	4.8	1/ 169	0.4	5/ 174	3.1	12/ 151	^^ 6.2			7/1034	^^ 6.8			28/7545	^^ 3.7			1/ 556	1.8	3/ 984	3.0	2/ 793	2.6	0/ 418	* 0.0
Nassau University	2/ 22	9.0	2/ 33	4.8					6/ 822	^^ 7.3			11/1918	^^ 5.7			7/ 787	^^ 8.9			0/ 73	* 0.0	3/ 355	6.8	1/ 251	4.3
Nathan Littauer	4/ 33	12.6	1/ 45	2.0											0/ 133	* 0.0										
New Island	1/ 87	1.1	0/ 126	* 0.0											2/2127	0.9										
Newark Wayne	NA	NA	0/ 20	* 0.0											2/ 592	3.4										
Niagara Falls	0/ 23	* 0.0	NA	NA											0/ 915	* 0.0										
North Central Bronx	NA	NA													6/ 769	^^ 7.8										
North General	4/ 26	14.5	NA	NA											12/1462	^^ 8.2										
North Shore	23/536	4.2	2/ 416	0.5	18/ 643	3.0	5/ 643	0.8	0/1269	* 0.0	5/3521	1.4	2/4530	** 0.4			4/3233	1.2	3/2138	1.4	2/ 487	4.1	8/2569	3.1	2/ 565	3.1
Northern Dutchess	0/ 20	* 0.0	0/ 224	* 0.0											0/ 358	* 0.0										
Northern Westchester	5/110	4.8	0/ 116	* 0.0											0/1179	* 0.0							0/ 68	* 0.0	NA	NA
Noyes Memorial	2/ 52	4.0	2/ 51	3.6											0/ 303	* 0.0										
Nyack Hospital	7/125	5.0	2/ 142	1.3									6/1187	5.1			0/ 825	* 0.0								
Olean General	2/ 71	2.8	0/ 85	* 0.0											0/ 843	* 0.0										
Oneida Healthcare	4/ 68	6.0	1/ 35	2.7											2/ 351	5.7										
OrangeReg Goshen&Mid	7/188	3.7	4/ 222	1.7											18/3762	^^ 4.8										
Oswego Hospital	0/ 31	* 0.0	NA	NA									0/ 376	* 0.0												
Our Lady of Lourdes	2/126	1.5	0/ 218	* 0.0											2/1025	2.0										
Peconic Bay Medical	1/ 75	1.3	2/ 88	1.8											1/ 751	1.3										
Peninsula Hospital	2/ 31	6.4	NA	NA											1/1239	0.8										

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Hospital	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	CLABSI Adj rate	UCABSI/ UCDays	UCABSI Adj rate
State Average	4.4		1.1		2.1		1.0		2.2		1.4		2.7		Teaching/Not 2.4/ 2.0		2.8		2.3		3.4		RPC/Lev3/Lev2-3 3.1 /2.2/ 5.6		RPC/Lev3/Lev2-3 2.3 /1.5/ 2.5	
Phelps Memorial	1/ 69	1.6	0/ 141	* 0.0											1/ 896	1.1										
Plainview Hospital	6/169	3.7	2/ 130	1.5											8/4664	1.7										
Putnam Hospital	1/ 77	1.4	0/ 201	* 0.0											2/ 585	3.4										
Queens Hospital	4/ 40	9.7													8/1614	^^ 5.0							0/ 55	* 0.0	0/ 158	* 0.0
Richmond Univ	3/118	2.6	0/ 65	* 0.0					0/1202	* 0.0			2/2542	0.8			0/1118	* 0.0			NA	NA	0/ 323	* 0.0	0/ 833	* 0.0
Rochester General	22/343	7.0	7/ 326	2.6	3/ 651	** 0.5	1/ 645	0.2			4/2762	1.4	10/3856	2.6			8/2590	3.1								
Rome Memorial	4/ 60	6.9	1/ 34	2.9											0/1368	* 0.0										
Roswell Park	5/128	4.1													5/1576	3.2										
Samaritan- Troy	6/ 91	6.7	2/ 93	1.8											0/ 888	* 0.0										
Samaritan- Watertown	0/ 67	** 0.0	0/ 137	* 0.0											0/ 627	* 0.0										
Saratoga Hospital	0/130	** 0.0	2/ 151	1.2											0/1609	* 0.0										
Seton Health	5/ 81	6.3	0/ 75	* 0.0											3/1092	2.7										
Sisters of Charity	2/109	2.0	0/ 153	* 0.0											3/1717	1.7							0/ 649	* 0.0	0/ 209	* 0.0
Sloan Kettering	17/541	3.1	1/ 59	0.7											4/4551	0.9										
Sound Shore Medical	4/ 66	6.1	2/ 149	1.1											8/ 987	^^ 8.1							NA	NA	NA	NA
South Nassau Comm.	12/201	5.7	4/ 244	1.3											1/2719	0.4										
Southampton	2/ 38	4.9	0/ 46	* 0.0											3/ 745	4.0										
Southside	5/109	4.4	5/ 146	3.1											0/2565	** 0.0										
St Anthony	0/ 22	* 0.0	1/ 32	4.0											1/ 648	1.5										
St Barnabas	2/ 47	3.9	NA	NA											2/1544	1.3							2/ 247	10.8	2/ 107	19.4
St Catherine Siena	0/ 91	** 0.0	0/ 107	* 0.0					1/1118	0.9					1/1268	0.8										
St Charles Hospital	1/ 37	2.9	1/ 218	0.6									2/1032	1.9												
St Elizabeth Medical	7/ 98	7.1	0/ 149	* 0.0	1/ 276	0.4	0/ 248	* 0.0			2/2164	0.9			3/2916	1.0										
St Francis- Pough.	3/ 67	4.7	1/ 152	0.7											2/1688	1.2										
St Francis- Roslyn	12/114	^^10.2	0/ 58	* 0.0	19/1156	1.8	16/1088	1.5			3/6084	0.5			39/8088	^^ 4.8										
St James Mercy	2/ 26	7.1	0/ 37	* 0.0											0/ 932	* 0.0										
St Johns Episcopal	1/ 23	4.0	0/ 22	* 0.0					4/1106	3.6					3/1227	2.4										
St Johns Queens	6/ 92	6.1	0/ 51	* 0.0					0/ 726	* 0.0					2/1412	1.4										
St Johns Riverside	5/ 68	7.0	1/ 66	1.2											5/1552	3.2										
St Joseph Cheektow.	5/ 76	6.4	1/ 140	0.7											3/1721	1.7										
St Josephs Elmira	NA	NA	0/ 45	* 0.0											1/ 739	1.4										

Color key: *****Blue: significantly lower than state average*** ***^^Red: significantly higher than state average*** ***Grey: not statistically different from state average*** ****: Zero infections, not statistically significant***
NA: Fewer than 20 procedures or 50 line days reported Blank: No procedures or ICUs at hospital

Table 13 - Summary of Hospital-Acquired Infection Data, New York State 2008 (continued)

	Colon		Hip		Coronary Artery Bypass Chest		Coronary Artery Bypass Donor		Coronary ICU		Cardio thoracic ICU		Medical ICU		Medical Surgical ICU		Surgical ICU		Neurosurgical ICU		Pediatric ICU		Neonatal ICU			
Hospital	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	SSI/ procs	Adj. Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	Rate	CLABSI/ CLDays	CLABSI Adj rate	UCABSI/ UCDays	UCABSI Adj rate
State Average	4.4		1.1		2.1		1.0		2.2		1.4		2.7		Teaching/Not 2.4/ 2.0		2.8		2.3		3.4		RPC/Lev3/Lev2-3 3.1 /2.2/ 5.6		RPC/Lev3/Lev2-3 2.3 /1.5/ 2.5	
St Josephs Syracuse	14/317	4.4	1/ 412	0.2	16/ 712	2.2	6/ 642	0.9					3/3081	1.0			10/5030	2.0					0/ 146	* 0.0	0/ 195	* 0.0
St Josephs Yonkers	0/ 30	* 0.0	1/ 36	2.4											5/ 754	^^ 6.6										
St Lukes- Roosevelt	10/128	7.8	0/ 124	* 0.0											2/1562	1.3			2/ 801	2.5	0/ 211	* 0.0	0/1163	** 0.0	2/1000	2.3
St Lukes- St Lukes	16/ 97	^^16.3	1/ 128	0.7	4/ 163	2.5	2/ 148	1.4					9/2600	3.5	2/1771	1.1	4/1155	3.5								
St LukesNewburgh&Cor	0/ 86	** 0.0	3/ 86	4.3									0/ 303	* 0.0	3/1895	1.6										
St Marys Amsterdam	0/ 48	* 0.0	1/ 67	1.9											0/ 177	* 0.0										
St Peters Hospital	13/383	3.7	10/ 521	2.2	9/ 622	1.5	1/ 594	0.2	1/ 976	1.0	2/2234	0.9			5/2708	1.8							3/ 962	2.6	0/ 707	* 0.0
St Vincents Manhat.	6/ 97	6.5	1/ 102	0.7	2/ 98	2.0	5/ 91	^^ 4.4	1/1409	0.7	3/1362	2.2	4/1865	2.1			1/1973	0.5	0/ 409	* 0.0			1/ 328	3.1	0/ 105	* 0.0
Staten Island U N&S	8/215	3.5	4/ 222	0.9	7/ 358	2.0	1/ 339	0.3	1/2435	0.4	0/1801	* 0.0			3/4816	** 0.6							1/ 361	2.7	1/ 368	2.9
Strong Memorial	17/319	5.2	0/ 50	* 0.0	15/ 393	3.7	9/ 365	^^ 3.0			8/4621	1.7	15/2999	^^ 5.0			20/3889	^^ 5.1			18/2563	^^ 7.0	9/3416	2.7	4/1807	2.1
Syosset Hospital	2/ 79	2.7	0/ 37	* 0.0											0/ 528	* 0.0										
TLC Lake Shore	NA	NA	0/ 52	* 0.0											1/ 138	7.2										
U Health Bing/Wilson	2/182	** 1.1	4/ 206	2.1	3/ 203	1.5	2/ 186	1.3	0/2049	** 0.0	2/2353	0.8			1/ 804	1.2							NA	NA	0/ 81	* 0.0
United Memorial	2/ 32	6.3	3/ 81	3.0											1/ 470	2.1										
Unity Hosp Rochester	0/168	** 0.0	2/ 376	0.7											3/3045	1.0										
Univ Hosp Brooklyn	2/ 80	2.3	2/ 48	4.2	1/ 98	0.6	0/ 98	* 0.0	0/ 252	* 0.0	2/1400	1.4			4/2329	1.7					1/ 387	2.6	1/ 860	1.0	2/ 480	3.5
Univ Hosp SUNY Upst.	4/102	3.8	3/ 119	1.7	2/ 178	0.9	0/ 140	* 0.0	0/ 574	* 0.0	0/1718	* 0.0	13/3141	4.1	6/ 726	^^ 8.3	13/2562	5.1	3/1493	2.0	3/ 557	5.4				
Univ Hosp StonyBrook	5/146	3.3	2/ 198	0.7	3/ 382	0.9	0/ 334	** 0.0	0/ 911	* 0.0	3/1731	1.7	19/2202	^^ 8.6			8/2461	3.3			3/ 662	4.5	1/1704	0.6	3/ 771	4.4
Vassar Brothers	5/147	3.3	0/ 90	* 0.0	1/ 311	** 0.3	0/ 292	** 0.0	0/1291	* 0.0	0/1073	* 0.0			0/1911	** 0.0							0/ 210	* 0.0	0/ 215	* 0.0
Westchester Medical	4/102	3.7	3/ 134	1.2	11/ 511	2.3	5/ 486	1.1	2/ 717	2.8	6/2600	2.3	8/2014	4.0			9/1861	4.8	1/1138	0.9	2/1600	1.3	14/3789	3.4	2/1253	1.5
Westchester Square	1/ 69	1.4	1/ 26	1.8					2/ 825	2.4							1/ 967	1.0								
White Plains	12/122	^^10.0	0/ 201	* 0.0											2/2004	1.0							0/ 134	* 0.0	0/ 65	* 0.0
Winthrop University	12/317	3.8	1/ 98	1.4	9/ 393	2.2	10/ 354	1.5					5/2219	2.3			14/3594	3.9	4/ 848	4.7	1/ 234	4.3	2/1768	1.2	0/ 617	* 0.0
Woman and Childrens	0/ 27	* 0.0																			2/2579	** 0.8	18/4147	4.7	4/ 965	4.1
Womans Christian	0/ 73	** 0.0	0/ 110	* 0.0											3/1118	2.7										
Woodhull Medical	2/ 38	5.0	NA	NA											12/4730	2.5							2/ 99	17.6	0/ 141	* 0.0
Wyckoff Heights	3/ 47	6.1	NA	NA											21/3149	^^ 6.7							1/ 192	6.3	0/ 125	* 0.0
Wyoming County Comm.	NA	NA	NA	NA											0/ 138	* 0.0										

Data reported as of: June 8, 2009 (colon); April 6, 2009 (CABG); April 8, 2009 (all other data)

Definitions: SSI= Surgical Site Infection; Procs=Procedures; Adj. Rate= Risk Adjusted Rate; Rate= Raw Rate;
CLABSI=Central Line-Associated Blood Stream Infection; CLDays= Central Line Days;
UCABSI= Umbilical Catheter-Associated Blood Stream Infection; UCDays=Umbilical Catheter Days;
SSI rates are # infections per 100 procedures; CLABSI rates are # infections per 1000 line days.

Color key: *****Blue: significantly lower than state average*** ***^^Red: significantly higher than state average*** *Grey: not statistically different from state average* **: Zero infections, not statistically significant*
NA: Fewer than 20 procedures or 50 line days reported Blank: No procedures or ICUs at hospital

§ 2819. Hospital acquired infection reporting. 1. For the purposes of this section, "hospital acquired infection" shall mean any localized or systemic patient condition that:

(a) resulted from the presence of an infectious agent or agents, or its toxin or toxins as determined by clinical examination or by laboratory testing; and

* (b) was not found to be present or incubating at the time of admission unless the infection was related to a previous admission to the same setting.

* NB Effective until January 1, 2008

* (b) was not found to be present or incubating at the time of admission unless the infection was related to a previous admission.

* NB Effective January 1, 2008

2. (a) Each general hospital shall maintain a program capable of identifying and tracking hospital acquired infections for the purpose of public reporting under this section and quality improvement.

(b) Such programs shall have the capacity to identify the following elements: the specific infectious agents or toxins and site of each infection; the clinical department or unit within the facility where the patient first became infected; and the patient's diagnoses and any relevant specific surgical, medical or diagnostic procedure performed during the current admission.

(c) The department shall establish guidelines, definitions, criteria, standards and coding for hospital identification, tracking and reporting of hospital acquired infections which shall be consistent with the recommendations of recognized centers of expertise in the identification and prevention of hospital acquired infections including, but not limited to the National Health Care Safety Network of the Centers for Disease Control and Prevention or its successor. The department shall solicit and consider public comment prior to such establishment.

(d) Hospitals shall be initially required to identify, track and report hospital acquired infections that occur in critical care units to include surgical wound infections and central line related bloodstream infections.

* (e) Subsequent to the initial requirements identified in paragraph (d) of this subdivision the department may, from time to time, require the tracking and reporting of other types of hospital acquired infections (for example, ventilator-associated pneumonias) that occur in hospitals in consultation with technical advisors who are regionally or nationally-recognized experts in the prevention, identification and control of hospital acquired infection and the public reporting of performance data.

* NB Effective until January 1, 2008

* (e) For hospital acquired infections for which the department requires tracking and reporting as permitted in this section, hospitals shall be required to report a suspected or confirmed hospital-acquired infection associated with another hospital to the originating hospital. Documentation of reporting should be maintained for a minimum of six years.

* NB Effective January 1, 2008

* (f) Subsequent to the initial requirements identified in paragraph (d) of this subdivision the department may, from time to time, require the tracking and reporting of other types of hospital acquired infections (for example, ventilator-associated pneumonias) that occur in hospitals in consultation with technical advisors who are regionally or nationally-recognized experts in the prevention, identification and control of hospital acquired infection and the public reporting of performance data.

* NB Effective January 1, 2008

* 3. Each hospital shall regularly report to the department the hospital infection data it has collected. The department shall establish data collection and analytical methodologies that meet accepted standards for validity and reliability. In no case shall the frequency of reporting be

required to be more frequently than once every six months, and reports shall be submitted not more than sixty days after the close of the reporting period.

* NB Effective until January 1, 2008

* 3. Each hospital shall regularly report to the department the hospital infection data it has collected. The department shall establish data collection and analytical methodologies that meet accepted standards for validity and reliability. The frequency of reporting shall be monthly, and reports shall be submitted not more than sixty days after the close of the reporting period.

* NB Effective January 1, 2008

4. The commissioner shall establish a state-wide database of all reported hospital acquired infection information for the purpose of supporting quality improvement and infection control activities in hospitals. The database shall be organized so that consumers, hospitals, healthcare professionals, purchasers and payers may compare individual hospital experience with that of other individual hospitals as well as regional and state-wide averages and, where available, national data.

5. (a) Subject to paragraph (c) of this subdivision, on or before May first of each year the commissioner shall submit a report to the governor and the legislature, which shall simultaneously be published in its entirety on the department's web site, that includes, but is not limited to, hospital acquired infection rates adjusted for the potential differences in risk factors for each reporting hospital, an analysis of trends in the prevention and control of hospital acquired infection rates in hospitals across the state, regional and, if available, national comparisons for the purpose of comparing individual hospital performance, and a narrative describing lessons for safety and quality improvement that can be learned from leadership hospitals and programs.

(b) The commissioner shall consult with technical advisors who have regionally or nationally acknowledged expertise in the prevention and control of hospital acquired infection and infectious disease in order to develop the adjustment for potential differences in risk factors to be used for public reporting.

(c)(i) No later than July first, two thousand six, the department shall establish a hospital acquired infection reporting system capable of receiving electronically transmitted reports from hospitals. Hospitals shall begin to submit such reports as directed by the commissioner but in no case later than January first, two thousand seven.

(ii) The first year of data submission under this section shall be considered the "pilot phase" of the statewide hospital- acquired infection reporting system. The purpose of the pilot phase is to ensure, by various means, including any audit process referred to in subdivision seven of this section, the completeness and accuracy of hospital acquired infection reporting by hospitals. For data reported during the pilot phase, hospital identifiers shall be encrypted by the department in any and all public databases and reports. The department shall provide each hospital with an encryption key for that hospital only to permit access to its own performance data for internal quality improvement purposes.

(iii) No later than one hundred eighty days after the conclusion of the pilot phase, the department shall issue a report to hospitals assessing the overall accuracy of the data submitted in the pilot phase and provide guidance for improving the accuracy of hospital acquired infection reporting. The department shall issue a report to the governor and the legislature assessing the overall completeness and accuracy of the data submitted by hospitals during the pilot phase and make recommendations for the improvement or modification of hospital acquired infection data reporting based on the pilot phase as well as share lessons learned in prevention of hospital acquired infections. No hospital identifiable data shall be included in the pilot phase report, but aggregate or otherwise de-identified data may be included.

(iv) After the pilot phase is completed, all data submitted under this section and compiled in the statewide hospital acquired infection database established herein and all public reports derived therefrom shall include hospital identifiers.

6. Subject to subdivision five of this section, a summary table, in a format designed to be easily understood by lay consumers, that includes individual facility hospital acquired infection rates adjusted for potential differences in risk factors and comparisons with regional and/or state averages shall be developed and posted on the department's web site. The commissioner shall consult with consumer and patient advocates and representatives of reporting facilities for the purpose of ensuring that such summary table report format is easily understandable by the public, and clearly and accurately portrays comparative hospital performance in the prevention and control of hospital acquired infections.

7. To assure the accuracy of the self-reported hospital acquired infection data and to assure that public reporting fairly reflects what actually is occurring in each hospital, the department shall develop and implement an audit process.

8. For the purpose of ensuring that hospitals have the resources needed for ongoing staff education and training in hospital acquired infection prevention and control, the department may make such grants to hospitals within amounts appropriated therefor.

9. Individual patient identifying information reported to the department under this section shall be subject to paragraph (j) of subdivision one of section two hundred six of this chapter. Regulations under this section shall include standards to assure the protection of patient privacy in data collected and released under this section and standards for the publication and release of data reported under this section.