2023

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Healthcare-Associated Infections in North Carolina

Reporting Period:
January 1, 2023—December 31, 2023

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES
Division of Public Health

Communicable Disease Branch • Medical Consultation Unit • Surveillance for Healthcare Associated and Resistant Pathogens Patient Safety (SHARPPS) Program • www.ncdhhs.gov/ • **NCDHHS is an equal opportunity employer and provider. • 0 copies of this public document were printed at a total cost of $0 or $0 each. • 01/2025**

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Overview of Healthcare-Associated Infections in North Carolina

Healthcare-Associated Infections (HAIs) are infections caused by a variety of organisms, including bacteria and fungi, acquired while receiving medical care. Hospitals are required to report specific types of HAIs to the North Carolina Department of Health and Human Services, Division of Public Health. This report focuses on five important types of HAIs that occurred while patients were hospitalized in acute care hospitals from January 1, 2023, through December 31, 2023. These infections include:

1. Central line-associated bloodstream infections (CLABSI)
2. Catheter-associated urinary tract infections (CAUTI)
3. Surgical site infections (SSI) occurring after inpatient abdominal hysterectomies or colon surgeries.
4. Laboratory-identified bloodstream infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA)
5. Laboratory-identified infections caused by *Clostridioides difficile* (CDI)

The prevention of healthcare -associated infections is a public health priority in North Carolina and is a collaborative effort between the health care and public health communities. This report is a product of this collaboration and is prepared by the Surveillance for Healthcare-Associated and Resistant Pathogens Patient Safety (SHARPPS) Program located in the Communicable Disease Branch of the Epidemiology Section of the Division of Public Health. Report definitions are available in Appendix A. The report is provided as a resource for health care providers and the general public to provide information about progress in the prevention of HAIs in North Carolina hospitals. Consumers can use this information to learn more about HAIs, and to take ownership of their health care by asking infection prevention questions when coming into contact with health care facilities. Providers can use this report to compare statewide and hospital-specific progress to the 2015 national experience.

The mission of the NC SHARPPS Program is to collaborate with health care providers, local health departments, and other partners to prevent, detect, and respond to events and outbreaks of healthcare -associated and antimicrobial-resistant infections in North Carolina.

The SHARPPS Program has four key program areas to achieve this mission: 1) infrastructure; 2) surveillance, investigation, and response; 3) prevention, education, and training; and 4) monitoring, evaluation, and communication. The Program works to eliminate preventable infections in health care settings by:

1. Conducting statewide surveillance for selected HAIs.
2. Providing useful, unbiased information to health care providers and consumers through public reports.
3. Promoting and coordinating prevention efforts.
4. Providing guidance, education, and training; and
5. Investigating and responding to outbreaks in health care settings.

We welcome your feedback to improve the usefulness of future reports at nchai@dhhs.nc.gov.

Additional resources:

- HAIs and the NC SHARPPS Program
- Past HAI surveillance reports

Acknowledgements

We acknowledge the extensive time and effort that our partners across North Carolina put into infection prevention every day. We at DPH remain dedicated to our common goal of patient safety.

The SHARPPS Program would also like to recognize the contributions of the SHARPPS Advisory Group members listed in Appendix C. In particular, the Program is grateful for their ongoing guidance and feedback on the presentation and content of DPH HAI reports.

Finally, the Program would like to acknowledge our partners who have been important leaders and supporters of surveillance and prevention programs for healthcare -associated infections in North Carolina. These include the North Carolina Healthcare Association (NCHA), the North Carolina Statewide Program for Infection Control and Epidemiology (NC SPICE), the North Carolina Chapter of the Association for Professionals in Infection Control and Epidemiology (APIC), Alliant Quality, and the Division of Health Service Regulation.

I. Highlights of Healthcare-Associated Infection Prevention Activities in 2023

A. NC Surveillance for Healthcare-Associated and Resistant Pathogens Patient Safety Program

Key accomplishments and activities of the North Carolina Surveillance for Healthcare-Associated and Resistant Pathogens Patient Safety (SHARPPS) Program in 2023 include the following:

- ***Antimicrobial Resistance:*** Antimicrobial resistance is an urgent public health threat and remains a priority for the SHARPPS Program. The SHARPPS Program collaborates with the NC State Laboratory of Public Health (NC SLPH), the Centers for Disease Control and Prevention (CDC) Antibiotic Resistance Laboratory Network (ARLN), and local health departments (LHDs) on carbapenem-resistant Enterobacterales (CRE) and *Candida auris* containment efforts. NC SLPH provides support for the identification of carbapenemase-producing CRE (CP-CRE) to facilities statewide. ARLN funding provides infrastructure and laboratory capacity to screen for CRE and *C. auris*, and LHD and RIPS staff provide onsite support for investigations. The SHARPPS Program has a toolkit for preventing the spread of MDROs in long-term care facilities.

- ***MDRO Investigation and Response:*** In 2023, there were 70 instances of multi-drug resistant organism (MDRO) events that required an acute response from the SHARPPS Program.

- ***Invasive GAS Investigation and Response:*** In 2023, the SHARPPS program led or participated in 98 acute public health responses for invasive Group A Streptococcus (GAS) in health care facilities. There were 18 invasive GAS outbreaks, 17 of which occurred in long-term care (LTC) facilities, and one postpartum outbreak in an acute care hospital.

- ***Antimicrobial Stewardship:*** The CDC's Be Antibiotics Aware Partner Campaign is a national educational effort to improve antibiotic prescribing among health care providers, educate the public about appropriate use of antibiotics, and combat antibiotic resistance. North Carolina is an active member of the Campaign. North Carolina Clinical Antibiotic Stewardship Partners (NC CLASP), funded by the NC Department of Health and Human Services, provides many webinars and an Antimicrobial Stewardship Conference once a year.

- ***Antimicrobial Stewardship***: The Stewardship of Antimicrobial Resources (STAR) Partners initiative launched July 2018. This tiered, recognition-based incentive program encourages antimicrobial stewardship program development and addresses activities related to antimicrobial resistance and surveillance. The initiative encourages facilities who attain the highest tier to partner as mentors to facilities with less advanced stewardship programs. So far, 21 acute care hospitals are enrolled – including two new facilities who joined during the COVID-19 pandemic. STAR Partners are recognized through certificates and listing participating facilities on the NC SHARPPS website. In 2023, we began the development of an *Antimicrobial Stewardship Workgroup*, which is made up of Antimicrobial Stewardship experts across NC. Our first meeting convened in February 2024.

B. Healthcare-Associated Infections Partner Updates

North Carolina Statewide Program for Infection Control and Epidemiology (NC SPICE)

NC Statewide Program for Infection Control and Epidemiology (SPICE) promotes prevention and control of healthcare-associated infections in North Carolina by providing evidence-based education and consultation across the health care spectrum. Activities for 2023 are summarized below.

Classroom Courses:

- In 2023, SPICE offered infection control courses targeting new infection preventionists (IPs) via classroom and/or virtual, live-streamed webinars, training 562 health care professionals on infection control in acute care and long-term care settings.

.0206 NC Curriculum for Infection Control:

- 501 outpatient, dental, hemodialysis and home health hospice health care professionals completed the .0206 NC Infection Control Curriculum online.
- 2071 outpatient, dental, home health/hospice, and dialysis health care professionals completed the .0206 NC Infection Control Curriculum in a classroom/virtual setting.

Enhanced Education of Infection Prevention in Nursing Homes:

- Free online modules covering antibiotic-resistant bacteria, isolation precautions, injection safety, environmental cleaning, *Clostridioides difficile*, and urinary tract infections (UTIs) were offered through the SPICE Learning Management System (LMS) and Coursera. 1277 learners completed the course in 2023.

Phone and Email Consultations:

- SPICE provided 1,277 infection control consultations by phone or email in 2023.

Special Projects:

NC SPICE administered three contracts awarded by NCDHHS:

HAI-AR (started 10/1/2022 and ended 7/31/23) "to expand and improve North Carolina's infection prevention, preparedness, and response capacity by implementing prevention strategies for novel and targeted multi-drug-resistant organisms (MDROs)." Key infection prevention activities included conducting on-site infection control assessments in long-term care communities, outpatient settings and hemodialysis facilities, and providing facilities with consultation and education related to infection prevention and control. Another major focus of this contract was providing access to antibiotic stewardship expertise to hospitals, nursing home communities and outpatient settings. Antibiotic stewards, clinicians, facilities, and health systems partnered to form the North Carolina Clinical Antibiotic Stewardship Partners (NC CLASP) collaborative.

HAI-AR Year 2 (started August 1, 2023, and ended 7/31/2024). "To expand and improve North Carolina's infection prevention, preparedness, and response capacity by implementing prevention strategies for novel and targeted multi-drug-resistant organisms (MDROs)." All activities continued to focus on providing infection control assessments, education, and consultation to long-term care facilities, outpatient settings and hemodialysis facilities, in addition to providing access to antibiotic stewardship expertise to hospitals, nursing home communities and outpatient settings. Antibiotic stewards, clinicians, facilities, and health systems partnered to form the North Carolina Clinical Antibiotic Stewardship Partners (NC CLASP) collaborative."

In-Services/Presentations provided by NC Statewide Program for Infection Control and Epidemiology (NC SPICE):

- January 24, 2023: "NC SPICE Program-.0206 Rule" for Association of Home Health and Hospice
- February 8, 2023: "NC SPICE and Regulatory Environment for NHs" for Iredell County HD and county NHs
- February 28, 2023: "Infection Prevention and Control: Never a Dull Moment" for NC State Ombudsmen
- March 3, 2023: "Preparing for the LTC-CIP Certification" for APIC national-audience nursing homes in the U.S.
- March 9, 2023: CDC Project Firstline Informational Webinar
- March 15, 2023: C. Auris virtual presentation
- April 17-19, 2024: IC in Long-Term Care Facilities
- April 24-27, 2023: IC Part 1
- May 4, 2023: Respiratory Hygiene Webinar

- May 8, 2023: APIC NC Spring Conference, Considerations for Infection prevention in long-term care facilities
- May 11, 2023: Duke Preparedness Coalition, Initiatives to strengthen existing HA/AR Program infrastructure in nursing home communities.
- July 13-14, 2023, and July 20-21, 2023: SPICE Review Course for Certification in Infection Control/Prevention
- July 28, 2023: NC SPICE Program 0206 Rule for Outpatient
- August 3, 2023: Infection Prevention in LTC Communities
- August 23, 2023: SPICE Role in Infection Prevention of Communicable Diseases
- August 23, 2023: Infection Prevention Beyond our Doors- What Infection Prevention Activities Are Occurring in NC and with our Partners.
- August 24, 2023: NC SPICE Program .0206 Rule for Outpatient
- September 15, 2023: NC SPICE Program .0206 Rule for Outpatient
- September 28, 2023: Infection Preventionist Role in Antimicrobial Stewardship
- October 5, 2023: NC SPICE Infection Control in Outpatient Settings
- October 30, 2023 – November 2, 2023: NC SPICE Infection Control Part 2: The IP as an Environmentalist
- November 8, 2023: November 10, 2023: NC SPICE Infection Control in Long-Term Care Facilities
- November 15, 2023: NC SPICE Program NC CLASP Antibiotic Stewardship Conference
- December 1, 2023: NC SPICE Program 0206 Rule for Hemodialysis Settings
- December 13, 2023: Infection Risks of Unsafe Injection Practices and a Spotlight on Assisted Blood Glucose Monitoring
-

Alliant Quality, The Quality Innovation Network – Quality Improvement Organization (QIN-QIO) for North Carolina

Alliant Health Solutions serves as the QIN-QIO for North Carolina. As reported for 2023, Alliant tools, resources, and educational opportunities are offered to nursing homes for infection prevention activities to include enrollment and reporting information into CDC's National Health care Safety Network (NHSN). Monthly SHOP Talk calls continue with additional information posted on the Alliant Health Solutions Resources website. Additionally, SHOP Talk SHORTs have been developed as quick references to guide Providers through NHSN processes. All sessions are recorded and posted along with the presentations to allow Providers access to information that can be used for their education and sharing as they make additions or deletions to their users for NHSN. Targeted Response Quality Improvement Initiative (TRQII) continues for long-term care facilities that have experienced an increased number of COVID-19 cases. We partner with the Regional Infection Prevention Teams (RIPS) to complete the on-site ICAR & offer technical assistance for completing quality improvement audits. Also, Vaccine Quality Improvement Initiative (VQII) assists long-term care facilities with strategies based on behavioral science to improve their vaccination rates for their residents and staff. Alliant Team members provide one-on-one technical assistance with proven quality improvement tools to include Root Cause Analysis (RCA) and Plan, Do, Study, Act (PDSA). All the tools and resources developed are readily available for use by visiting the Alliant Health Solutions website.

I. Healthcare-Associated Infections Data

The SHARPPS HAI Annual Report for 2023 includes data that have been combined from all reporting acute care hospitals in North Carolina. Other types of facilities also report HAI data to North Carolina public health, including long-term acute care facilities, inpatient rehabilitation facilities, and specialty hospitals such as psychiatric facilities.

A. WHAT IS THE PURPOSE OF THIS REPORT?

HAIs are infections patients can get while receiving medical treatment in a health care facility. Patients should know that these infections are unintended. Ideally, HAIs should never happen, but sometimes they do. Hospitals track and report HAIs for many reasons. In some cases, they are required to do so—either by state public health authorities or by federal health agencies. In most cases, hospitals report numbers (data) about certain HAIs because they want to know how well they are doing in preventing them, and how they compare with other hospitals of similar size and with similar kinds of patients.

This report looks at five HAIs:

1. Central line-associated bloodstream infections (CLABSI)
2. Catheter-associated urinary tract infections (CAUTI)
3. Surgical site infections (SSI) following abdominal hysterectomies and colon surgeries.
4. Positive laboratory results with methicillin-resistant *Staphylococcus aureus* (MRSA) bacteria found in the bloodstream.
5. Positive laboratory results with *Clostridioides difficile* (*C. difficile,* CDI) bacteria found in a stool (fecal) sample.

Click here for "Fast Facts" about central lines, urinary catheters, and the HAIs discussed in this report.

Hospitals are required by law to report occurrences of these five HAIs to the Division of Public Health. These measures do not represent all possible infections but were selected because they give a good overview of how a hospital or state is doing in preventing healthcare -associated infections. These infections are preventable when health care providers use infection prevention steps recommended by the Centers for Disease Control and Prevention (CDC).

B. WHERE DO THE NUMBERS COME FROM?

Hospitals self-report their HAI data to the CDC and the DPH using a web-based software system called the National Health care Safety Network (NHSN). The CDC provides training to hospital staff on the appropriate use of this system and provide guidance on how to track infections in a standard way.

C. HOW DO I READ THE REPORT?

This report looks at how hospitals in North Carolina performed in terms of infection prevention by displaying how many HAIs they reported from January 1, 2023, through December 31, 2023. These infection counts alone do not show how well a facility or North Carolina is doing in preventing HAIs. Therefore, the report also presents a key measure used to determine HAI progress, the standardized infection ratio (SIR). **The SIR is the number used to represent how well a facility did in preventing HAIs compared to similar facilities using the national average (i.e., 2015 national experience).** When presenting SIRs, the report data tables and figures show whether North Carolina, a hospital-size group, or location type had more HAIs ("worse"), fewer HAIs ("better"), or about the same number of HAIs ("same") compared to the national average based on previous years of reported data. The predicted value of the national average for each HAI is also called the "NHSN baseline." The SIR is considered a "best guess" or estimate of observed infections compared to the number of infections that would be predicted based on the NHSN baseline. The comparison made by the SIR between observed and predicted infections considers differences between hospitals such as types of patients and procedures, as well as other

factors such as the hospital's size and whether it is affiliated with a medical school. More information on how the SIR is calculated can be found here.

SIRs are presented for the state overall and for each hospital size group; for some HAIs, SIR is also presented by location type (i.e., adult/pediatric units vs. neonatal locations). The hospital size groups were categorized by total hospital bed counts: less than 100 beds, 100-199 beds, 200-399 beds, and 400+ beds. Hospitals that served as the primary location for medical schools were included in a separate category (primary medical school affiliation). A list of the reporting hospitals in each size category can be found in Appendix D.

In 2015, NHSN updated the national baseline for all HAIs. The original national experience (NSHN baseline) was used in SHARPPS Program reports from 2012-2016. When calculating the SIR based on the original baseline, the way differences in facilities (such as types of patients and procedures, or facility size) were accounted for varied by both HAI type and facility type. Starting in 2017, NC SHARPPS began presenting SIRs calculated on the new NHSN baseline. Data from 2015 were used to create each HAI's predicted baseline values, and the 2015 baseline serves as the reference point for assessing progress. SIRs calculated under this baseline cannot be compared to SIRs calculated using the original baselines.

Click here for a "Reading Guide" that explains each element of the data tables and figures.

a. WHAT DO THE NUMBERS MEAN?

This report shows how the state performed during a single year (2023) and compares each hospital's performance to the national average or baseline experience.

In addition to presenting numbers, there are some more complicated calculations performed on the data. These calculations help ensure that any data estimates (i.e., for the SIR) are as accurate as possible. A larger number of data records will provide more accurate estimates than a smaller number. One of these calculations, the 95% confidence interval, gives a lower and higher range of values that we use when comparing the number of observed infections to the number of predicted infections; this range tells us if the difference between the observed and predicted infections is statistically significant.

Click here for a "Numbers Guide" that explains any calculations for numbers in the data tables and figures.

b. ORGANISMS IDENTIFIED FROM HAIs

In NHSN, hospitals may report up to three organisms identified from one HAI. These organisms were categorized into 10 groups: *Candida* spp. & other yeasts/fungi, *Enterobacter* spp., *Enterococcus* spp., *Escherichia coli* (*E. coli*), *Klebsiella* spp., *Pseudomonas* spp., *Staphylococcus aureus*, coagulase-negative *Staphylococci*, and two "other" categories – other gram-positive bacteria and other gram-negative bacteria. The first eight categories or organisms listed represent the leading causes of HAIs nationwide. Many of these organisms are part of the normal flora contained within the human body, found on the skin or in the gastrointestinal and/or urinary tract. Introduction of these organisms into other areas of the body can lead to infection.

Excluded organisms: Some organisms are rarely associated with HAIs or not known to cause HAIs. These organisms may be the causes of community-associated infections. For this reason, NHSN excludes organisms from the following genera from reporting: *Blastomyces, Histoplasma, Coccidioides, Paracoccidioides, Cryptococcus*, and *Pneumocystis*. Additional HAI-specific organism exclusions can be found in the NHSN Patient Safety Manual.

c. THINGS TO CONSIDER WHEN LOOKING AT THE REPORT

One hundred-twenty North Carolina hospitals reported HAIs in 2023, including 97 short-term acute-care hospitals, nine long-term acute-care hospitals, seven inpatient rehabilitation facilities, and seven specialty hospitals. This report includes data from the 97 short-term acute-care hospitals.

These reports cover data from January 1, 2023, through December 31, 2023. Data were downloaded from the National Health care Safety Network (NHSN) on September 16, 2024; any changes made to the data after this date are not reflected in this report. Before reviewing this report, a few clarifications about the data need to be made:

1. **The data within this report are preliminary.** Although efforts were made by hospitals and the North Carolina SHARPPS Program to ensure that the data were accurate and complete, the data are self-reported and have not been formally "double-checked," or validated. Until additional data validation is completed, numbers should be interpreted with caution.

2. **There may be differences in reporting practices among hospitals.** Hospitals with more infection control personnel and resources may be able to identify and report more infections compared to a hospital with fewer infection control resources.

3. **There may be differences between results published by the North Carolina SHARPPS Program and results published elsewhere** (e.g., Centers for Medicare and Medicaid Services Hospital Compare website). Results may differ due to using data from different time periods, different facility types, different patient populations, and/or different methods of analysis.

4. **The North Carolina SHARPPS Program chose not to present some data** for individual hospital units, procedures or hospitals that did not meet a threshold (minimum value) for the reporting period. The minimum threshold numbers are based on CDC recommendations for reporting healthcare -associated infection data.

   • Central line-associated bloodstream infections: 50 central line days;
   • Catheter-associated urinary tract infections: 50 catheter days;
   • Surgical site infections: 20 surgeries.

5. **The North Carolina SHARPPS Program does not calculate an SIR when the number of predicted infections is less than one**. In these situations, the "How Does the State Compare to the 2015 National Experience" text says, "No conclusion." This does not mean that hospitals failed to report data; it only means that the number of patients, devices (central lines or urinary catheters), and/or procedures that were seen during this period did not meet the established threshold for calculating an SIR. In other words, there is not enough information to make a reliable conclusion about performance on this measure.

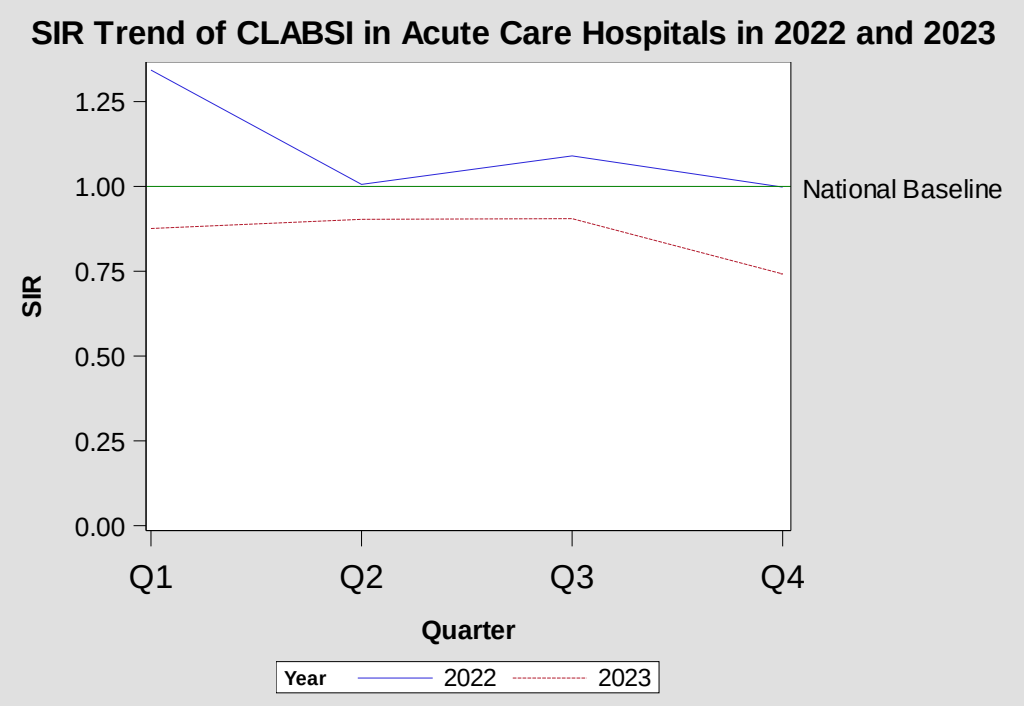
6. **Laboratory-Identified Events (LabID Events):** *Clostridioides difficile* infections (CDI) and methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia (blood infection) LabID events rely on laboratory data. Patients did not have to be ill to have a positive result, and a positive result can be determined without requiring clinical information about the patient. This allows for a much less labor-intensive means to track CDI and MRSA infections. Only those LabID events that are acquired in the hospital are displayed in this report. The sensitivity of various testing methodologies may vary, particularly for CDI. NHSN makes risk adjustments to account for these differences when calculating SIRs for LabID CDI events.

As of 2018 Q1, CDI events will be risk adjusted for the last test performed if multiple tests were used. For example, if 'NAAT plus EIA, if NAAT positive' was performed, the event will be risk adjusted for EIA. More information can be found in the NHSN SIR Guide.

D. HEALTHCARE-ASSOCIATED INFECTIONS TRENDS FOR 2022 AND 2023

North Carolina facilities strive to bring the SIR down to below the national baseline and this effort is reflected in the data. See below for how the SIR tracks across the year for 2022 and 2023.

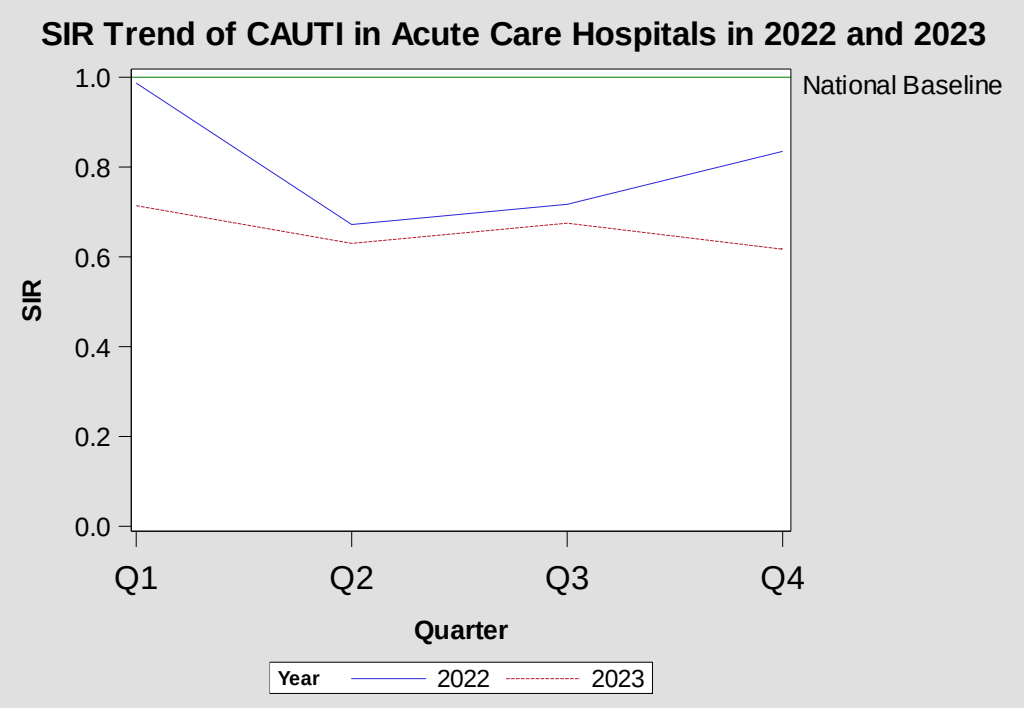
Figure 1.



Interpreting Figure 1:

- The majority of 2022 (Q2, Q3, Q4) and majority of 2023 (Q1, Q2, Q3) experienced about the same number of CLABSIs as predicted, performing the SAME as the 2015 national experience.
- 2022 Q1 experienced more CLABSIs than predicted, performing WORSE than the 2015 national experience.
- 2023 Q4 experienced fewer CLABSIs than predicted, performing BETTER than the 2015 national experience.

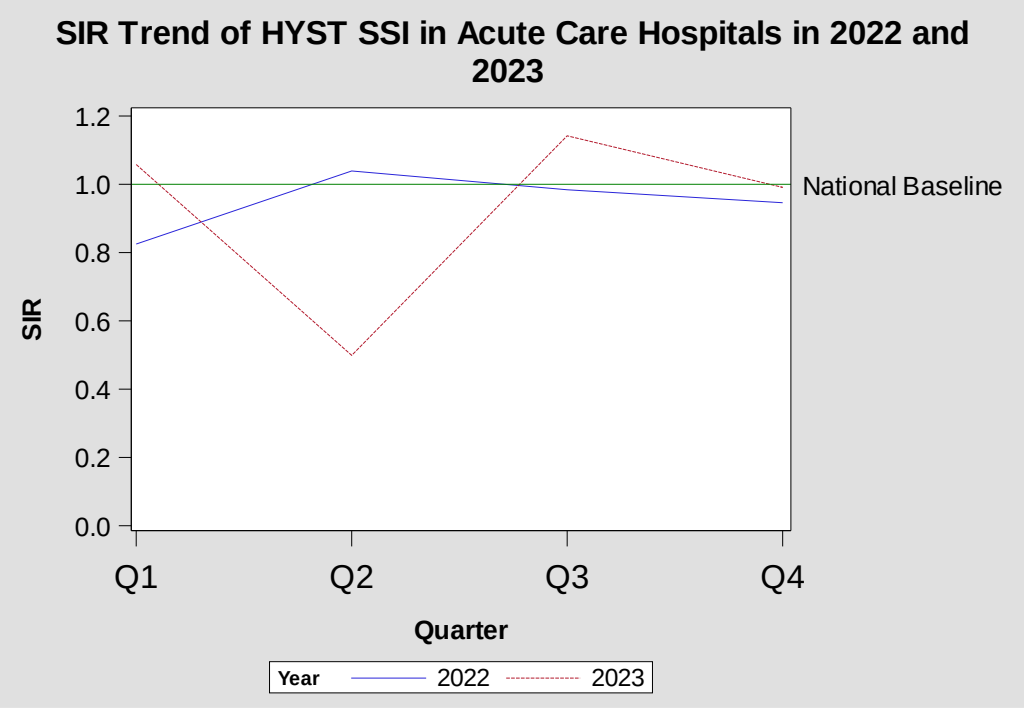
Figure 2.



Interpreting Figure 2:

- 2022 Q1 experienced about the same number of CAUTIs as the predicted, performing the SAME as the 2015 national experience.
- 2022 Q2-Q4 and all of 2023 (Q1-Q4) experienced fewer CAUTIs than predicted, performing BETTER than the 2015 national experience.

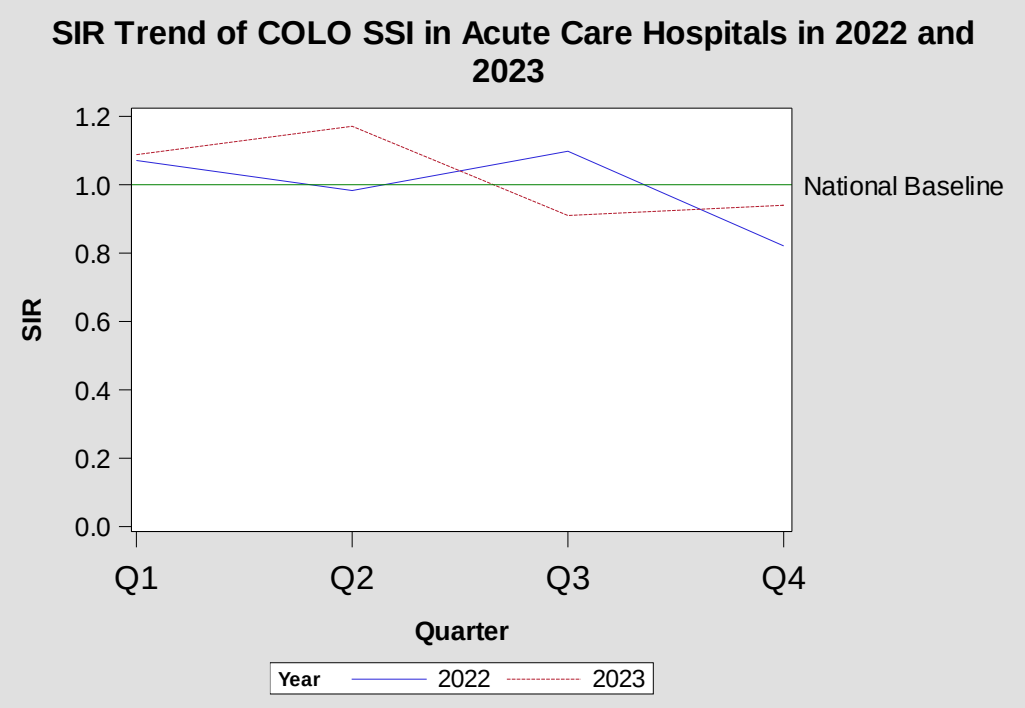
Figure 3.



Interpreting Figure 3:

- Most quarters (2022, Q1-Q4; 2023 Q1, Q3, Q4) experienced the about same number of HYST SSIs as predicted, performing the SAME as the 2015 national experience.
- 2023 Q2 experienced fewer HYST SSIs than predicted, performing BETTER than the 2015 national experience.

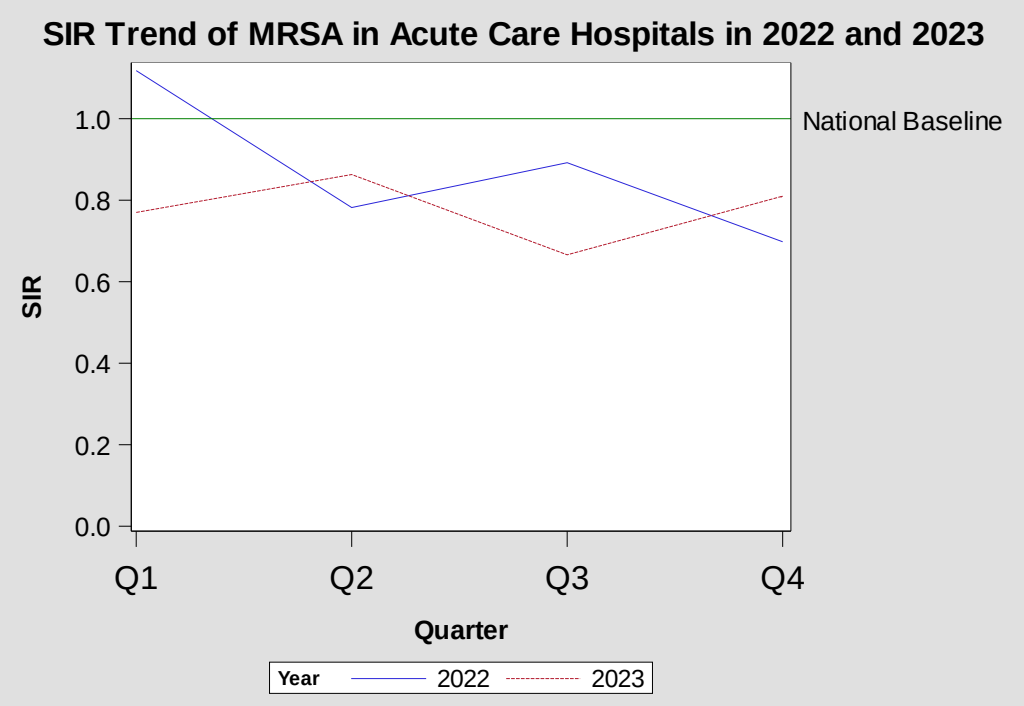
Figure 4.



Interpreting Figure 4:

- All of 2022 (Q1-Q4) and all of 2023 (Q1-Q4) experienced about the same number of SSIs associated with COLO procedure as predicted, performing the SAME as the 2015 national experience.

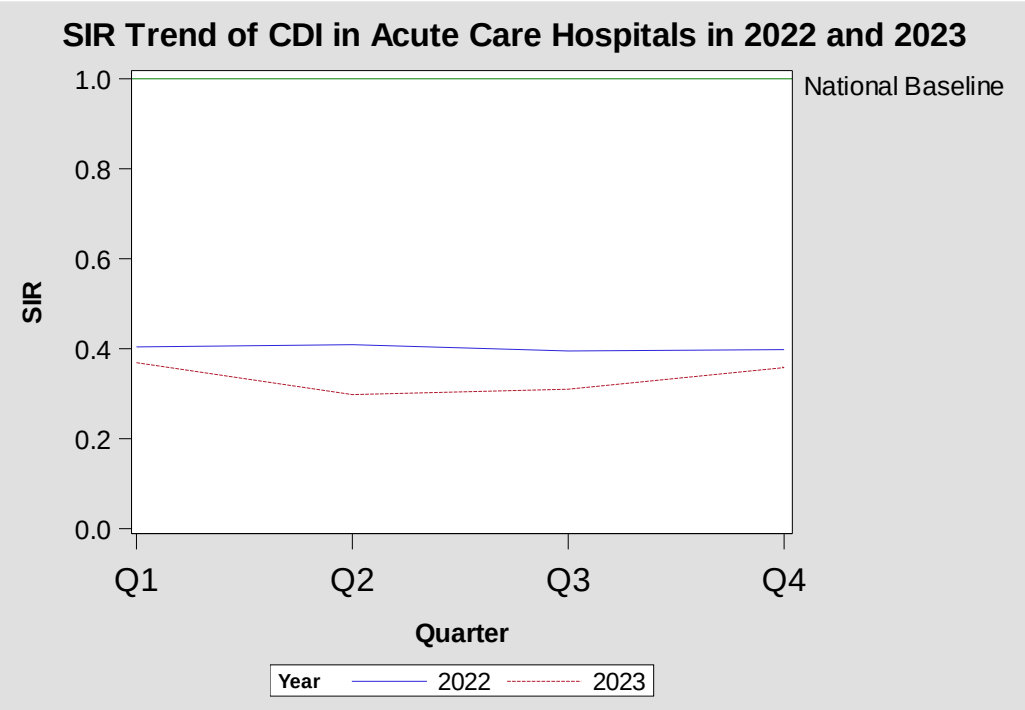
Figure 5.



Interpreting Figure 5:

- 2022 Q2, Q4 and 2023 Q1, Q3, and Q4 experienced fewer MRSA LabID Events than predicted, performing BETTER than the 2015 national experience.
- 2022 Q1, Q3 and 2023 Q2 experienced about the same number of MRSA LabID Events as predicted, performing the SAME as the 2015 national experience.

Figure 6.



Interpreting Figure 6:

- All quarters in both 2022 and 2023 had fewer CDI LabID events than predicted, performing BETTER than the 2015 national experience.

II. Statewide Healthcare-Associated Infections

A. Central Line-Associated Bloodstream Infections (CLABSI)

1. CLABSI in Adult/Pediatric ICUs and Wards

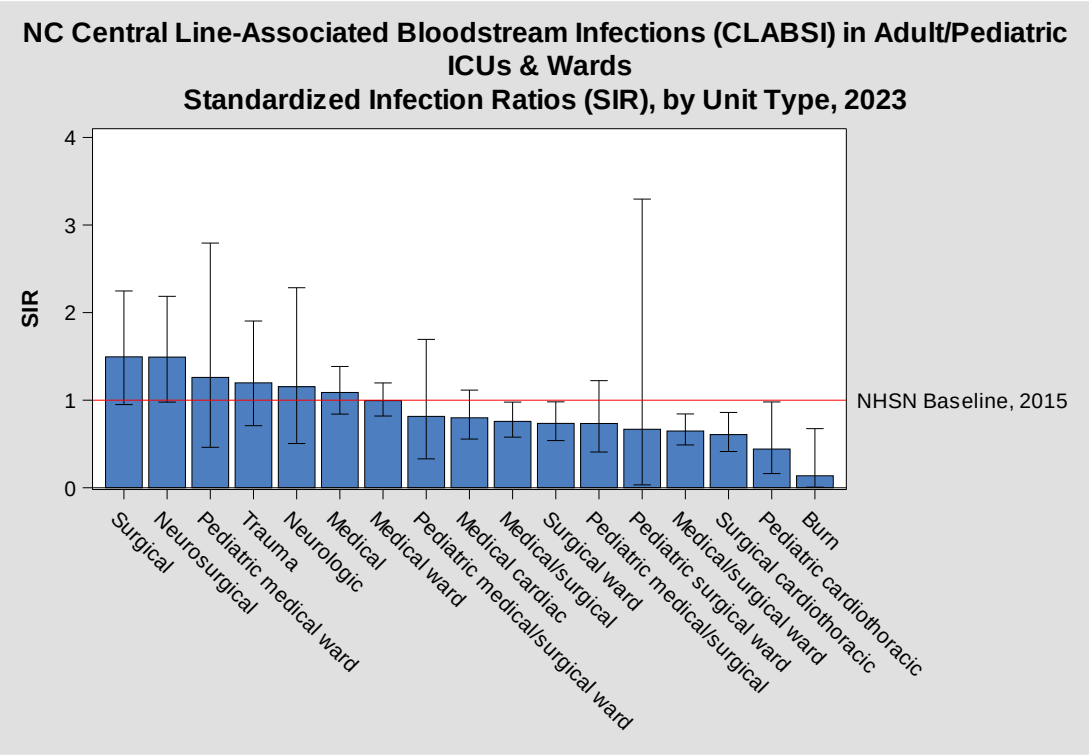
North Carolina 2023 CLABSI Highlights in Adult/Pediatric Medical, Surgical, and Medical/Surgical Wards & ICUs

- North Carolina hospitals reported 480 infections, compared to the 563.72 infections predicted by the 2015 national experience; this was better than the 2015 national experience.
- The most frequently identified organisms from adult and pediatric CLABSI patients were *Candida* spp and other yeasts/fungi, followed by coagulase-negative *Staphylococcus*.

Table 1. NC Central Line Associated Bloodstream Infections (CLABSI) in Adult/Pediatric Medical, Surgical and Medical/Surgical Wards & ICUs, 2023

Year	# Observed Infections	# Predicted Infections	How does North Carolina compare to the 2015 National Experience?
2023	480	563.72	BETTER: less than the number of infections predicted (better than the 2015 national experience)

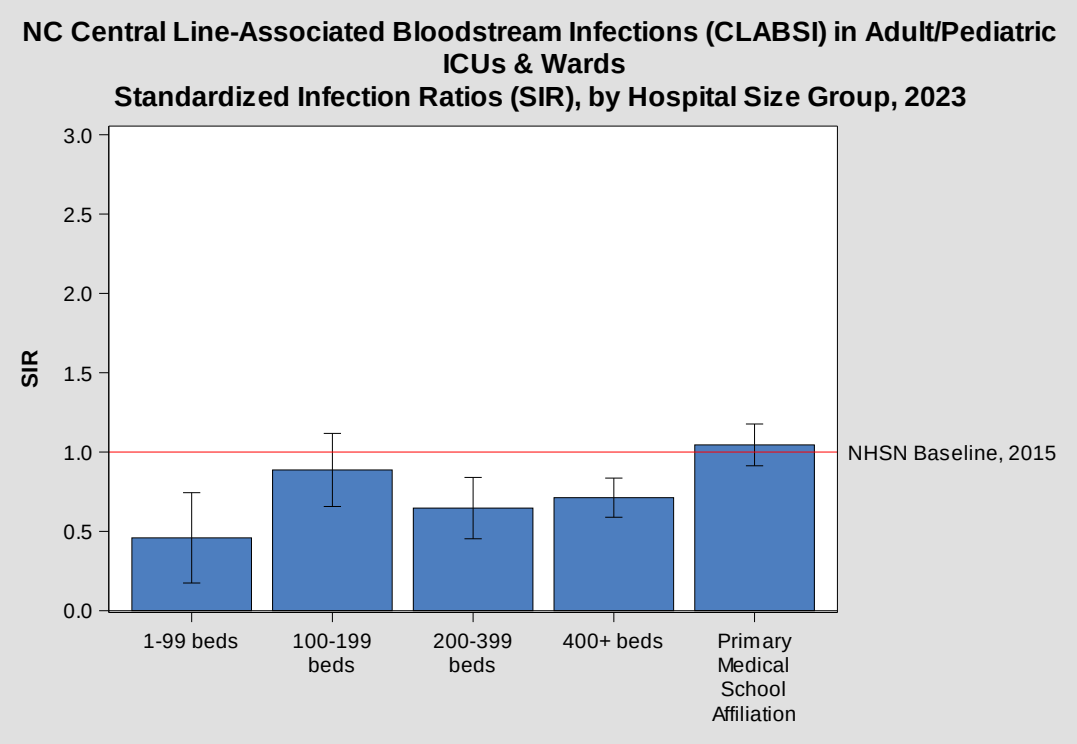
Figure 7.



Interpreting Figure 7:

- In 2023, medical/surgical, surgical cardiothoracic, pediatric, and burn units reported fewer infections than predicted, performing BETTER than the 2015 national experience. All other unit types performed about the SAME as expected.

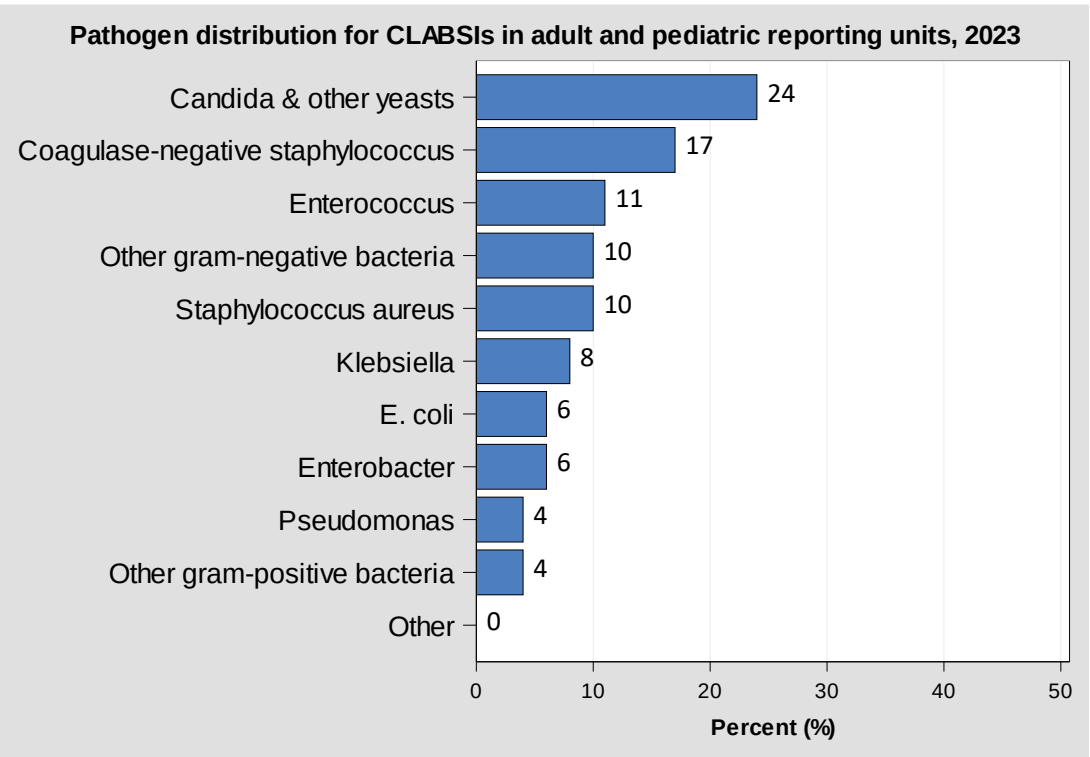
Figure 8.



Interpreting Figure 8:

- In 2023, hospitals with 1-99, 200-399, and 400+ beds had fewer CLABSIs than predicted, performing BETTER than the 2015 national experience.
- In 2023, hospital sizes with 100-199 beds and Primary Medical School affiliation had about the same number of CLABSIs as predicted, preforming the SAME as the 2015 national experience.

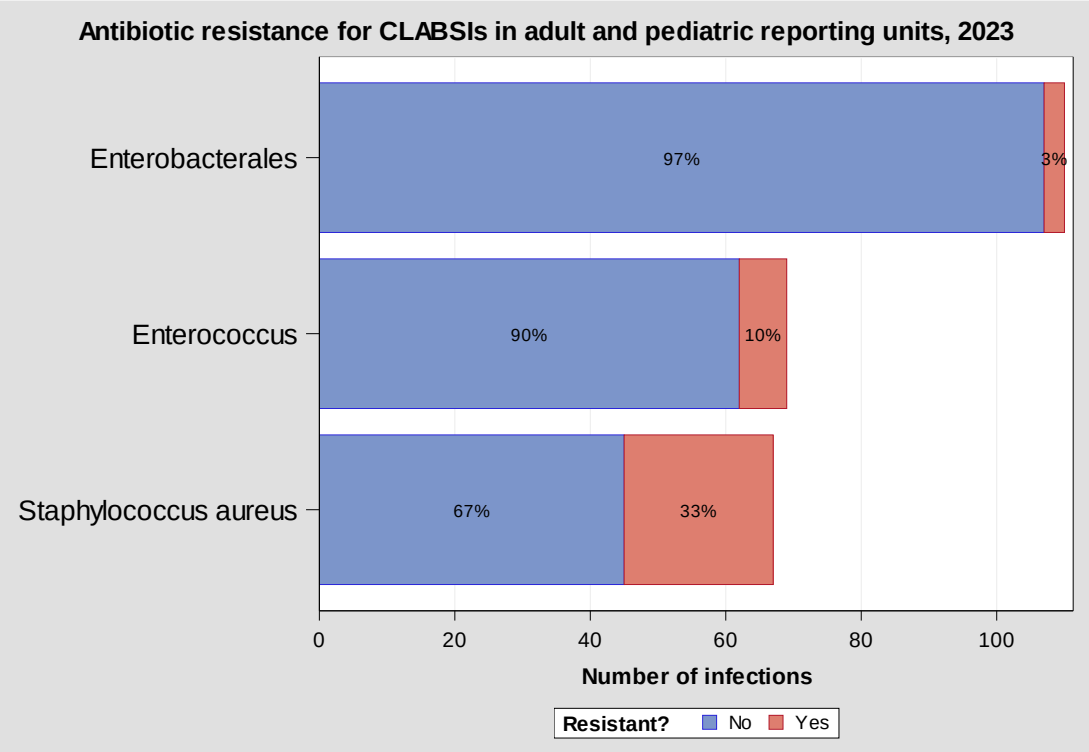
Figure 9.



Interpreting Figure 9:

- In 2023, the most commonly identified organisms from adult and pediatric CLABSI patients were *Candida* spp. and other yeasts/fungi (24%), followed by coagulase-negative *Staphylococci* (17%).

Figure 10.



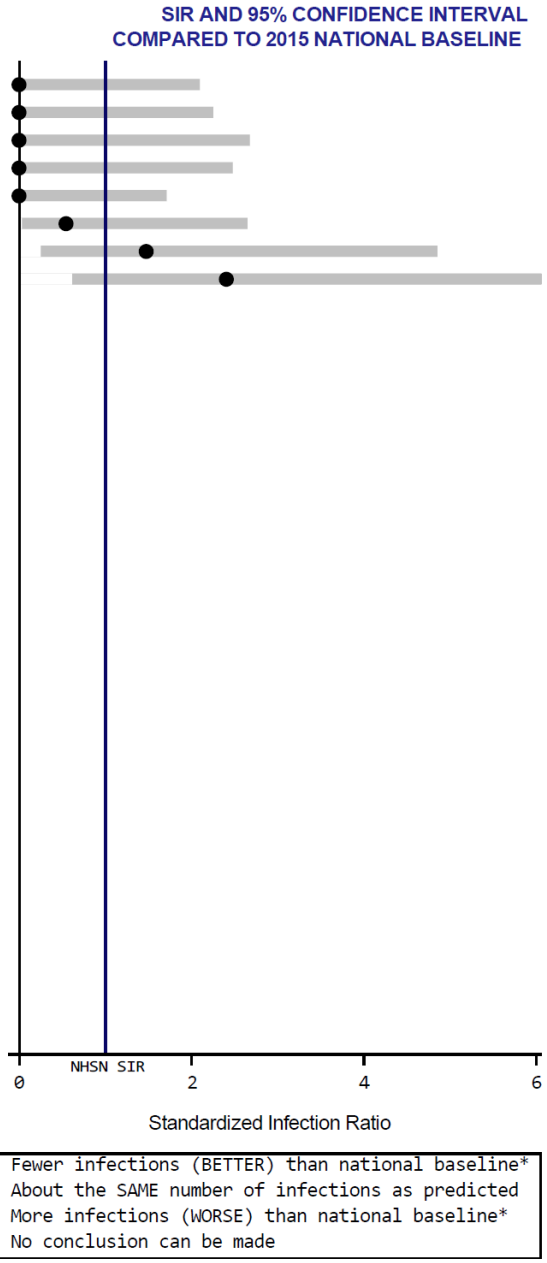
Interpreting Figure 10:

- The percentage of Enterobacterales identified among adult/pediatric CLABSIs resistant to carbapenems was low (3%).
- 10% of *Enterococcus* identified among adult/pediatric CLABSIs were resistant to vancomycin.
- In 2023, 33% of *Staphylococcus aureus* identified among adult/pediatric CLABSIs were resistant to methicillin.

The following SIR plots summarize CLABSI infection data among Adult/Pediatric locations for North Carolina hospitals by hospital groups (Appendix D).

Central Line-Associated Bloodstream Infections (CLABSI) in Adult & Pediatric ICUs and Wards
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with less than 100 Beds

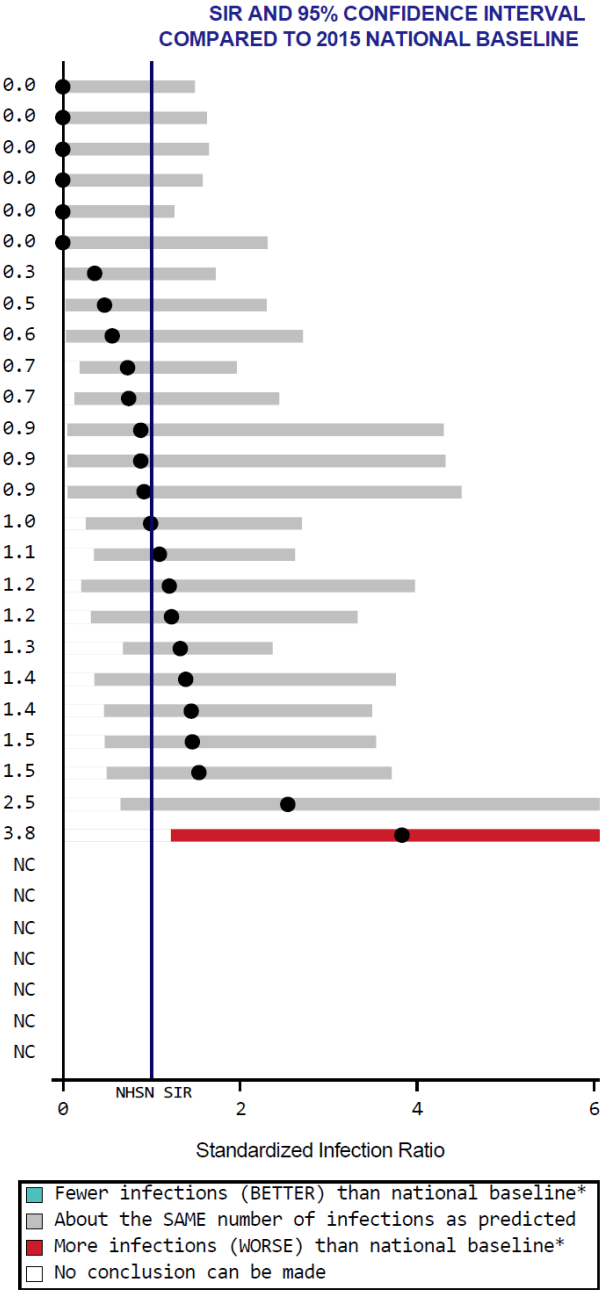
HOSPITAL	OBS	PRED	CLdays	SIR
Duke LifePoint-Harris Regional Hospital	0	1.4	2272	0.0
ECU Health Beaufort Hospital	0	1.3	1850	0.0
Novant Health Brunswick Medical Center	0	1.1	1439	0.0
Wake Forest Baptist Health-Lexington	0	1.2	1558	0.0
ECU North Hospital	0	1.8	2580	0.0
Betsy Johnson Hospital	1	1.9	2675	0.5
Wake Forest Baptist Health-Wilkes	2	1.4	2226	1.5
Columbus Regional Healthcare System	3	1.2	2018	2.4
McDowell Hospital	0	0.2	398	NC
Advent Health Hendersonville	0	0.4	672	NC
Cherokee Indian Hospital	0	0.3	527	NC
Martin General Hospital	0	0.1	115	NC
Randolph Hospital Dba Randolph Health	0	0.6	1098	NC
Granville Medical Center	0	0.4	636	NC
Carteret General Hospital	0	0.4	708	NC
ECU Health Duplin Hospital	0	0.6	752	NC
Central Carolina Hospital	0	0.7	1090	NC
Kings Mountain Hospital	0	0.0	75	NC
Person Memorial Hospital	0	0.2	309	NC
Novant Health Medical Park Hospital	0	0.1	198	NC
Hugh Chatham Memorial Hospital	0	0.8	1284	NC
Atrium Health Anson	NA	NA	N	NA
Annie Penn Hospital	1	0.8	1372	NC
North Carolina Specialty Hospital	0	0.0	73	NC
Wake Forest Baptist Health-Davie Medical	0	0.4	553	NC
Johnston Health Clayton	0	0.4	721	NC
Firsthealth Moore Regional-Hoke	0	0.0	52	NC
Firsthealth Moore Regional-Richmond	0	0.5	833	NC
Cape Fear Valley Hoke Hospital	0	0.2	410	NC
Novant Health Kernersville	2	0.9	1497	NC
WakeMed North Family Health & Women's	0	0.3	426	NC
Central Harnett Hospital	0	0.8	1168	NC
Novant Health Clemmons Medical Center	0	0.3	448	NC
Novant Health Mint Hill Medical Center	0	0.4	682	NC
Rex Holly Springs Hospital	1	0.3	422	NC



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
CLdays = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Central Line-Associated Bloodstream Infections (CLABSI) in Adult & Pediatric ICUs and Wards
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 100 to 199 Beds

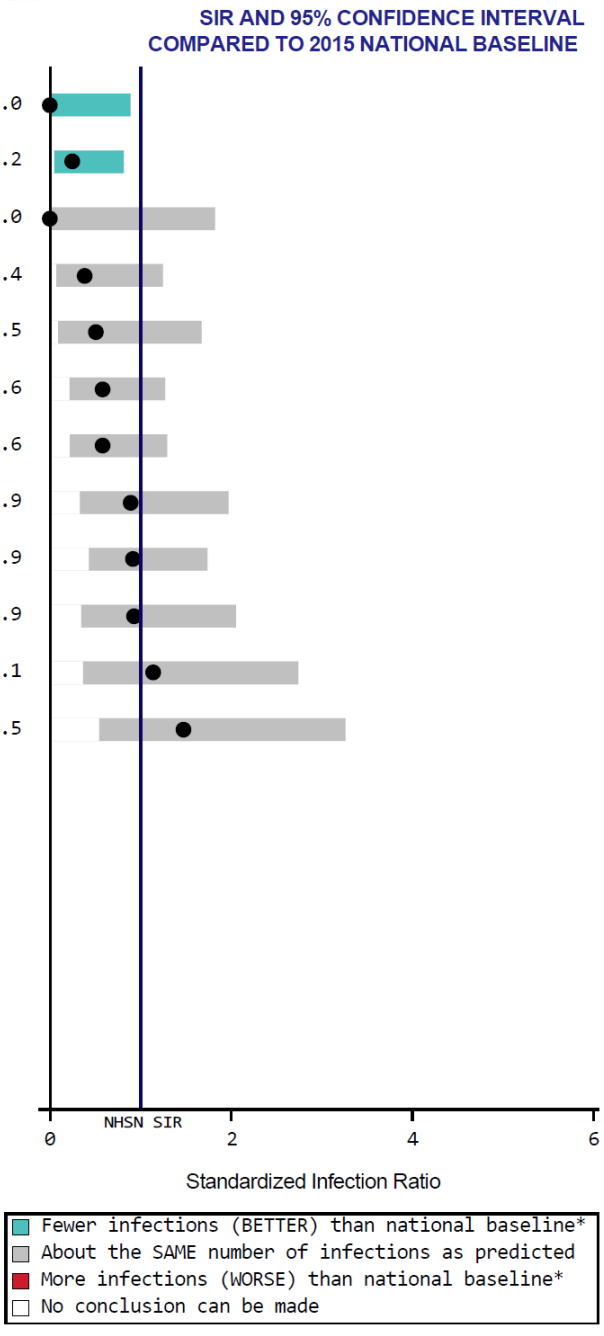
HOSPITAL	OBS	PRED	CLdays	SIR
Atrium Health University City	0	2.0	2231	0.0
Pardee Hospital	0	1.8	2340	0.0
Haywood Regional Medical Center	0	1.8	2010	0.0
Iredell Memorial Hospital	0	1.9	2698	0.0
Maria Parham Medical Center	0	2.4	2602	0.0
Northern Regional Hospital	0	1.3	1843	0.0
Atrium Health Union	1	2.9	3115	0.3
ECU Health Edgecombe Hospital	1	2.1	2351	0.5
Wesley Long Hospital	1	1.8	2520	0.6
Atrium Health Mercy	3	4.2	4620	0.7
UNC Health Blue Ridge	2	2.7	2988	0.7
ARHS-Watauga Medical Center	1	1.1	1237	0.9
Novant Health Thomasville Medical Center	1	1.1	1254	0.9
Onslow Memorial Hospital	1	1.1	1454	0.9
Novant Health Huntersville	3	3.0	3454	1.0
Johnston Health	4	3.7	5334	1.1
Sentara Albemarle Medical Center	2	1.7	1781	1.2
Frye Regional Medical Center	3	2.5	3439	1.2
Duke Raleigh Hospital	10	7.5	8551	1.3
Lenoir Memorial Hospital	3	2.2	3168	1.4
Caldwell Memorial Hospital	4	2.8	4032	1.4
Novant Health Matthews Medical Center	4	2.7	3890	1.5
Nash Health Care Systems	4	2.6	3737	1.5
Atrium Health Lincoln	3	1.2	1347	2.5
ECU Health Roanoke-Chowan Hospital	4	1.0	1301	3.8
Rutherford Regional Medical Center	0	0.8	1147	NC
Sampson Regional Medical Center	0	0.6	715	NC
Lake Norman Regional Medical Center	1	0.9	1263	NC
Scotland Memorial Hospital	1	0.8	1185	NC
Wilson Medical Center	0	0.8	1067	NC
Atrium Health Stanly	0	0.5	719	NC
UNC Rockingham Health	0	0.7	1006	NC



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
CLdays = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Central Line-Associated Bloodstream Infections (CLABSI) in Adult & Pediatric ICUs and Wards
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 200 to 399 Beds

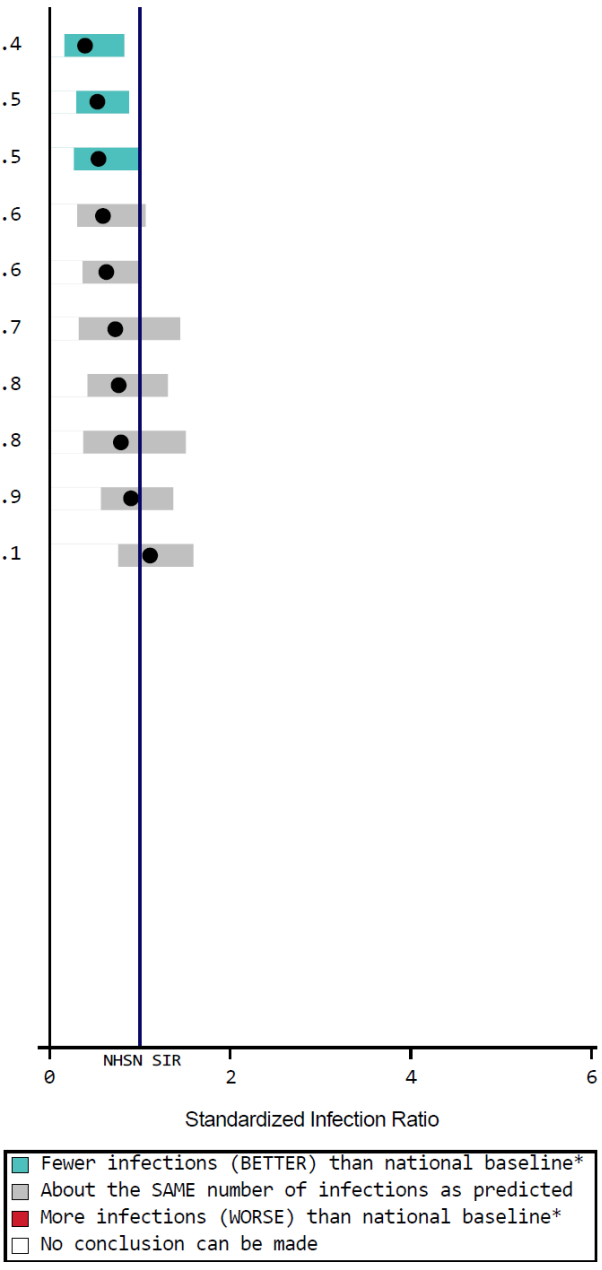
HOSPITAL	OBS	PRED	CLdays	SIR
Catawba Valley Medical Center	0	3.4	4214	0.0
Atrium Health Pineville	2	8.1	7801	0.2
Novant Health Rowan Medical Center	0	1.6	2097	0.0
CarolinaEast Medical Center	2	5.3	6639	0.4
Alamance Regional Medical Center	2	4.0	3778	0.5
Duke Regional Hospital	5	8.7	8522	0.6
High Point Regional Health System	5	8.6	8384	0.6
FirstHealth Moore Regional Hospital	5	5.6	7357	0.9
Wayne Memorial Hospital	8	8.8	9539	0.9
Southeastern Regional Medical Center	5	5.4	6689	0.9
Atrium Health Cleveland	4	3.5	3364	1.1
WakeMed Cary Hospital	5	3.4	4362	1.5



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
CLdays = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Central Line-Associated Bloodstream Infections (CLABSI) in Adult & Pediatric ICUs and Wards
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 400 or More Beds

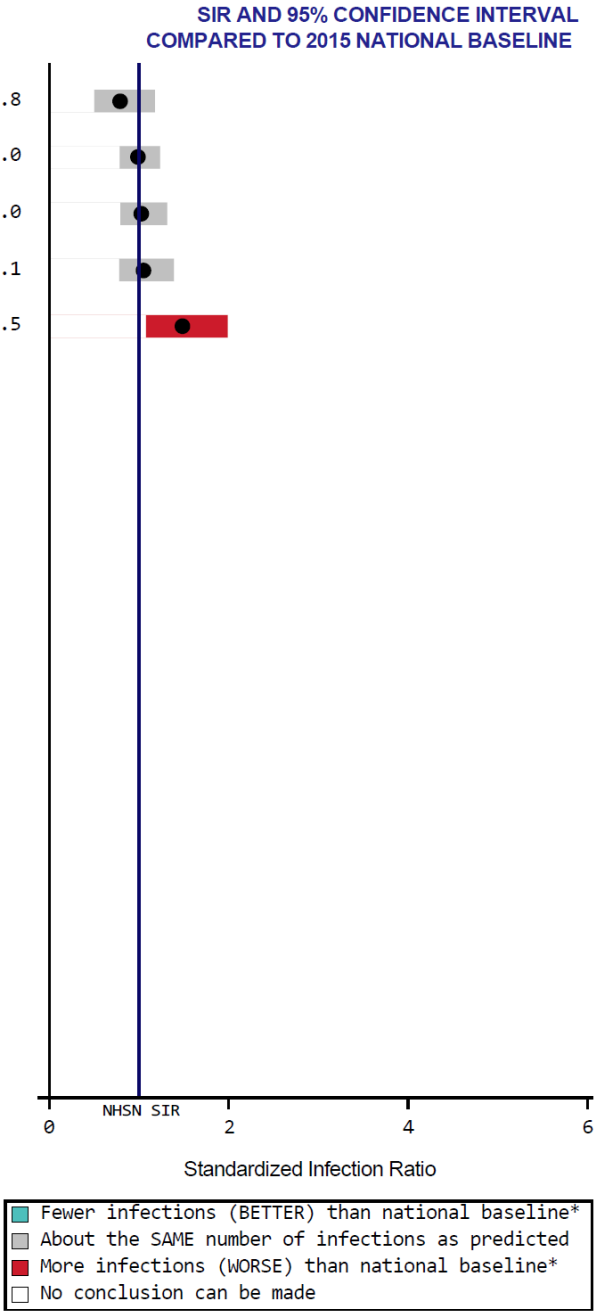
HOSPITAL	OBS	PRED	CLdays	SIR
Moses Cone Hospital	6	15.1	14125	0.4
Mission Hospital	13	24.7	22086	0.5
Cape Fear Valley Health System	9	16.5	15464	0.5
WakeMed	10	16.8	15331	0.6
Novant Health Forsyth Medical Center	15	24.0	22431	0.6
Gaston Memorial Hospital	7	9.6	10059	0.7
Atrium Health Cabarrus	12	15.6	15054	0.8
Novant Health Presbyterian Medical	8	10.1	9210	0.8
Rex Healthcare	20	22.2	21558	0.9
New Hanover Regional Medical Center	28	25.1	23896	1.1



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
CLdays = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Central Line-Associated Bloodstream Infections (CLABSI) in Adult & Pediatric ICUs and Wards
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with Primary Medical School Affiliation

HOSPITAL	OBS	PRED	CLdays	SIR
ECU Health Medical Center	21	26.8	27839	0.8
Duke University Hospital	74	74.8	68162	1.0
UNC Health	60	58.5	49846	1.0
Atrium Health Carolinas Medical Center	46	43.8	38422	1.1
Wake Forest University Baptist Medical	41	27.7	25444	1.5



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
CLdays = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

2. CLABSI in Neonatal Intensive Care Units

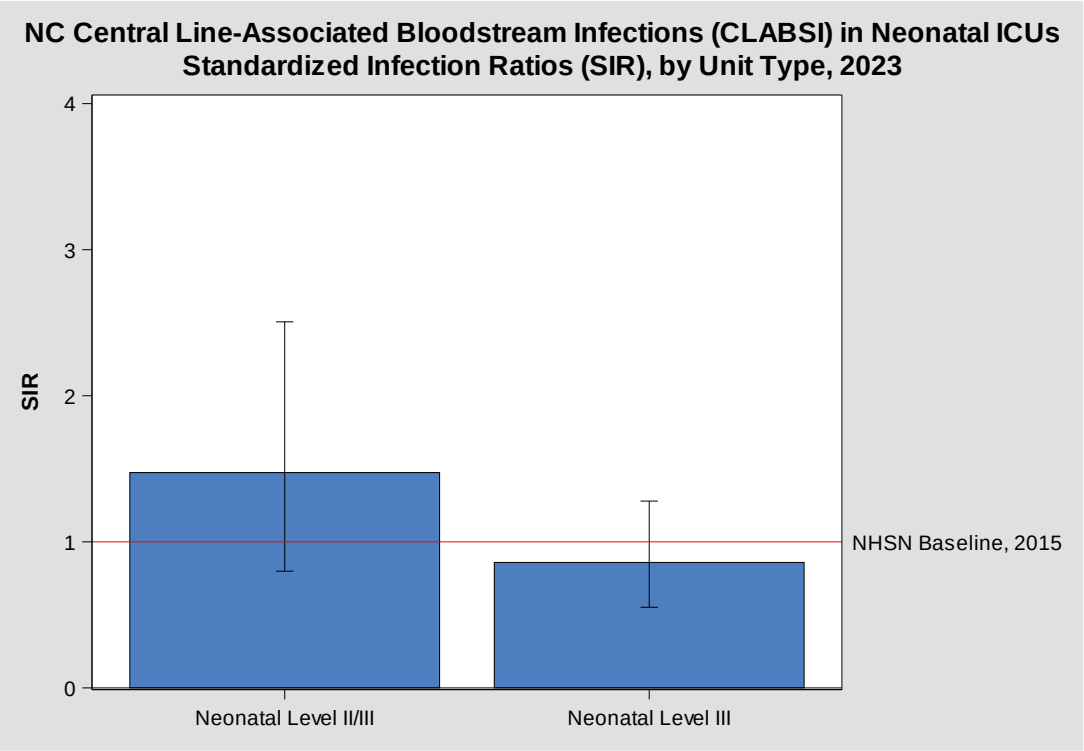
North Carolina 2023 CLABSI Highlights in NICUs

- In 2023, North Carolina hospitals reported 56 infections in neonatal ICUs (NICUs), compared to the 60.44 infections that were predicted. This was the same as the 2015 national experience.
- The most commonly identified organism from NICU CLABSI patients was *Escherichia coli*.

Table 2. NC Central Line Associated Bloodstream Infections (CLABSI) in neonatal ICUs, 2023

Year	# Observed Infections	# Predicted Infections	How Does North Carolina compare to the 2015 National Experience?
2023	**56**	**60.44**	**= SAME: about the same number of infections as predicted (same as the 2015 national experience)**

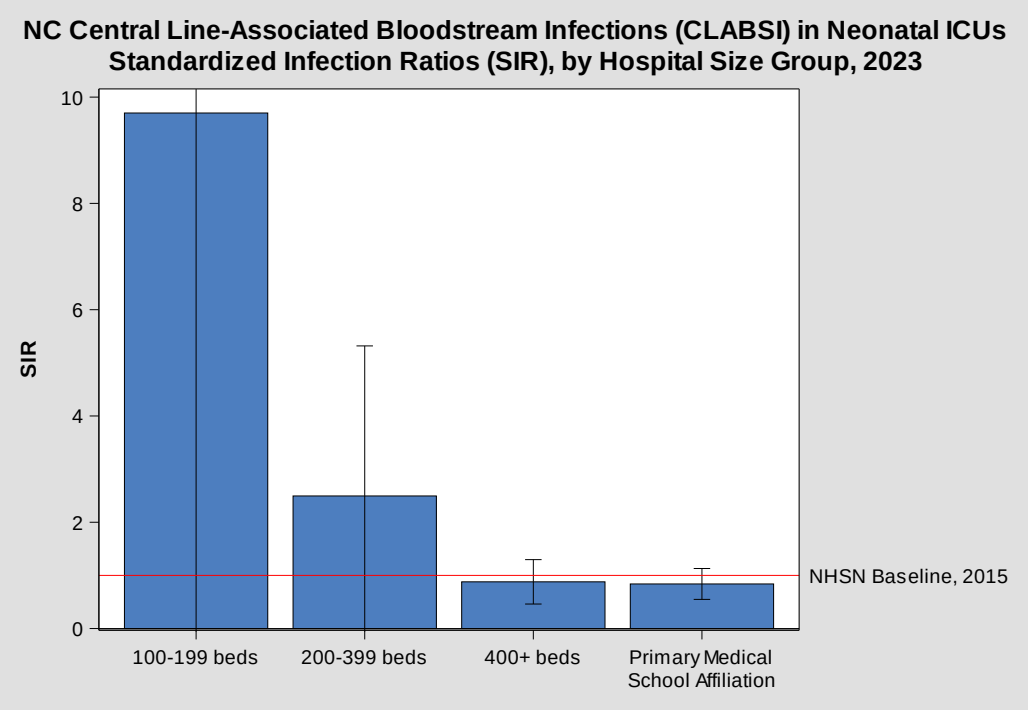
Figure 11.



Interpreting Figure 11:

- In 2023, Level II/III and Level III Neonatal ICUs observed about the same number of CLABSIs as predicted, performing the SAME as the 2015 national experience.

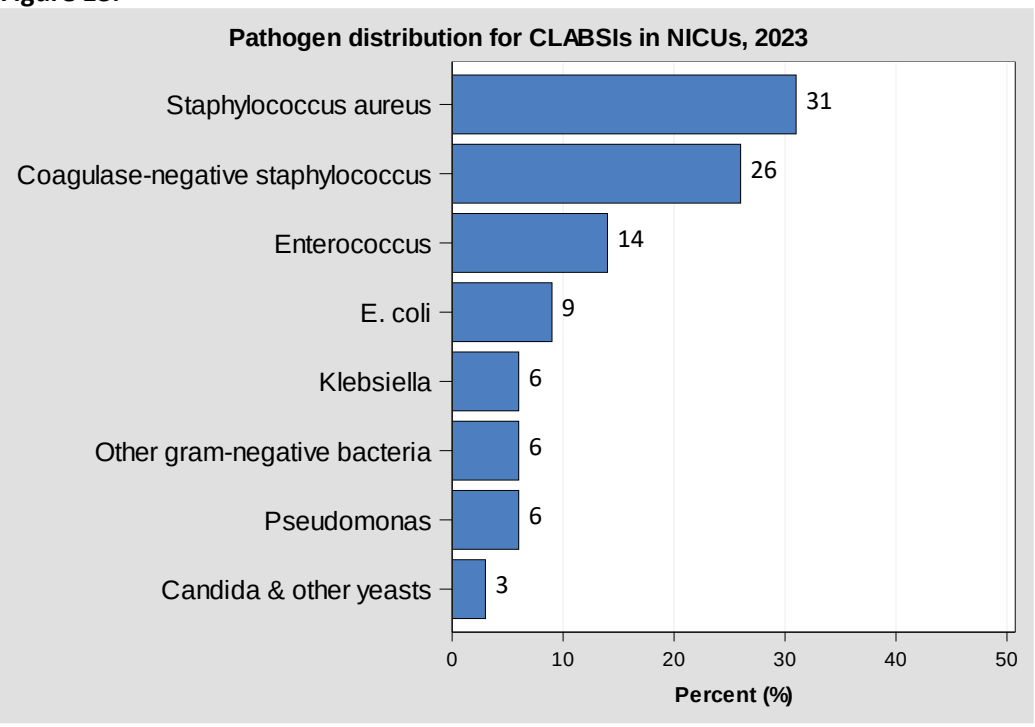
Figure 12.



Interpreting Figure 12:

- All hospital size groups and hospitals with primary medical school affiliation experienced about the same number of CLABSIs in NICUs as predicted, performing the SAME as the 2015 national experience.

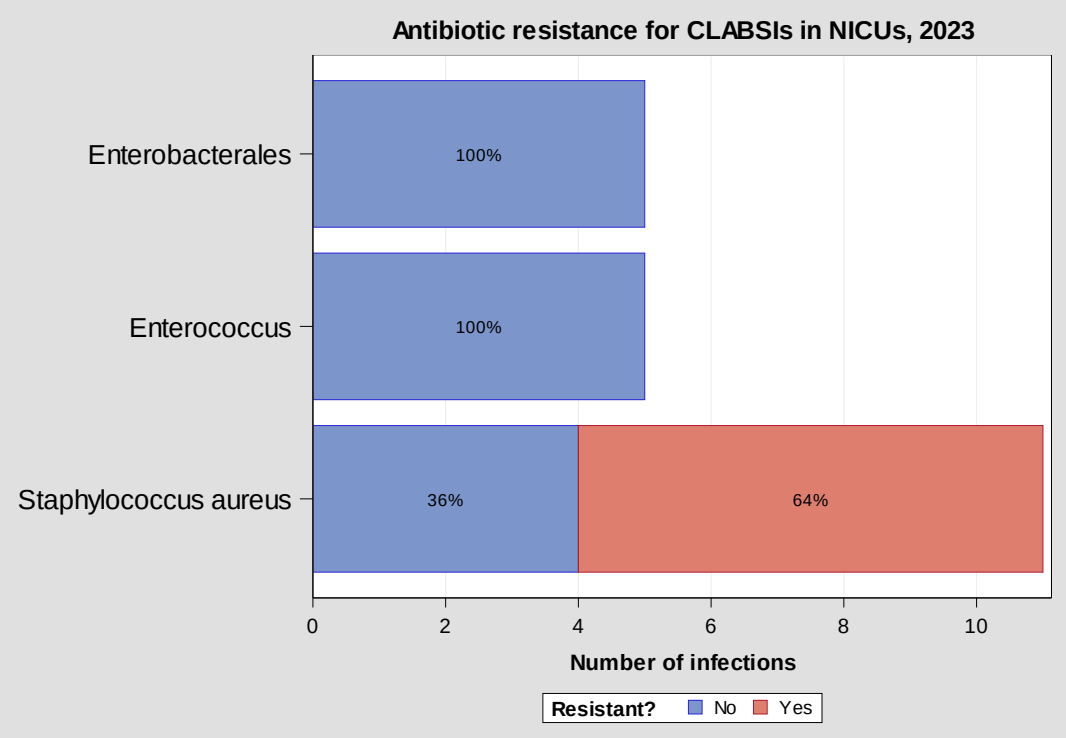
Figure 13.



Interpreting Figure 13:

- In 2023, *Staphylococcus aureus* (31%), was the most common pathogen identified from CLABSIs in NICU locations, followed by Coag-neg *Staphylococcus* and Enteroccocus (26%).
- *E.coli* is a more common cause of CLABSIs in NICUs than in adult/pediatric wards/ICUs.

Figure 14.



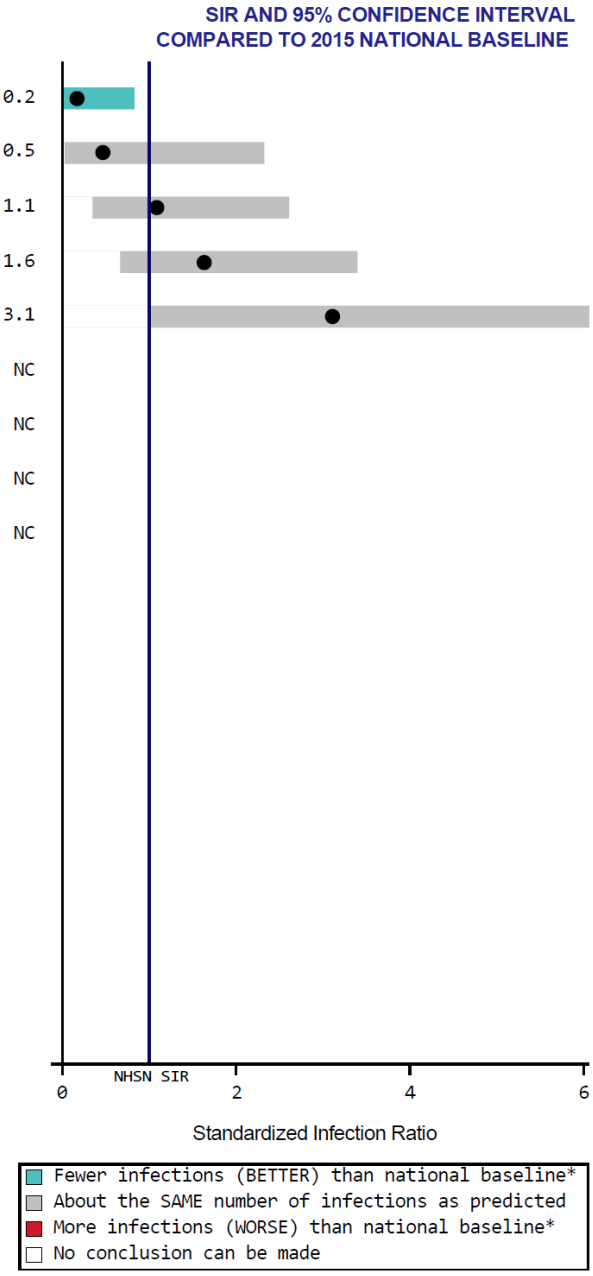
Interpreting Figure 14:

- In 2023, 3 of 7 (64%) *Staphylococcus aureus* identified among observed CLABSIs in NICUs were resistant to methicillin.
- No *Enterobacterales* from CLABSIs in NICUs were resistant to carbapenems.
- No *Enterococcus* spp. from CLABSIs in NICUs were resistant to vancomycin.

The following SIR plots summarize CLABSI infection data among NICUs in North Carolina hospitals by hospital groups (Appendix D).
***Please note that the caterpillar plots were not generated for smaller facility size groups as those groups did not have NICUs.**

Central Line-Associated Bloodstream Infections (CLABSI) in NICUs
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 400 or More Beds

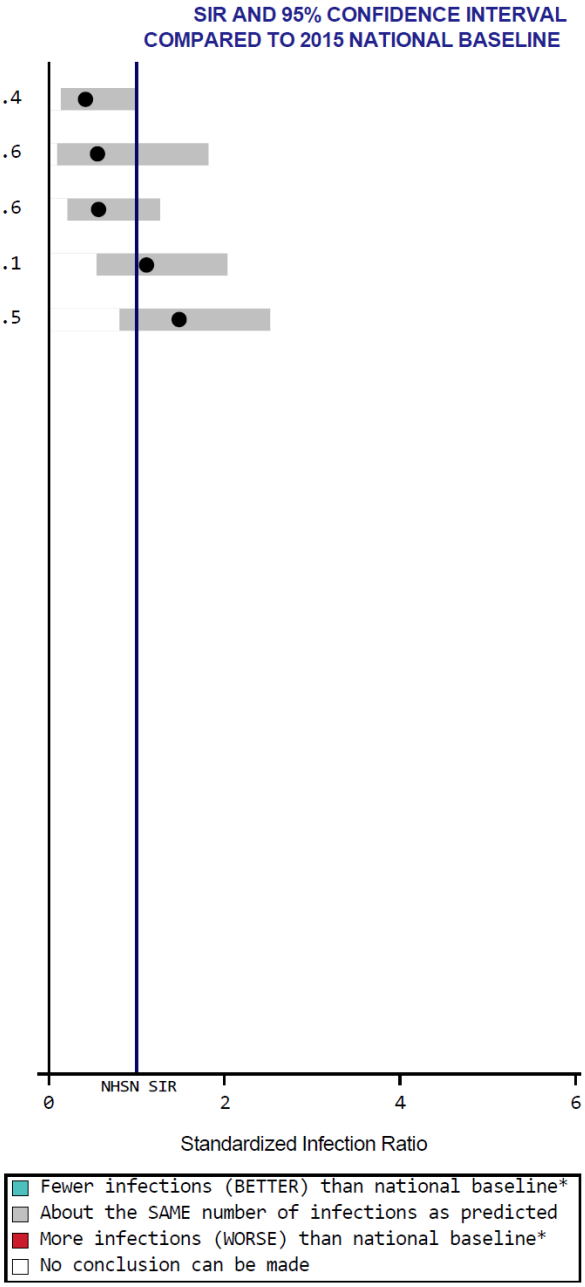
HOSPITAL	OBS	PRED	CLdays	SIR
New Hanover Regional Medical Center	1	6.0	3745	0.2
WakeMed	1	2.1	1534	0.5
Novant Health Presbyterian Medical	4	3.7	2418	1.1
Mission Hospital	6	3.7	3015	1.6
Novant Health Forsyth Medical Center	4	1.3	783	3.1
Rex Healthcare	0	0.7	751	NC
Atrium Health Cabarrus	0	0.8	481	NC
Gaston Memorial Hospital	0	0.2	245	NC
Cape Fear Valley Health System	1	0.9	503	NC



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
CLdays = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Central Line-Associated Bloodstream Infections (CLABSI) in NICUs
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with Primary Medical School Affiliation

HOSPITAL	OBS	PRED	CLdays	SIR
Duke University Hospital	4	9.5	6048	0.4
ECU Health Medical Center	2	3.6	2491	0.6
Atrium Health Carolinas Medical Center	5	8.8	5707	0.6
UNC Health	9	8.1	5691	1.1
Wake Forest University Baptist Medical	12	8.1	5132	1.5



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
CLdays = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

B. Catheter-Associated Urinary Tract Infections (CAUTI)

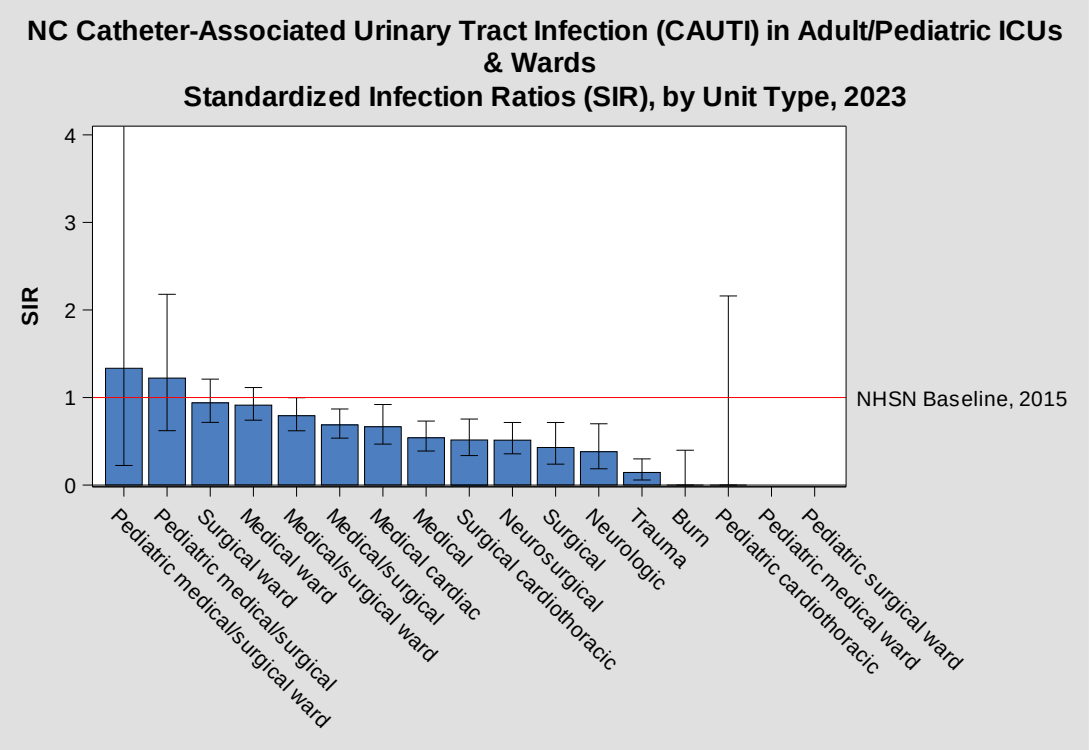
North Carolina 2023 CAUTI Highlights

- In 2023, North Carolina hospitals reported 455 CAUTI infections, compared to the 690.27 infections that were predicted. This was better than the 2015 national experience.
- The most commonly identified organisms were *Escherichia coli* and *Pseudomonas* spp.

Table 3. NC Catheter-Associated Urinary Tract Infections (CAUTI) in ICUs and wards, 2023

Year	# Observed Infections	# Predicted Infections	How Does North Carolina compare to the 2015 National Experience?
2023	**455**	**690.27**	**BETTER: Fewer infections than were predicted (better than the 2015 national experience)**

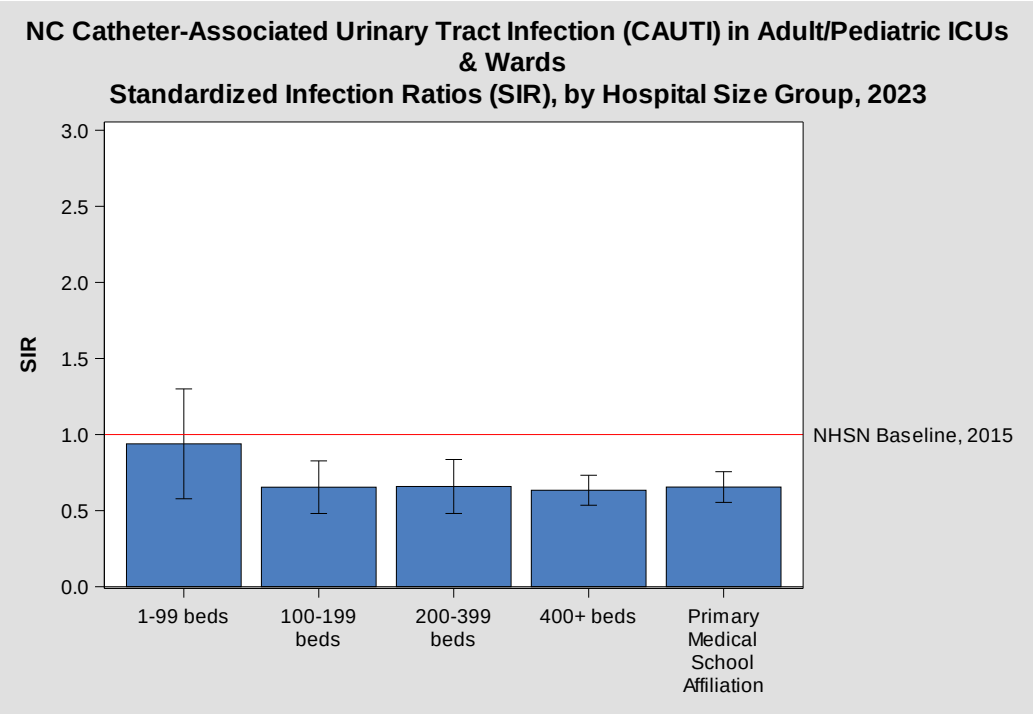
Figure 15.



Interpreting Figure 15:

- In 2023, medical/surgical wards, medical/surgical units, medical cardiac, medical units, surgical cardiothoracic, neurosurgical, surgical, neurologic, trauma, and burn units had fewer CAUTIs than predicted, performing BETTER than the 2015 national experience.
- In 2023, pediatric medical/surgical wards, pediatric medica/surgical units, surgical wards, medical wards, and pediatric cardiothoracic units had about the same CAUTIs as predicted preforming BETTER than the 2015 national experience.
- Pediatric cardiothoracic ICUs, and Burn units reported 0 CAUTI events.

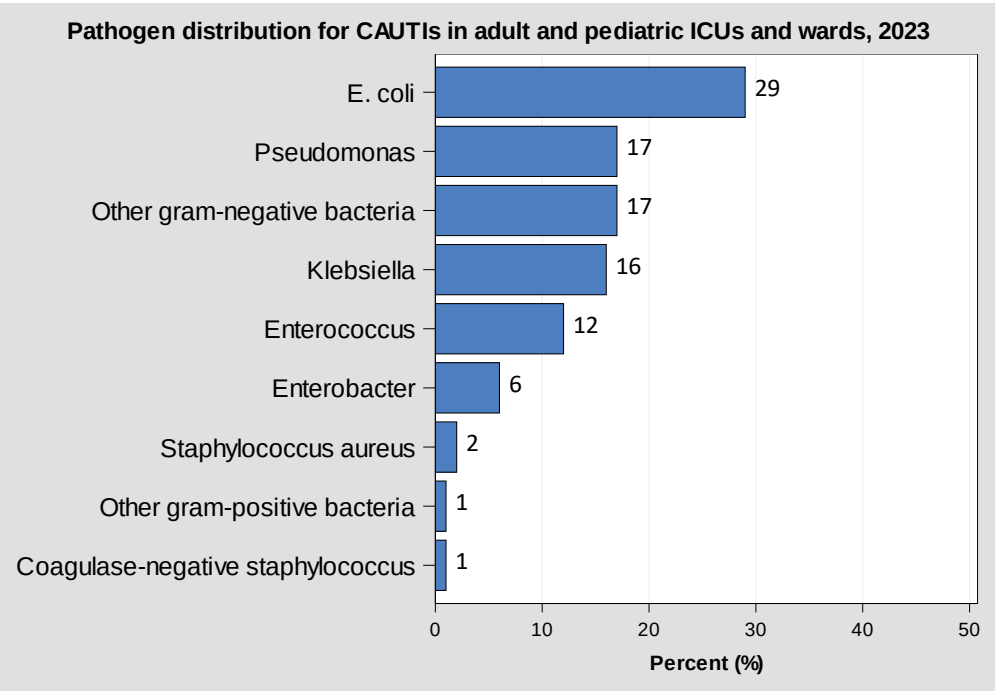
Figure 16.



Interpreting Figure 16:

- In 2023, facilities with bed sizes of 100-199, 200-399, and 400+ beds as well as facilites with a primary medical school affiliation reported fewer CAUTIs than predicted, performing BETTER than the 2015 national experience.
- In 2023, facilities with bed size 1-99 reported about the same number of CAUTIs as predicted, performing the SAME as the 2015 national experience.

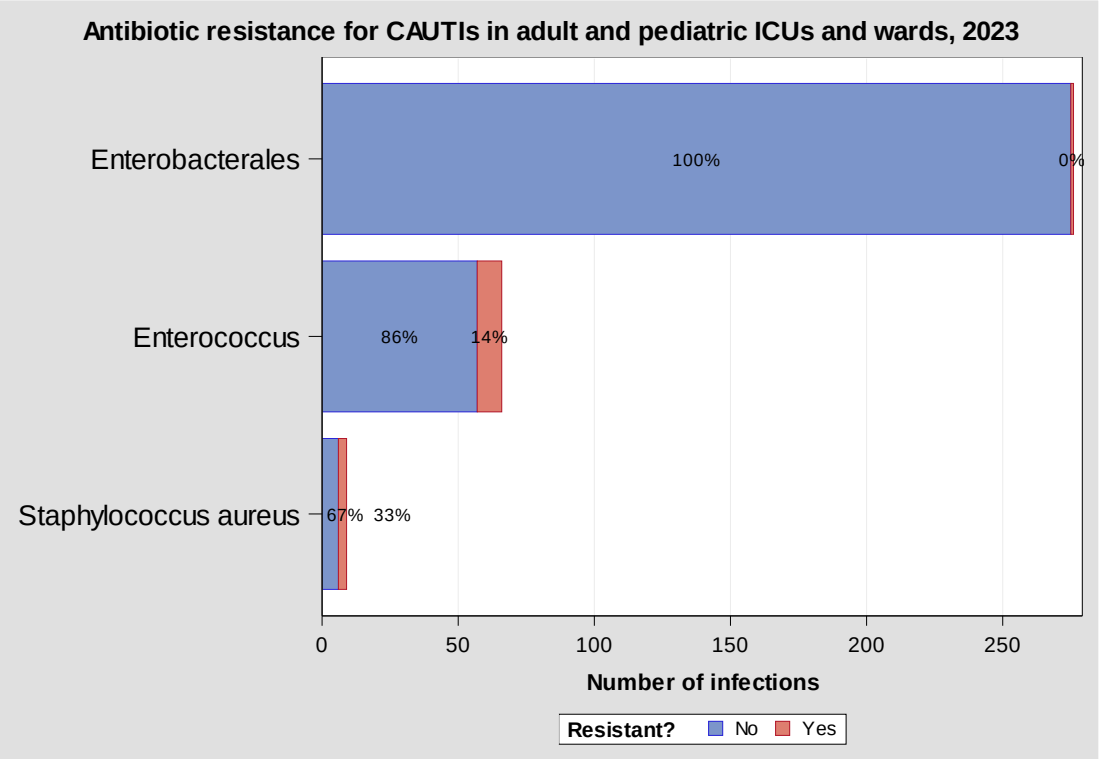
Figure 17.



Interpreting Figure 17:

- *E. coli* (29%), *Pseudomonas* (17%), and other gram-negative bacteria (17%) were the most commonly identified pathogens among reported CAUTI infections in 2023.
- *Candida* spp. and other yeasts are considered excluded organisms and cannot be used to meet the CAUTI definition.

Figure 18.



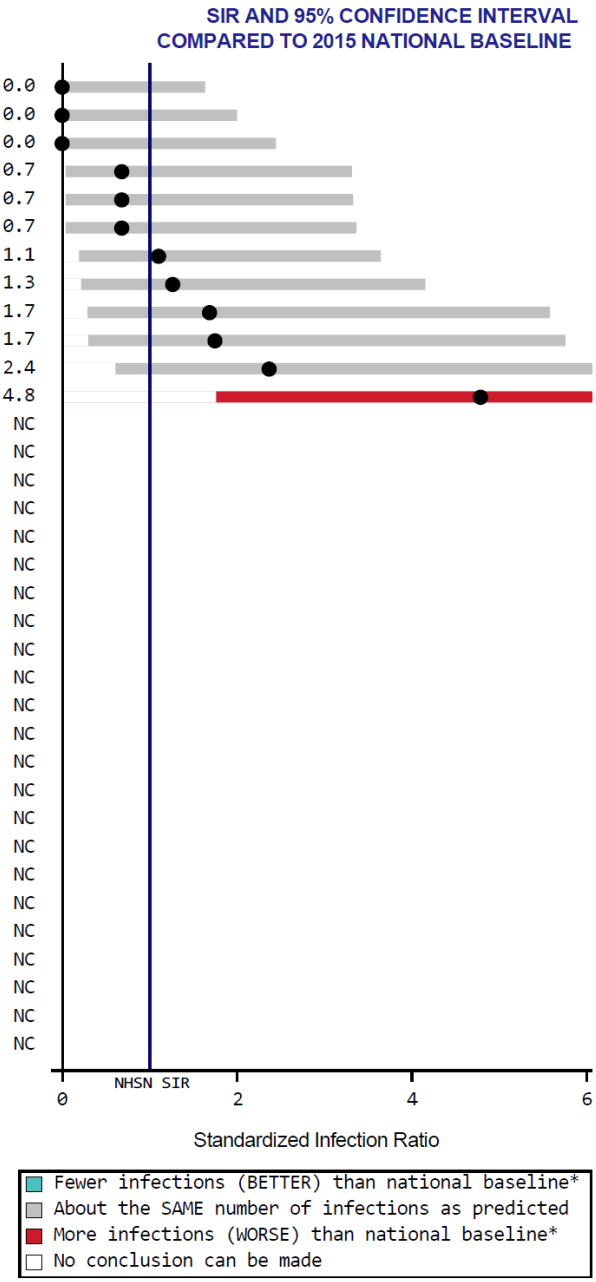
Interpreting Figure 18:

- Three of 9 (33%) *Staphylococcus aureus* identified among reported CAUTIs were resistant to methicillin.
- 14% of *Enterococcus* spp. among reported CAUTIs were resistant to vancomycin.
- None of the of Enterobacterales among reported CAUTIs were resistant to carbapenems.

The following SIR plots summarize CAUTI infection data for North Carolina hospitals by hospital groups (Appendix D).

Catheter-Associated Urinary Tract Infections (CAUTI)
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with less than 100 Beds

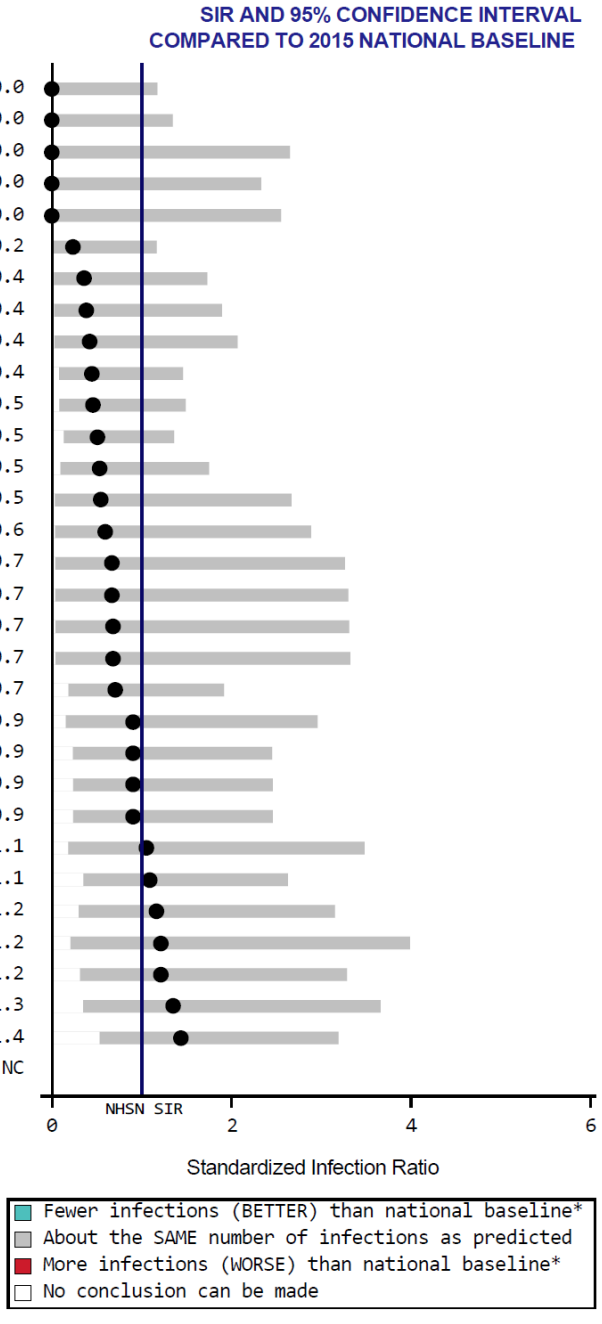
HOSPITAL	OBS	PRED	CLdays	SIR
Novant Health Brunswick Medical Center	0	1.8	1876	0.0
ECU Health Duplin Hospital	0	1.5	1417	0.0
Hugh Chatham Memorial Hospital	0	1.2	2384	0.0
Wake Forest Baptist Health-Wilkes	1	1.5	2775	0.7
Advent Health Hendersonville	1	1.5	2193	0.7
Betsy Johnson Hospital	1	1.5	1902	0.7
Wake Forest Baptist Health-Lexington	2	1.8	2475	1.1
ECU North Hospital	2	1.6	2355	1.3
Columbus Regional Healthcare System	2	1.2	2302	1.7
Duke LifePoint-Harris Regional Hospital	2	1.1	2099	1.7
ECU Health Beaufort Hospital	3	1.3	2101	2.4
Central Carolina Hospital	5	1.0	1912	4.8
McDowell Hospital	1	0.5	889	NC
Cherokee Indian Hospital	0	0.2	369	NC
Martin General Hospital	0	0.2	402	NC
Randolph Hospital Dba Randolph Health	0	0.9	1576	NC
Granville Medical Center	1	0.7	1450	NC
Carteret General Hospital	2	0.7	1320	NC
Kings Mountain Hospital	0	0.1	268	NC
Person Memorial Hospital	0	0.4	767	NC
Novant Health Medical Park Hospital	0	0.7	1383	NC
Atrium Health Anson	0	0.1	76	NC
Annie Penn Hospital	2	0.7	1406	NC
North Carolina Specialty Hospital	0	0.0	96	NC
Wake Forest Baptist Health-Davie Medical	0	0.4	535	NC
Johnston Health Clayton	0	0.4	776	NC
Firsthealth Moore Regional-Hoke	0	0.1	222	NC
Firsthealth Moore Regional-Richmond	0	0.7	1324	NC
Cape Fear Valley Hoke Hospital	0	0.1	196	NC
Novant Health Kernersville	0	0.8	1572	NC
WakeMed North Family Health & Women's	0	0.9	1262	NC
Central Harnett Hospital	1	0.7	1228	NC
Novant Health Clemmons Medical Center	0	0.4	751	NC
Novant Health Mint Hill Medical Center	0	0.4	808	NC
Rex Holly Springs Hospital	0	0.5	676	NC



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 catheter days
N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Catheter-Associated Urinary Tract Infections (CAUTI)
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 100 to 199 Beds

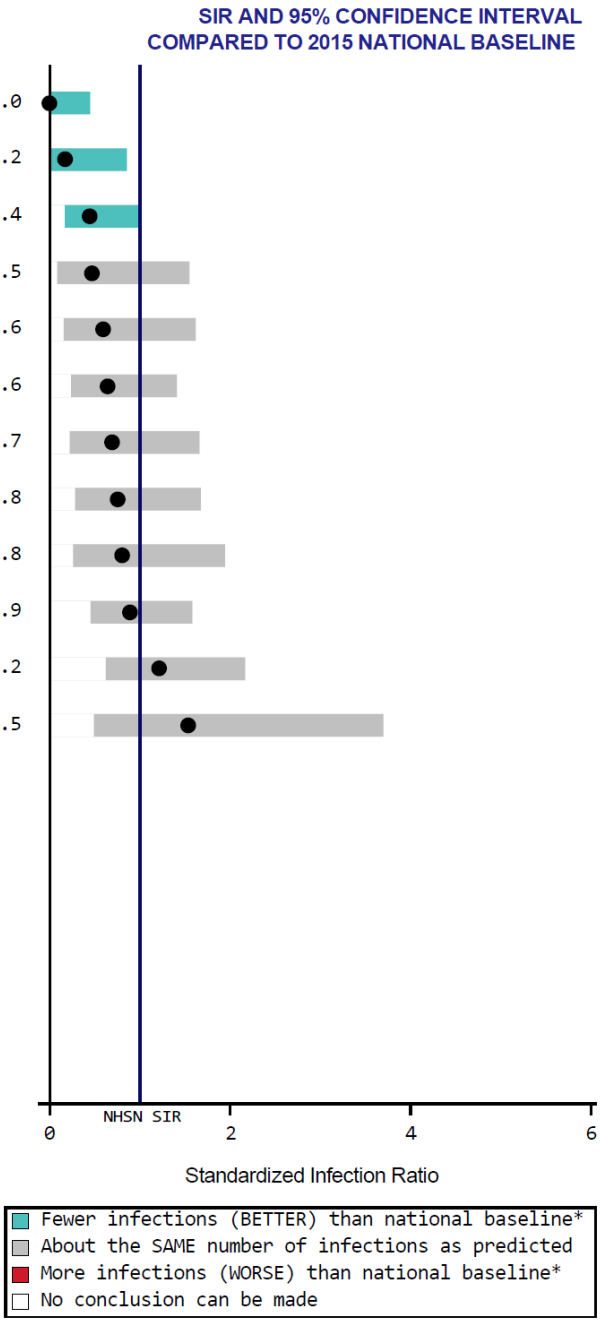
HOSPITAL	OBS	PRED	CLdays	SIR
Haywood Regional Medical Center	0	2.6	2483	0.0
Northern Regional Hospital	0	2.2	3300	0.0
Wilson Medical Center	0	1.1	1444	0.0
Onslow Memorial Hospital	0	1.3	1759	0.0
Atrium Health Stanly	0	1.2	1696	0.0
Atrium Health Union	1	4.2	4089	0.2
Iredell Memorial Hospital	1	2.9	4123	0.4
Pardee Hospital	1	2.6	3365	0.4
Lenoir Memorial Hospital	1	2.4	3402	0.4
Maria Parham Medical Center	2	4.5	4419	0.4
UNC Health Blue Ridge	2	4.4	4358	0.5
Duke Raleigh Hospital	3	6.0	5830	0.5
Atrium Health Mercy	2	3.8	3675	0.5
ARHS-Watauga Medical Center	1	1.8	1805	0.5
Sentara Albemarle Medical Center	1	1.7	1675	0.6
Wesley Long Hospital	1	1.5	2074	0.7
Lake Norman Regional Medical Center	1	1.5	2070	0.7
Rutherford Regional Medical Center	1	1.5	2176	0.7
ECU Health Roanoke-Chowan Hospital	1	1.5	1803	0.7
Caldwell Memorial Hospital	3	4.3	6166	0.7
ECU Health Edgecombe Hospital	2	2.2	2155	0.9
Novant Health Huntersville	3	3.3	3405	0.9
Nash Health Care Systems	3	3.3	4564	0.9
Novant Health Matthews Medical Center	3	3.3	4804	0.9
Sampson Regional Medical Center	2	1.9	2446	1.1
Frye Regional Medical Center	4	3.7	4884	1.1
Atrium Health University City	3	2.6	2587	1.2
Scotland Memorial Hospital	2	1.7	2398	1.2
Atrium Health Lincoln	3	2.5	2415	1.2
Novant Health Thomasville Medical Center	3	2.2	2199	1.3
Johnston Health	5	3.5	4850	1.4
UNC Rockingham Health	0	0.8	1128	NC



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 catheter days
N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Catheter-Associated Urinary Tract Infections (CAUTI)
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 200 to 399 Beds

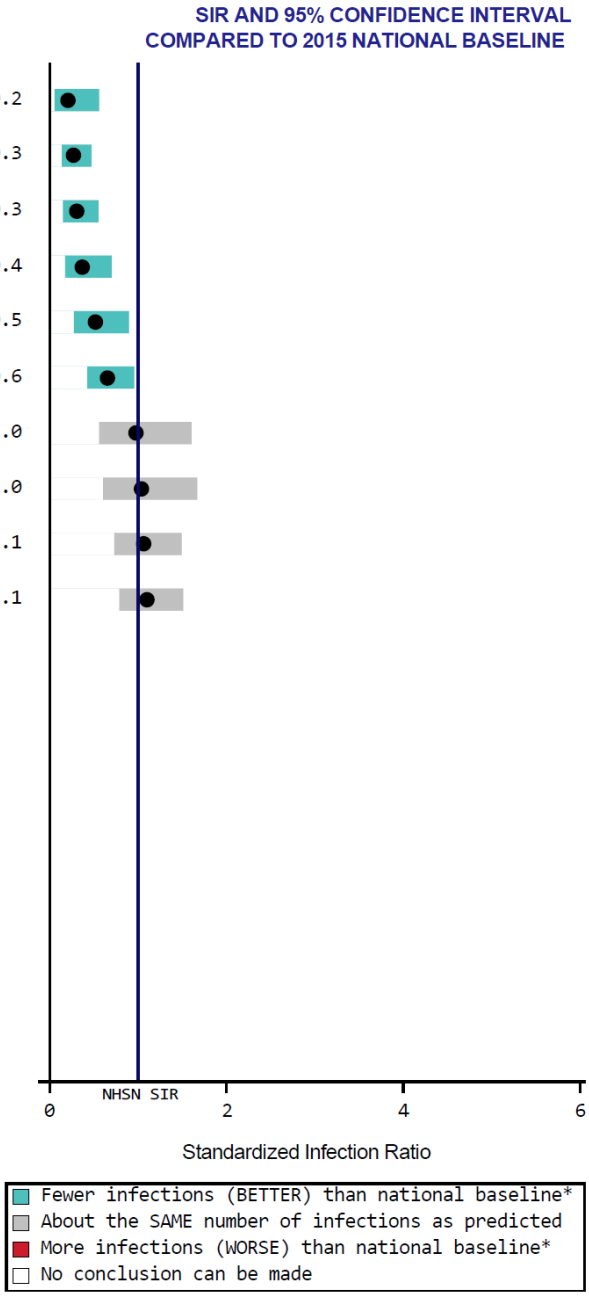
HOSPITAL	OBS	PRED	CLdays	SIR
Atrium Health Cleveland	0	6.7	5282	0.0
FirstHealth Moore Regional Hospital	1	5.8	6583	0.2
Atrium Health Pineville	5	11.2	8996	0.4
WakeMed Cary Hospital	2	4.3	5028	0.5
Alamance Regional Medical Center	3	5.1	3984	0.6
Duke Regional Hospital	5	7.9	6142	0.6
Catawba Valley Medical Center	4	5.8	6714	0.7
Southeastern Regional Medical Center	5	6.6	6722	0.8
CarolinaEast Medical Center	4	5.0	5888	0.8
High Point Regional Health System	10	11.3	8949	0.9
Wayne Memorial Hospital	10	8.2	8283	1.2
Novant Health Rowan Medical Center	4	2.6	3019	1.5



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 catheter days
N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Catheter-Associated Urinary Tract Infections (CAUTI)
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 400 or More Beds

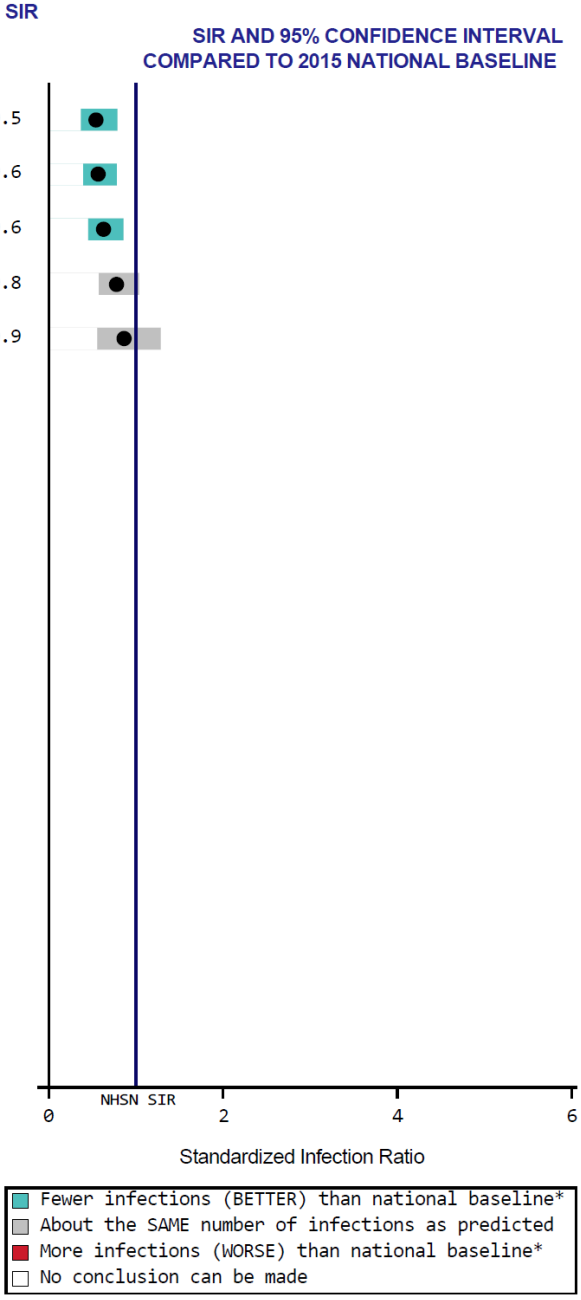
HOSPITAL	OBS	PRED	CLdays	SIR
Gaston Memorial Hospital	3	14.6	13611	0.2
Mission Hospital	10	37.8	22864	0.3
WakeMed	9	30.0	19158	0.3
Atrium Health Cabarrus	8	21.7	17141	0.4
Moses Cone Hospital	11	21.3	12119	0.5
Novant Health Forsyth Medical Center	23	35.5	21448	0.6
Novant Health Presbyterian Medical	14	14.3	8643	1.0
Cape Fear Valley Health System	15	14.5	11344	1.0
New Hanover Regional Medical Center	30	28.3	18846	1.1
Rex Healthcare	36	32.7	22938	1.1



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 catheter days
N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Catheter-Associated Urinary Tract Infections (CAUTI)
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with Primary Medical School Affiliation

HOSPITAL	OBS	PRED	CLdays	SIR
Wake Forest University Baptist Medical	26	47.7	28963	0.5
Duke University Hospital	33	58.7	36701	0.6
Atrium Health Carolinas Medical Center	37	58.9	31569	0.6
UNC Health	44	56.5	34498	0.8
ECU Health Medical Center	22	25.5	20787	0.9



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
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N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

C. Surgical Site Infections (SSI)

1. Abdominal Hysterectomies

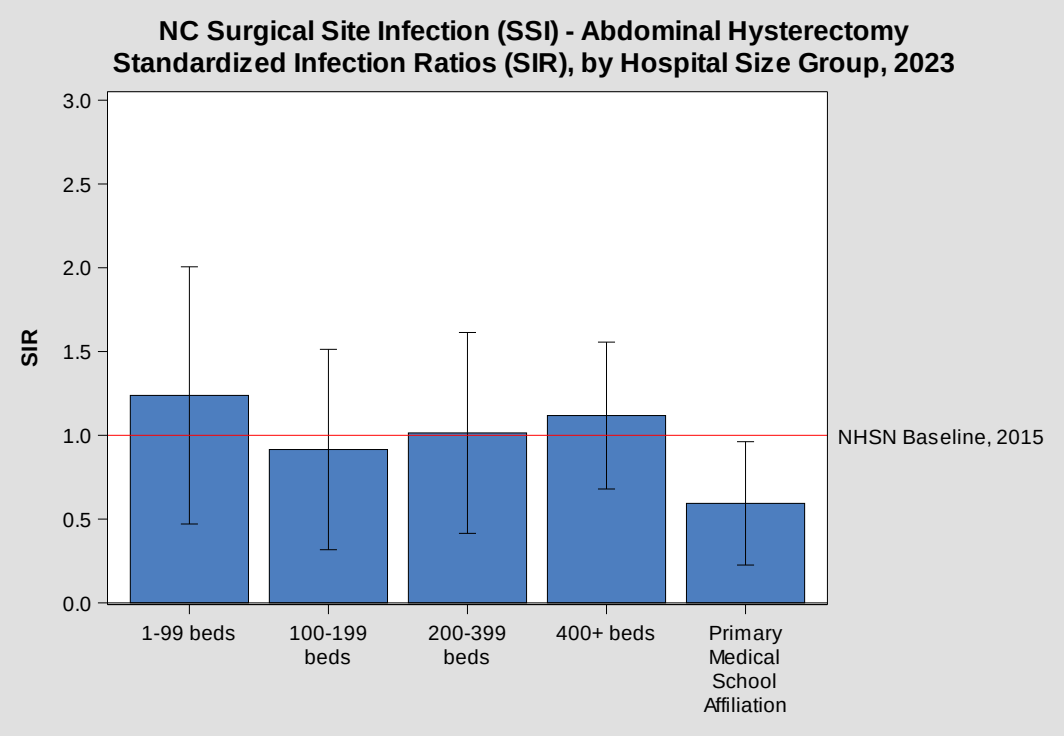
North Carolina 2023 SSI Following Abdominal Hysterectomy Highlights

- North Carolina reported 65 surgical site infections (SSIs) after inpatient abdominal hysterectomies performed on adults ≥ 18 years in North Carolina acute care hospitals, compared to the 70.59 infections predicted. This was the same as the 2015 national experience.
- In 2023, the most commonly identified organism from adult patients with SSI following inpatient abdominal hysterectomies was *Coagulase-negative staphylococcus*.

Table 4. NC Surgical Site Infections following Abdominal Hysterectomies, 2023

Year	# Observed Infections	# Predicted Infections	How Does North Carolina compare to the 2015 National Experience?
2023	**65**	**70.59**	**= SAME: about the same number of infections as predicted (same as the 2015 national experience)**

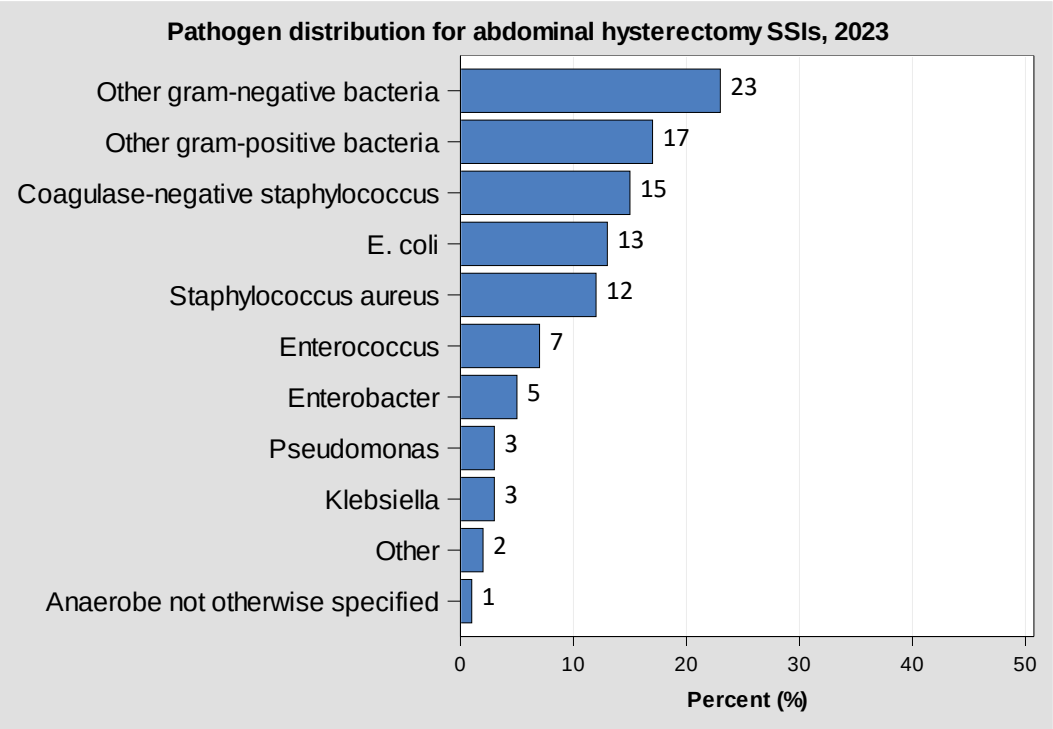
Figure 19.



Interpreting Figure 19:

- In 2023 facilities with bed sizes of1-99, 100-199, 200-399, and 400+ beds reported about the same number of SSIs following abdominal hysterectomies as predicted, performing the SAME as the 2015 national experience.
- In 2023, facilities with a primary medical school affiliation reported fewer SSIs following abdominal hysterectomies than predicted, preforming BETTER than the 2015 national experience.

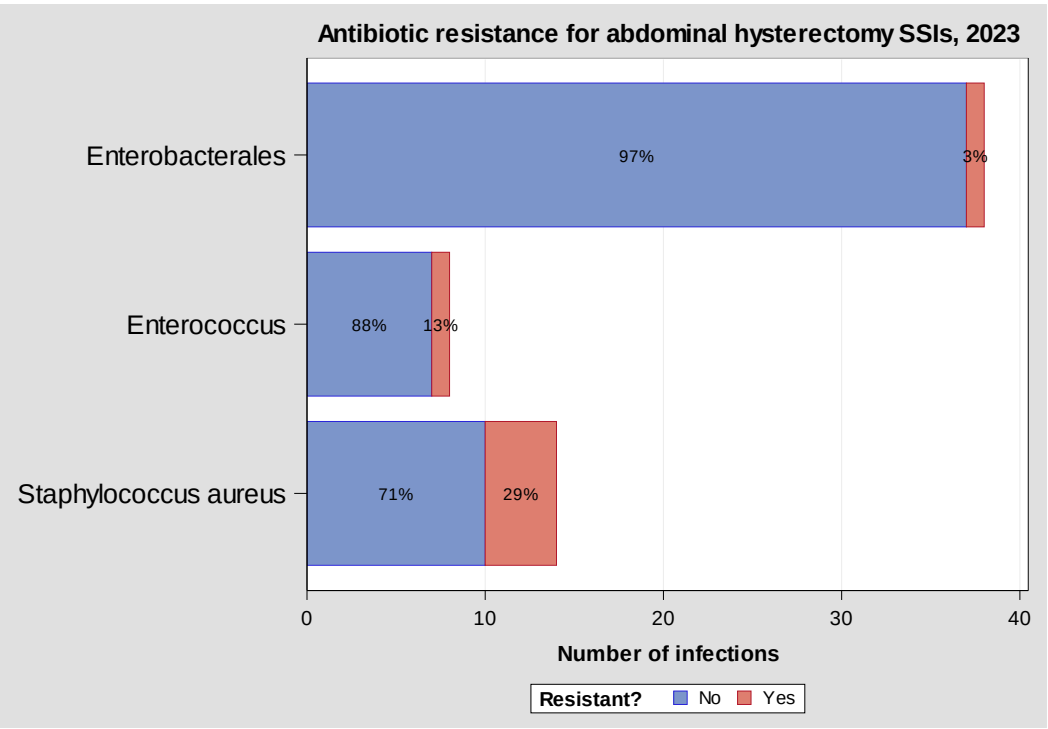
Figure 20.



Interpreting Figure 20:

- *Other gram-negative bacteria* (23%) was the most commonly reported pathogen among SSIs following abdominal hysterectomies.

Figure 21.



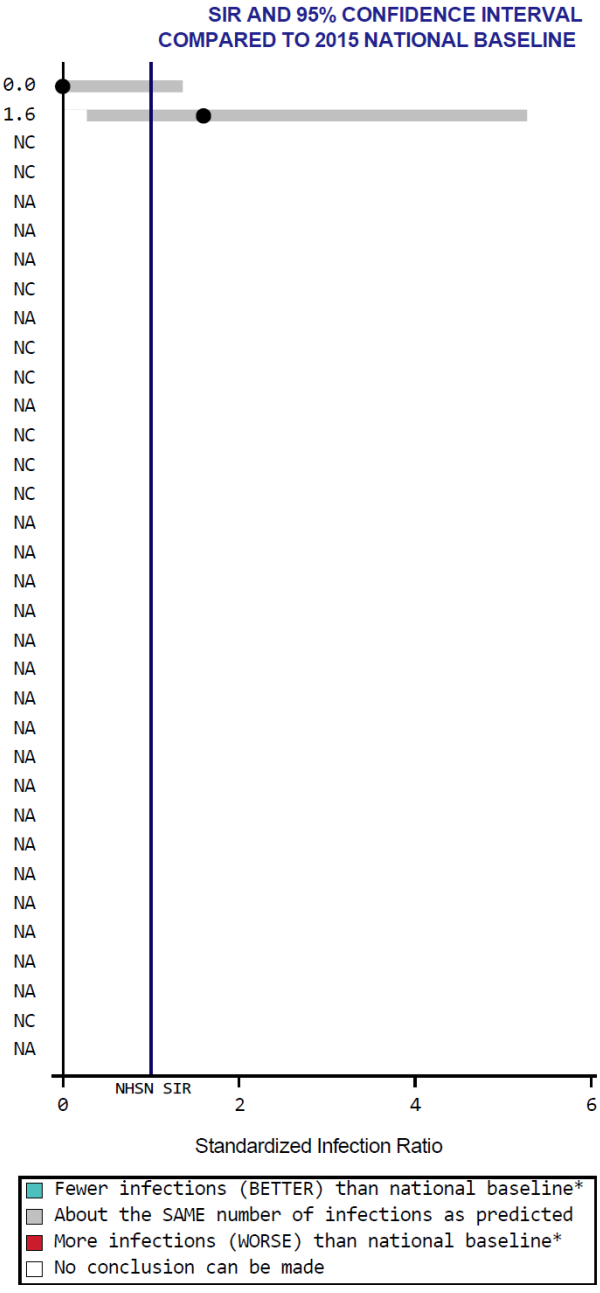
Interpreting Figure 21:

- In 2023, 29% of *Staphylococcus aureus* identified among SSIs following abdominal hysterectomies were resistant to methicillin.
- 3% of the Enterobacterales from SSIs following abdominal hysterectomies were resistant to carbapenems.
- 13% of *Enterococcus spp.* from SSIs following abdominal hysterectomies were resistant to vancomycin.

The following SIR plots summarize SSI infection following abdominal hysterectomy data for North Carolina hospitals by hospital groups (Appendix D).

Surgical Site Infections (SSI) - Abdominal Hysterectomies
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with less than 100 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Novant Health Medical Park Hospital	0	2.2	261	0.0
WakeMed North Family Health & Women's	2	1.3	163	1.6
McDowell Hospital	0	0.4	39	NC
Advent Health Hendersonville	0	0.5	69	NC
Cherokee Indian Hospital	NA	NA	N	NA
Duke LifePoint-Harris Regional Hospital	NA	NA	N	NA
Davis Regional Medical Center	NA	NA	N	NA
Columbus Regional Healthcare System	0	0.4	41	NC
Martin General Hospital	NA	NA	N	NA
Randolph Hospital Dba Randolph Health	1	0.5	60	NC
ECU Health Beaufort Hospital	0	0.6	59	NC
Granville Medical Center	NA	NA	N	NA
Carteret General Hospital	2	0.9	102	NC
Novant Health Brunswick Medical Center	2	0.4	44	NC
ECU Health Duplin Hospital	0	0.2	32	NC
Central Carolina Hospital	NA	NA	N	NA
Kings Mountain Hospital	NA	NA	N	NA
Person Memorial Hospital	NA	NA	N	NA
Wake Forest Baptist Health-Lexington	NA	NA	N	NA
ECU North Hospital	NA	NA	N	NA
Betsy Johnson Hospital	NA	NA	N	NA
Hugh Chatham Memorial Hospital	NA	NA	N	NA
Wake Forest Baptist Health-Wilkes	NA	NA	N	NA
Atrium Health Anson	NA	NA	N	NA
Annie Penn Hospital	NA	NA	N	NA
North Carolina Specialty Hospital	NA	NA	N	NA
Wake Forest Baptist Health-Davie Medical	NA	NA	N	NA
Johnston Health Clayton	NA	NA	N	NA
Firsthealth Moore Regional-Richmond	NA	NA	N	NA
Novant Health Kernersville	NA	NA	N	NA
Novant Health Clemmons Medical Center	NA	NA	N	NA
Novant Health Mint Hill Medical Center	NA	NA	N	NA
Rex Holly Springs Hospital	0	0.4	47	NC
Novant Health Ballantyne Medical Center	NA	NA	N	NA



Data reported as of September 9, 2024.
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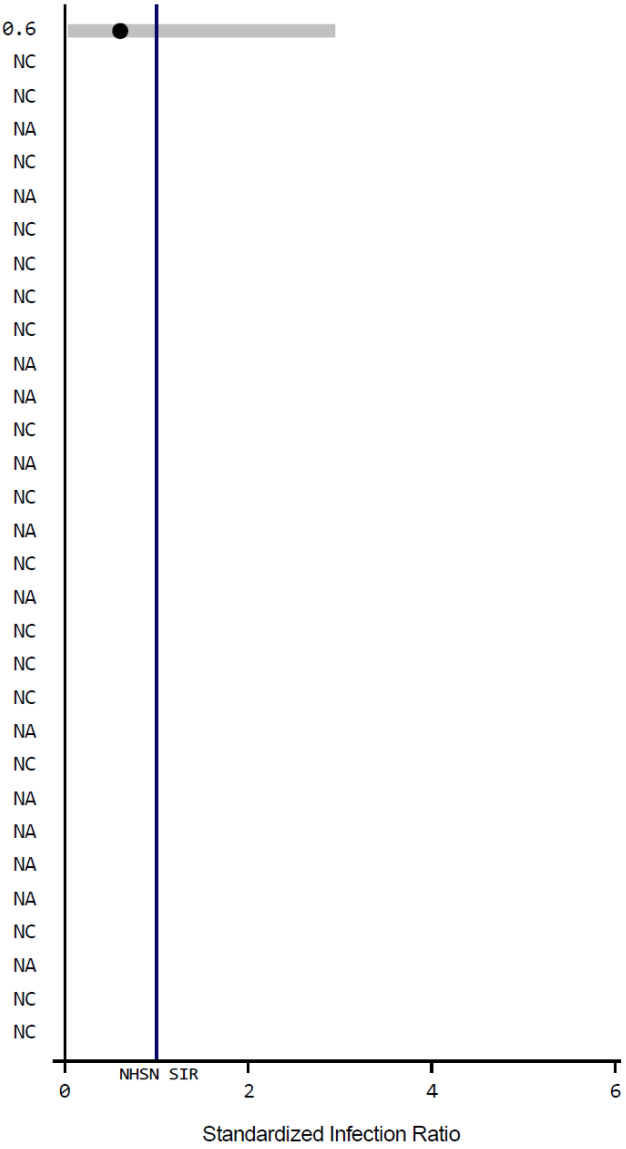
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Abdominal Hysterectomies
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 100 to 199 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Novant Health Matthews Medical Center	1	1.7	198	0.6
Atrium Health University City	1	0.5	60	NC
Pardee Hospital	0	0.4	47	NC
Rutherford Regional Medical Center	NA	NA	N	NA
Haywood Regional Medical Center	0	0.2	21	NC
ARHS-Watauga Medical Center	NA	NA	N	NA
Sentara Albemarle Medical Center	0	0.8	87	NC
ECU Health Roanoke-Chowan Hospital	0	0.4	40	NC
ECU Health Edgecombe Hospital	0	0.8	71	NC
Novant Health Thomasville Medical Center	0	0.6	69	NC
Sampson Regional Medical Center	NA	NA	N	NA
Lenoir Memorial Hospital	NA	NA	N	NA
Iredell Memorial Hospital	0	0.7	79	NC
Maria Parham Medical Center	NA	NA	N	NA
Nash Health Care Systems	0	0.2	22	NC
Northern Regional Hospital	NA	NA	N	NA
Lake Norman Regional Medical Center	1	0.9	114	NC
Frye Regional Medical Center	NA	NA	N	NA
Johnston Health	1	0.2	23	NC
Scotland Memorial Hospital	2	0.4	40	NC
Novant Health Huntersville	1	0.7	85	NC
Atrium Health Lincoln	NA	NA	N	NA
Wilson Medical Center	1	0.7	77	NC
Onslow Memorial Hospital	NA	NA	N	NA
UNC Health Blue Ridge	NA	NA	N	NA
Atrium Health Union	NA	NA	N	NA
Caldwell Memorial Hospital	NA	NA	N	NA
Duke Raleigh Hospital	0	0.2	29	NC
Atrium Health Stanly	NA	NA	N	NA
UNC Rockingham Health	0	0.2	28	NC
Wesley Long Hospital	0	0.4	50	NC

SIR AND 95% CONFIDENCE INTERVAL
COMPARED TO 2015 NATIONAL BASELINE



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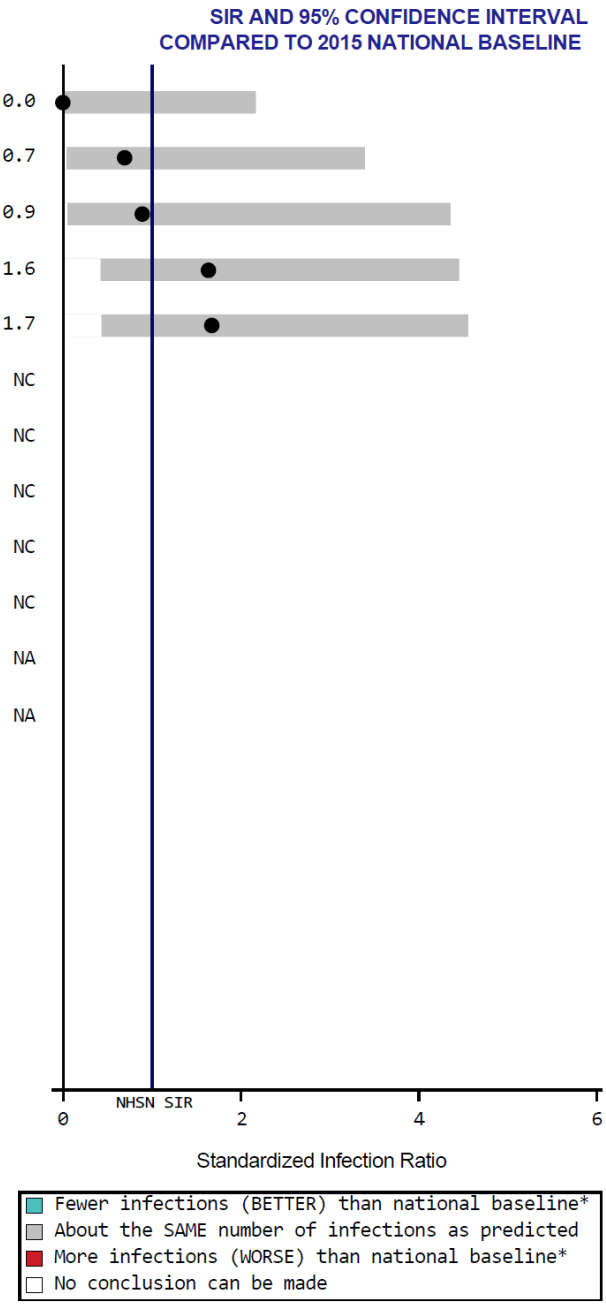
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Abdominal Hysterectomies
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 200 to 399 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Catawba Valley Medical Center	0	1.4	156	0.0
WakeMed Cary Hospital	1	1.5	169	0.7
Southeastern Regional Medical Center	1	1.1	126	0.9
FirstHealth Moore Regional Hospital	3	1.8	196	1.6
High Point Regional Health System	3	1.8	187	1.7
Atrium Health Pineville	1	0.6	63	NC
CarolinaEast Medical Center	0	0.5	51	NC
Novant Health Rowan Medical Center	2	0.8	90	NC
Wayne Memorial Hospital	0	0.5	58	NC
Duke Regional Hospital	0	0.8	100	NC
Alamance Regional Medical Center	NA	NA	N	NA
Atrium Health Cleveland	NA	NA	N	NA



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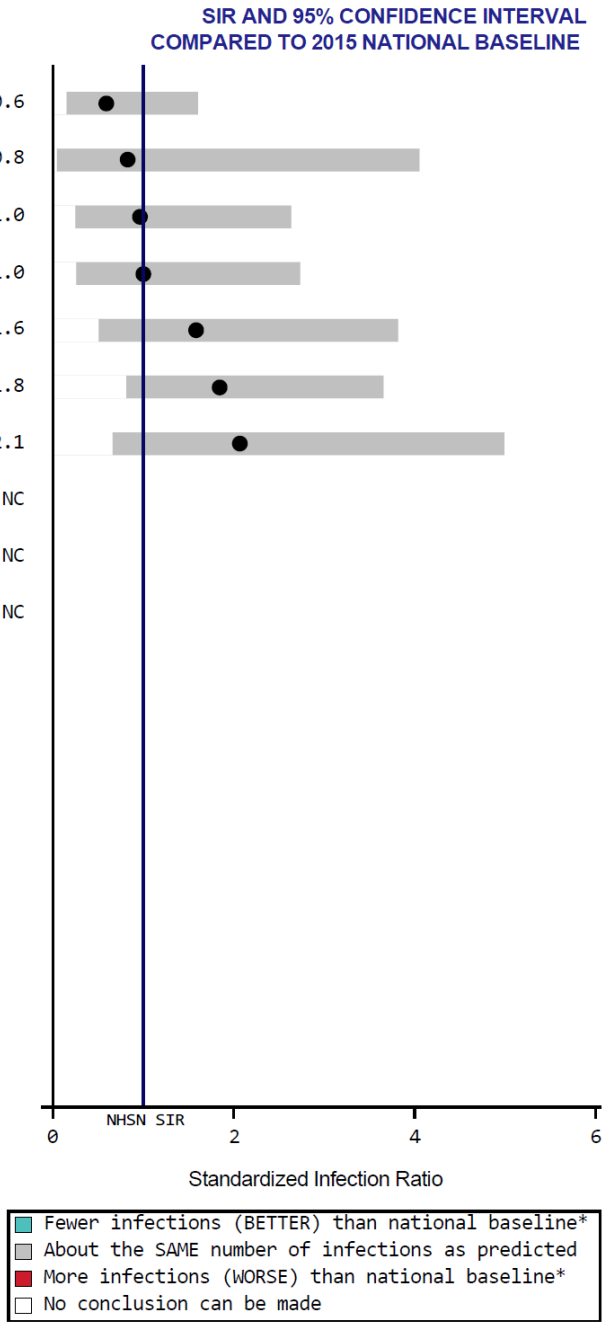
PRED = # infections statistically predicted by national baseline
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Abdominal Hysterectomies
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 400 or More Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Mission Hospital	3	5.1	558	0.6
WakeMed	1	1.2	134	0.8
Novant Health Forsyth Medical Center	3	3.1	342	1.0
Rex Healthcare	3	3.0	349	1.0
New Hanover Regional Medical Center	4	2.5	283	1.6
Novant Health Presbyterian Medical	7	3.8	437	1.8
Cape Fear Valley Health System	4	1.9	197	2.1
Atrium Health Cabarrus	0	0.4	48	NC
Gaston Memorial Hospital	0	0.8	86	NC
Moses Cone Hospital	0	0.4	45	NC



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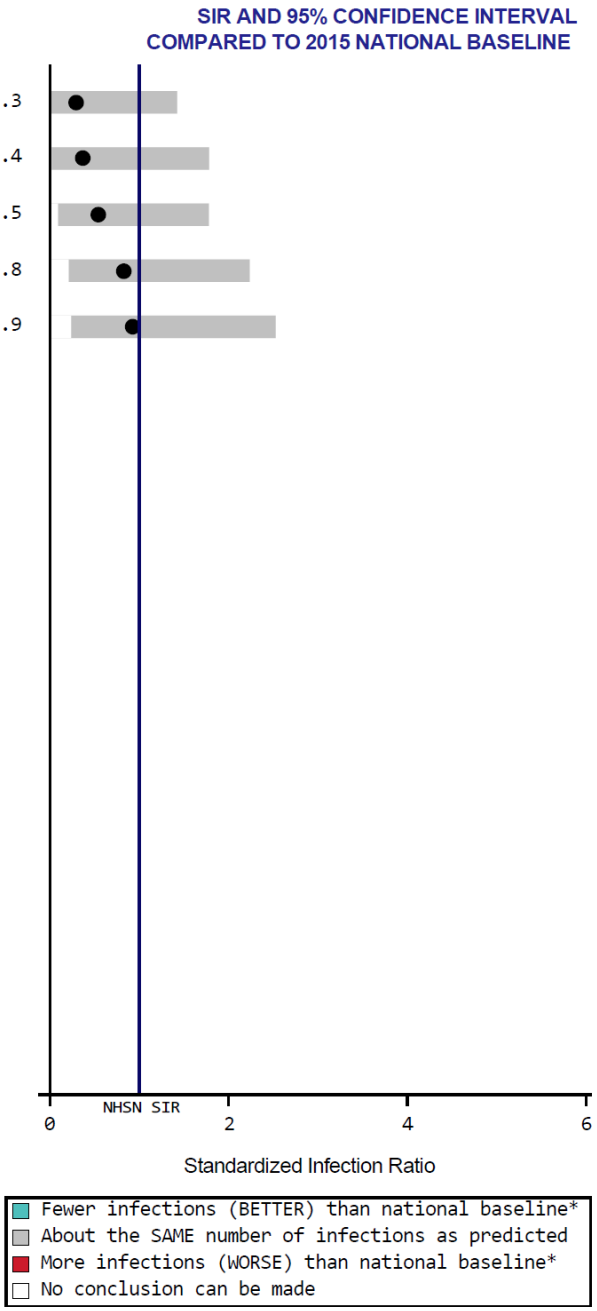
PRED = # infections statistically predicted by national baseline
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Abdominal Hysterectomies
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with Primary Medical School Affiliation

HOSPITAL	OBS	PRED	CLdays	SIR
ECU Health Medical Center	1	3.5	370	0.3
Duke University Hospital	1	2.8	304	0.4
Wake Forest University Baptist Medical	2	3.7	371	0.5
UNC Health	3	3.7	359	0.8
Atrium Health Carolinas Medical Center	3	3.2	320	0.9



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OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
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N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

2. Colon Surgeries

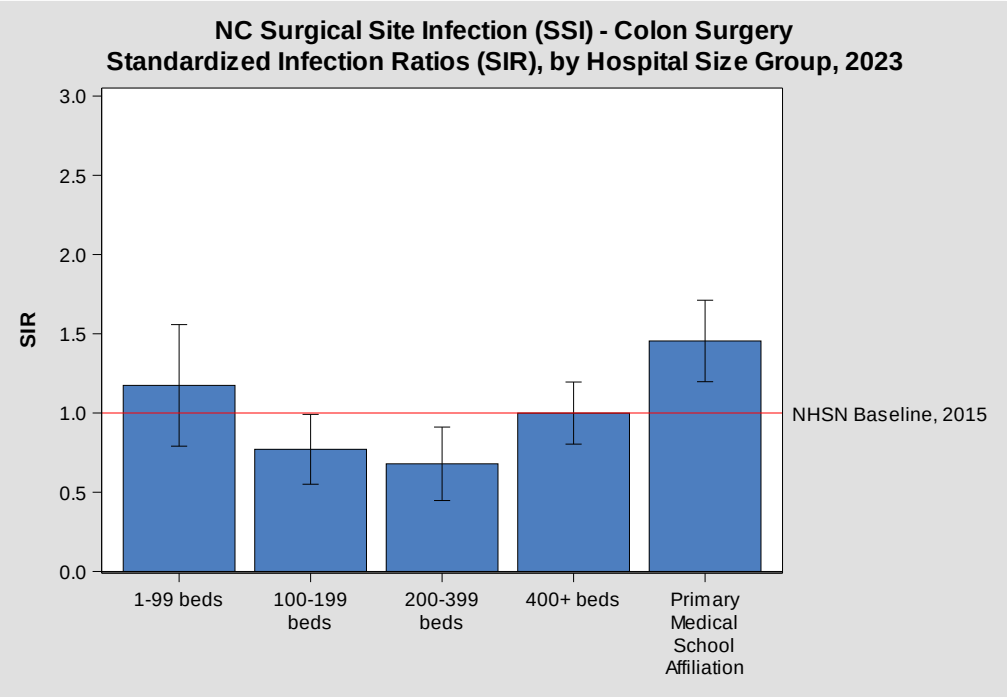
North Carolina 2023 SSI Following Colon Surgery Highlights

- Among inpatient colon surgeries performed on adults ≥ 18 years, North Carolina hospitals reported 339 infections, compared to the 329.66 infections which were predicted; this was the same as the 2015 national experience.
- The most commonly identified organisms isolated from colon surgery SSI patients were *Escherichia coli* and *Enterococcus* spp.

Table 5. NC Surgical Site Infections following colon surgeries, 2023

Year	# Observed Infections	# Predicted Infections	How Does North Carolina compare to the 2015 National Experience?
2023	**339**	**329.66**	**= SAME: about the same number of infections as predicted (same as the 2015 national experience)**

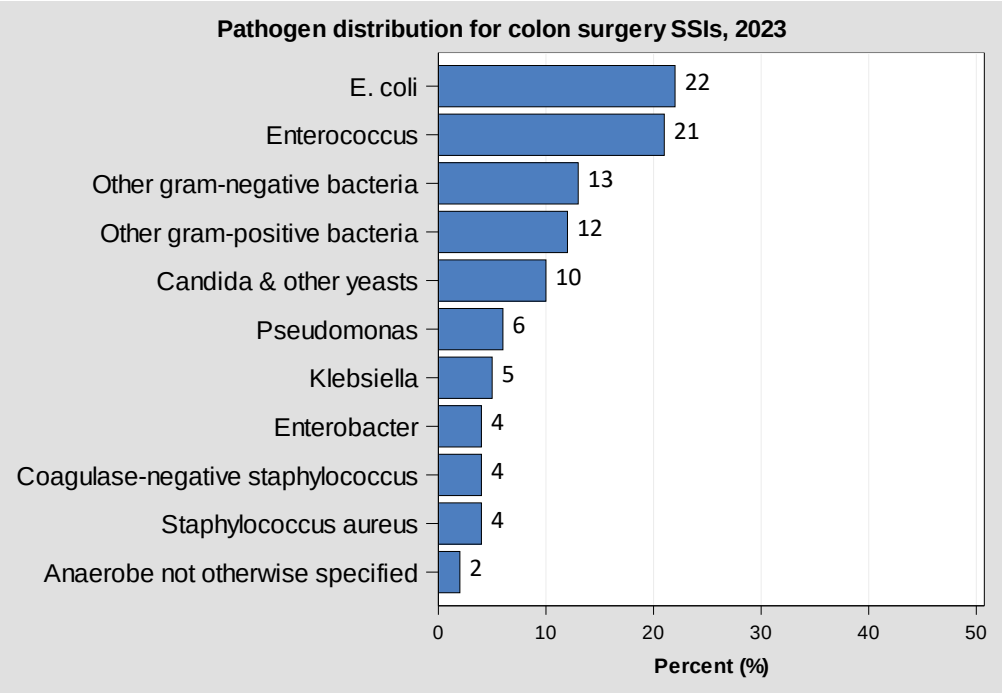
Figure 22.



Interpreting Figure 22:

- In 2023, 100-199 and 200-399 bed facilities experienced fewer SSIs following colon surgeries than predicted, performing BETTER than the 2015 national experience.
- Facilities with primary medical school affiliation, 1-99 beds and 400+ beds experienced about the same number of SSIs following colon surgeries as predicted, performing the SAME as the 2015 national experience.

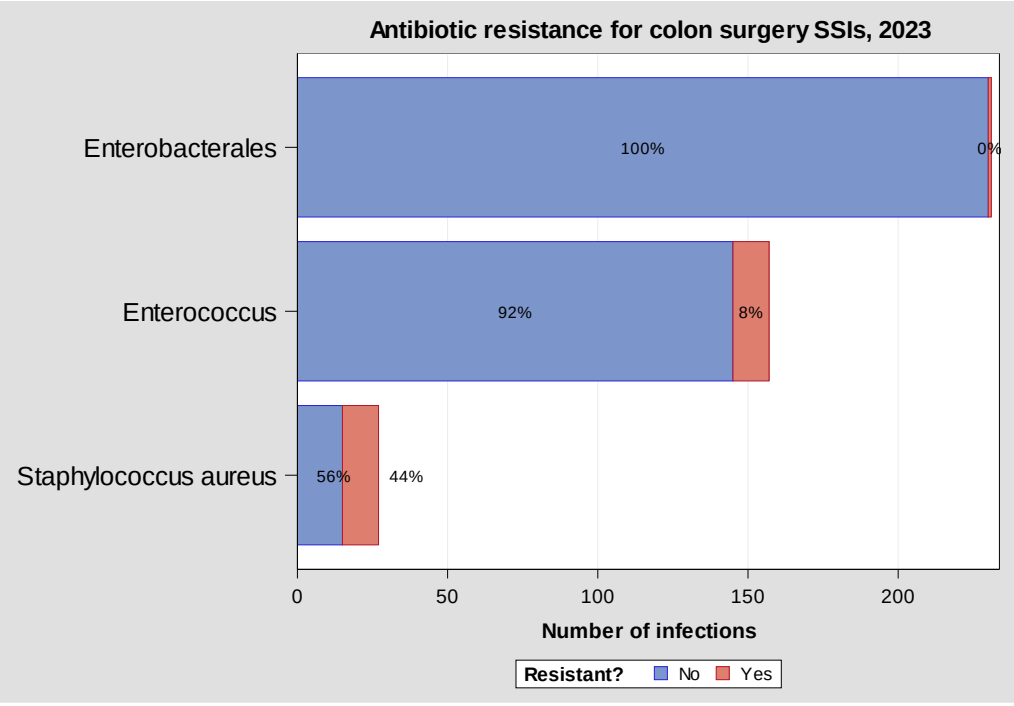
Figure 23.



Interpreting Figure 23:

- The most commonly reported pathogens isolated from patients with surgical site infections following colon surgeries were *Escherichia coli* (22%) followed by *Enterococcus* spp. (21%).

Figure 24.



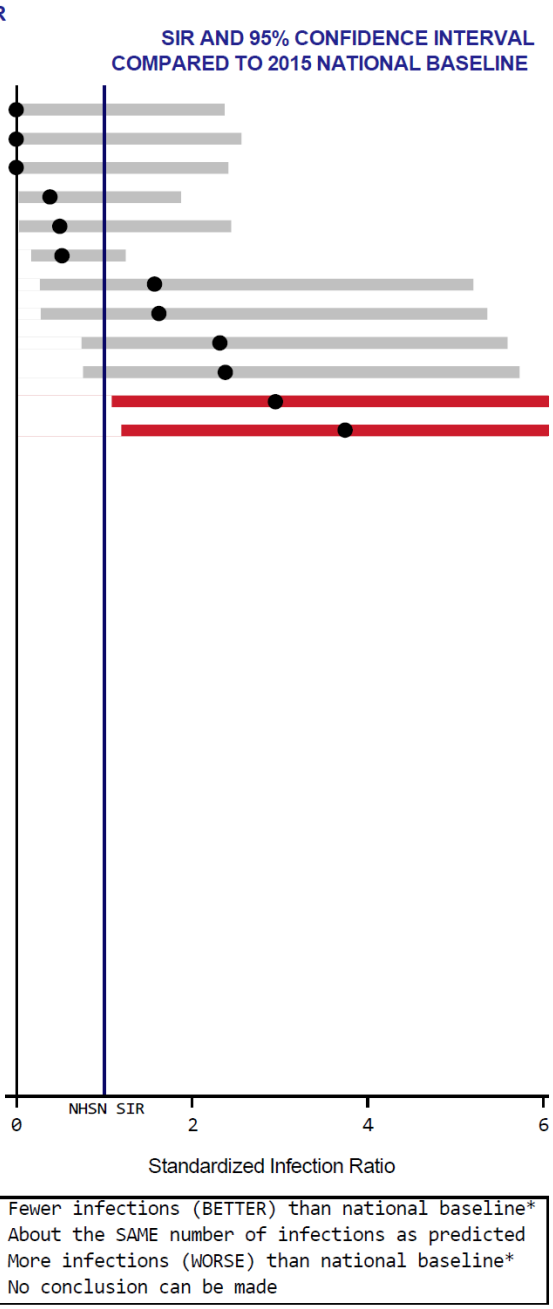
Interpreting Figure 24:

- In 2023, 44% of *Staphylococcus aureus* identified among SSIs following colon surgeries were resistant to methicillin.
- 8% of *Enterococcus* spp. identified among SSIs following colon surgeries were resistant to vancomycin.
- None of the Enterobacterales identified among SSIs following colon surgeries were resistant to carbapenems.

The following SIR plots summarize SSI following colon surgery infection data for North Carolina hospitals by hospital groups (Appendix D)

Surgical Site Infections (SSI) - Colon Surgeries
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with less than 100 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Duke LifePoint-Harris Regional Hospital	0	1.3	50	0.0
Randolph Hospital Dba Randolph Health	0	1.2	46	0.0
Wake Forest Baptist Health-Lexington	0	1.2	45	0.0
Novant Health Brunswick Medical Center	1	2.6	104	0.4
Novant Health Medical Park Hospital	1	2.0	77	0.5
Novant Health Clemmons Medical Center	4	7.8	299	0.5
Columbus Regional Healthcare System	2	1.3	45	1.6
WakeMed North Family Health & Women's	2	1.2	46	1.6
Advent Health Hendersonville	4	1.7	70	2.3
Johnston Health Clayton	4	1.7	59	2.4
Carteret General Hospital	5	1.7	67	2.9
Annie Penn Hospital	4	1.1	39	3.7
McDowell Hospital	0	0.9	32	NC
Cherokee Indian Hospital	NA	NA	N	NA
Davis Regional Medical Center	NA	NA	N	NA
Martin General Hospital	NA	NA	N	NA
ECU Health Beaufort Hospital	0	0.8	29	NC
Granville Medical Center	NA	NA	N	NA
ECU Health Duplin Hospital	NA	NA	N	NA
Central Carolina Hospital	0	0.5	20	NC
Kings Mountain Hospital	NA	NA	N	NA
Person Memorial Hospital	NA	NA	N	NA
ECU North Hospital	NA	NA	N	NA
Betsy Johnson Hospital	NA	NA	N	NA
Hugh Chatham Memorial Hospital	NA	NA	N	NA
Wake Forest Baptist Health-Wilkes	1	0.8	29	NC
Atrium Health Anson	NA	NA	N	NA
North Carolina Specialty Hospital	NA	NA	N	NA
Wake Forest Baptist Health-Davie Medical	NA	NA	N	NA
Firsthealth Moore Regional-Richmond	NA	NA	N	NA
Novant Health Kernersville	0	0.6	23	NC
Novant Health Mint Hill Medical Center	0	0.7	27	NC
Rex Holly Springs Hospital	1	0.9	31	NC
Novant Health Ballantyne Medical Center	NA	NA	N	NA



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OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
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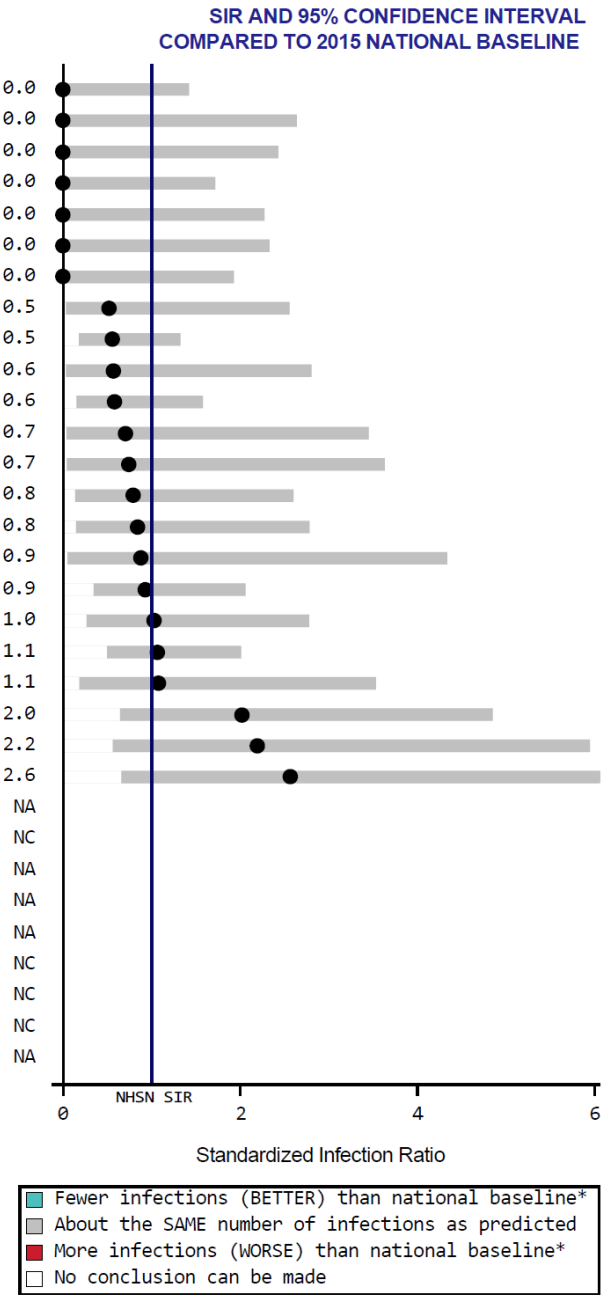
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Colon Surgeries
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 100 to 199 Beds

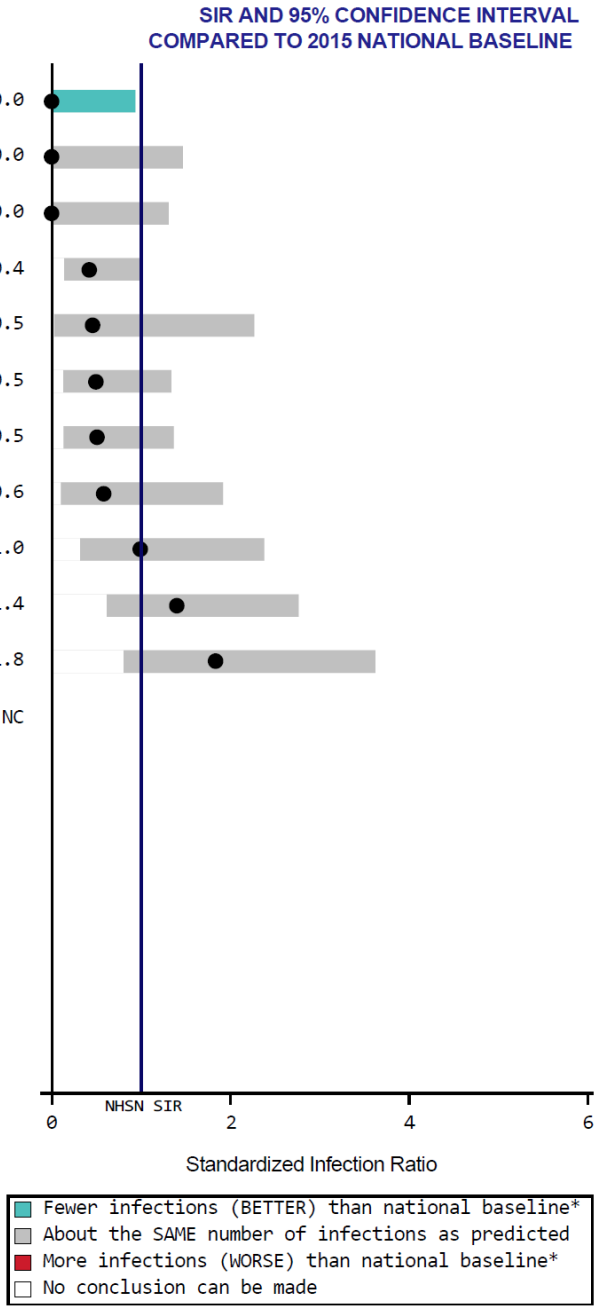
HOSPITAL	OBS	PRED	CLdays	SIR
Atrium Health University City	0	2.1	72	0.0
Rutherford Regional Medical Center	0	1.1	44	0.0
Novant Health Thomasville Medical Center	0	1.2	47	0.0
Maria Parham Medical Center	0	1.7	66	0.0
Lake Norman Regional Medical Center	0	1.3	52	0.0
Wilson Medical Center	0	1.3	46	0.0
Onslow Memorial Hospital	0	1.6	54	0.0
Frye Regional Medical Center	1	1.9	69	0.5
Novant Health Huntersville	4	7.3	286	0.5
Pardee Hospital	1	1.8	72	0.6
Duke Raleigh Hospital	3	5.2	194	0.6
Northern Regional Hospital	1	1.4	53	0.7
Lenoir Memorial Hospital	1	1.4	46	0.7
Sentara Albemarle Medical Center	2	2.5	93	0.8
Johnston Health	2	2.4	85	0.8
Haywood Regional Medical Center	1	1.1	43	0.9
Novant Health Matthews Medical Center	5	5.4	201	0.9
UNC Health Blue Ridge	3	2.9	105	1.0
Wesley Long Hospital	8	7.6	293	1.1
Iredell Memorial Hospital	2	1.9	69	1.1
Atrium Health Union	4	2.0	72	2.0
Nash Health Care Systems	3	1.4	51	2.2
Atrium Health Lincoln	3	1.2	44	2.6
Atrium Health Mercy	NA	NA	N	NA
ARHS-Watauga Medical Center	1	0.8	32	NC
ECU Health Roanoke-Chowan Hospital	NA	NA	N	NA
ECU Health Edgecombe Hospital	NA	NA	N	NA
Sampson Regional Medical Center	NA	NA	N	NA
Scotland Memorial Hospital	0	0.8	32	NC
Caldwell Memorial Hospital	0	0.9	31	NC
Atrium Health Stanly	0	0.7	26	NC
UNC Rockingham Health	NA	NA	N	NA



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Colon Surgeries
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 200 to 399 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Novant Health Rowan Medical Center	0	3.2	114	0.0
Wayne Memorial Hospital	0	2.0	71	0.0
Catawba Valley Medical Center	0	2.3	90	0.0
Atrium Health Pineville	4	9.5	355	0.4
Atrium Health Cleveland	1	2.2	79	0.5
FirstHealth Moore Regional Hospital	3	6.1	223	0.5
WakeMed Cary Hospital	3	6.0	212	0.5
Duke Regional Hospital	2	3.5	124	0.6
CarolinaEast Medical Center	4	4.1	150	1.0
High Point Regional Health System	7	5.0	173	1.4
Alamance Regional Medical Center	7	3.8	142	1.8
Southeastern Regional Medical Center	2	0.9	32	NC



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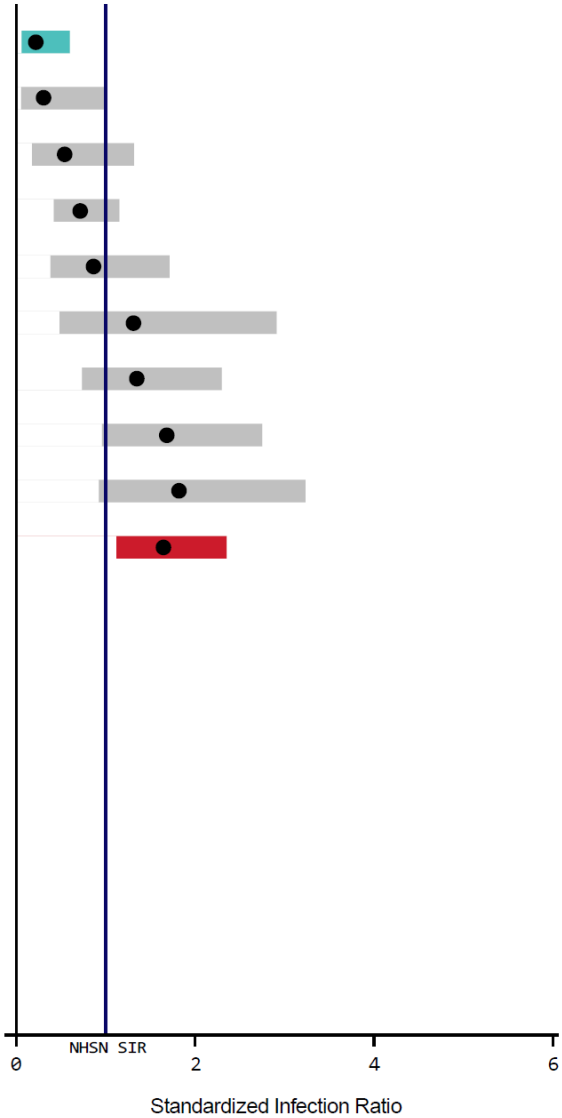
PRED = # infections statistically predicted by national baseline
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Colon Surgeries
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 400 or More Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Mission Hospital	3	13.6	482	0.2
Gaston Memorial Hospital	2	6.5	229	0.3
Novant Health Forsyth Medical Center	4	7.3	257	0.5
Rex Healthcare	15	21.0	747	0.7
Novant Health Presbyterian Medical	7	8.1	288	0.9
Moses Cone Hospital	5	3.8	120	1.3
WakeMed	12	8.9	292	1.4
Atrium Health Cabarrus	14	8.3	289	1.7
Cape Fear Valley Health System	10	5.5	186	1.8
New Hanover Regional Medical Center	28	17.0	611	1.7

SIR AND 95% CONFIDENCE INTERVAL
COMPARED TO 2015 NATIONAL BASELINE



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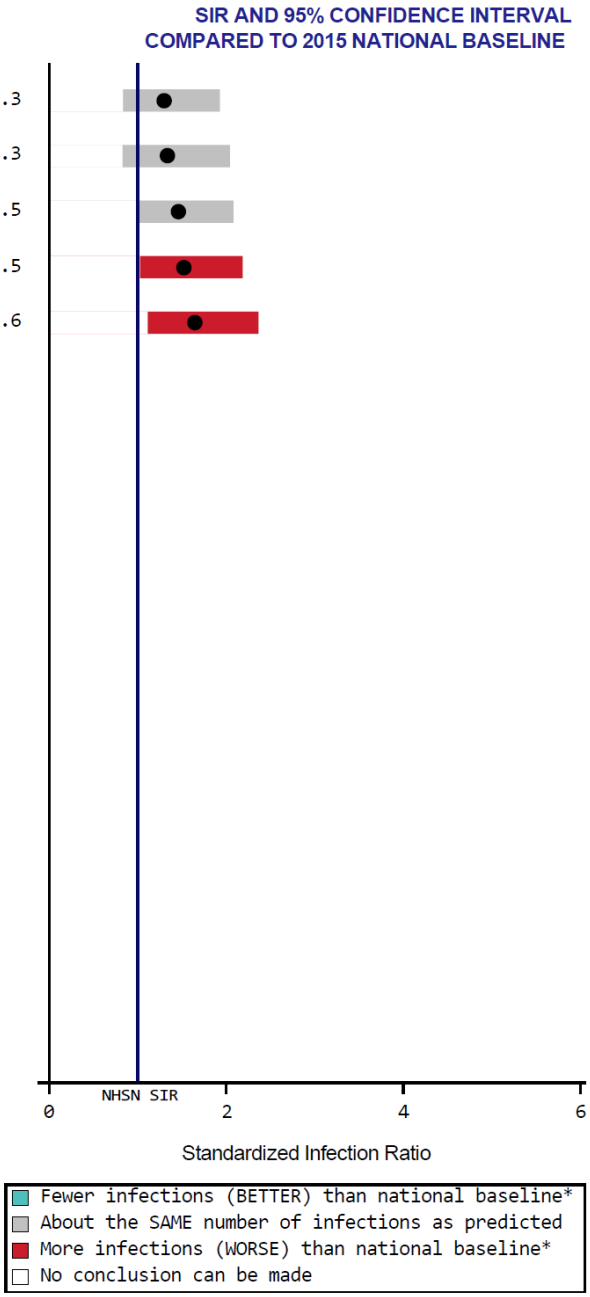
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Surgical Site Infections (SSI) - Colon Surgeries
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with Primary Medical School Affiliation

HOSPITAL	OBS	PRED	CLdays	SIR
Wake Forest University Baptist Medical	22	17.0	562	1.3
ECU Health Medical Center	19	14.3	464	1.3
UNC Health	28	19.2	628	1.5
Atrium Health Carolinas Medical Center	27	17.7	544	1.5
Duke University Hospital	27	16.4	558	1.6



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OPAT = # Operative Procedures after 3 days
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*Significantly different than 2015 national baseline

D. Laboratory-Identified Events

1. Methicillin-Resistant *Staphylococcus aureus* Laboratory-Identified Events (MRSA LabID)

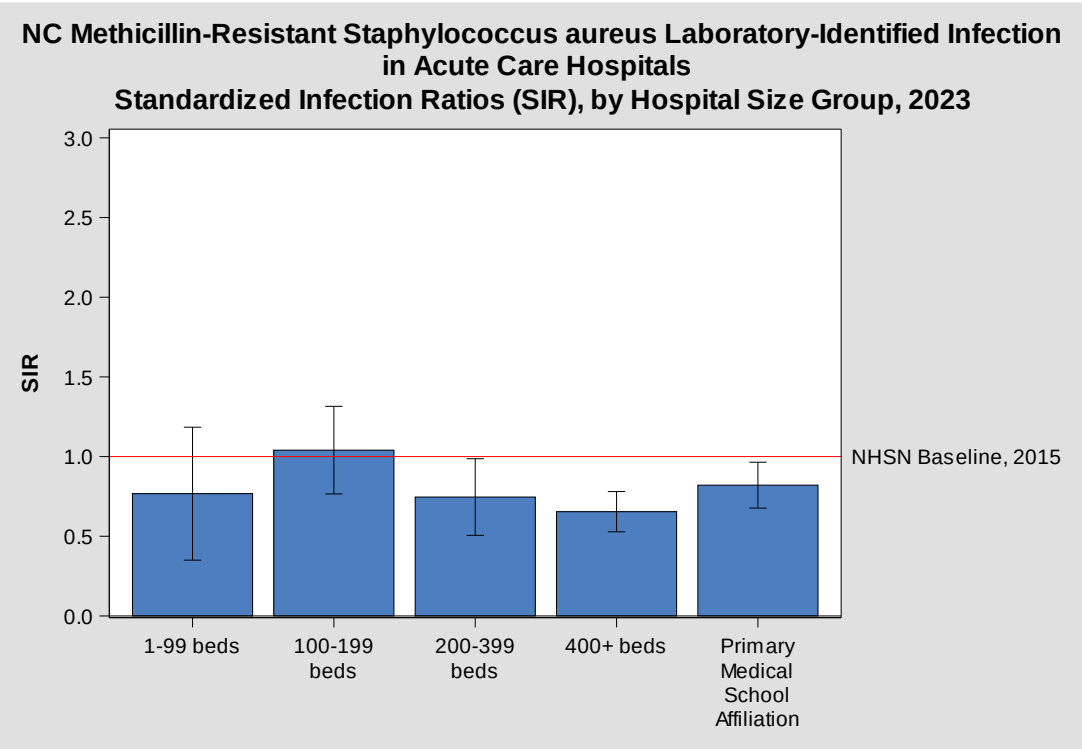
North Carolina 2023 MRSA LabID Highlights

- In 2023 North Carolina hospitals reported 333 MRSA LabID events, compared to the 429.14 MRSA LabID events which were predicted. This is the same as the 2015 national experience.

Table 6. NC Methicillin-Resistant *Staphylococcus aureus* Laboratory-Identified Events, 2023

Year	# Observed Events	# Predicted Events	How Does North Carolina compare to the 2015 National Experience?
2023	**333**	**429.14**	**BETTER: Fewer infections than were predicted (better than the 2015 national experience)**

Figure 25.



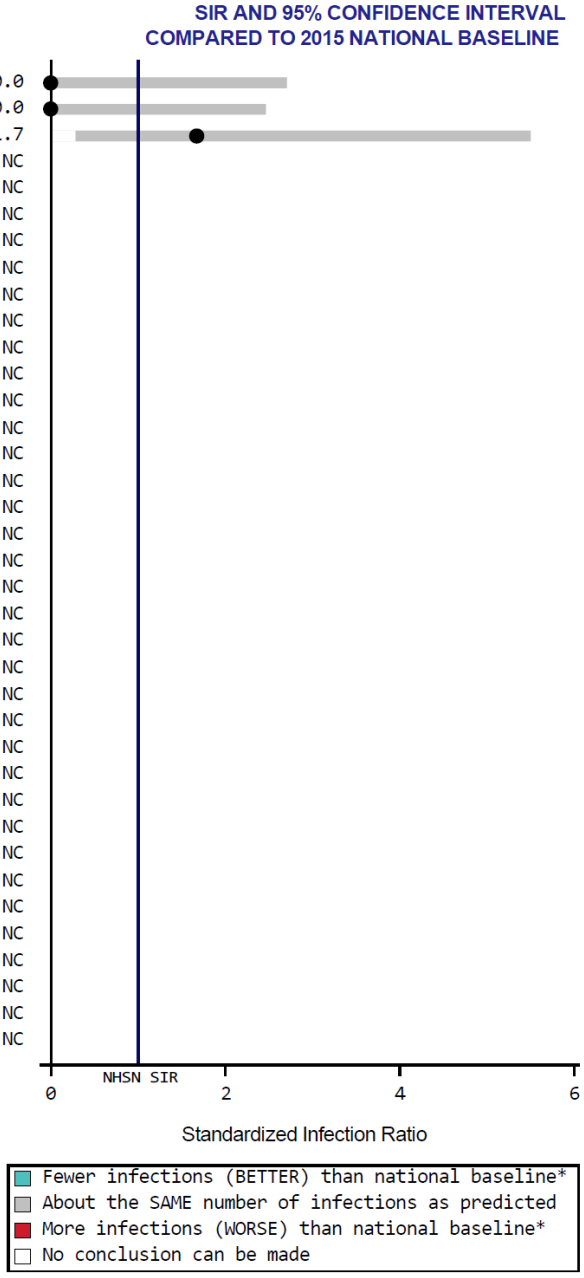
Interpreting Figure 25:

- Facilities with 200-399 beds, 400+ beds, and Primary Medical School Affiliation performed BETTER compared to the 2015 national experience with fewer MRSA LabID events than predicted.
- Hospitals with 1-99 beds and 100-199 beds reported about the same number of events as predicted, performing the SAME as the 2015 national experience.

The following SIR plots summarize MRSA LabID data for North Carolina hospitals by hospital groups (Appendix D).

Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with less than 100 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Columbus Regional Healthcare System	0	1.1	18900	0.0
ECU North Hospital	0	1.2	20305	0.0
Wake Forest Baptist Health-Wilkes	2	1.2	21818	1.7
McDowell Hospital	0	0.2	9013	NC
Advent Health Hendersonville	0	0.6	16012	NC
Cherokee Indian Hospital	0	0.2	6350	NC
Duke LifePoint-Harris Regional Hospital	1	0.6	10169	NC
Davis Regional Medical Center	0	0.0	0	NC
Martin General Hospital	0	0.1	1535	NC
Randolph Hospital Dba Randolph Health	0	0.9	19490	NC
ECU Health Beaufort Hospital	0	0.9	19304	NC
Granville Medical Center	0	0.2	8324	NC
Carteret General Hospital	2	0.9	30096	NC
Novant Health Brunswick Medical Center	1	0.8	23721	NC
ECU Health Duplin Hospital	2	0.6	12940	NC
Central Carolina Hospital	1	0.3	11504	NC
Kings Mountain Hospital	0	0.3	8950	NC
Person Memorial Hospital	0	0.1	3616	NC
Wake Forest Baptist Health-Lexington	1	0.8	17279	NC
Novant Health Charlotte Orthopedic	0	0.2	9243	NC
Novant Health Medical Park Hospital	0	0.1	3311	NC
Betsy Johnson Hospital	2	0.4	16549	NC
Hugh Chatham Memorial Hospital	0	0.4	14121	NC
Atrium Health Anson	0	0.0	1400	NC
Annie Penn Hospital	0	0.8	15593	NC
North Carolina Specialty Hospital	0	0.1	3098	NC
Wake Forest Baptist Health-Davie Medical	0	0.2	8858	NC
Johnston Health Clayton	0	0.5	15543	NC
Firsthealth Moore Regional-Hoke	0	0.1	2635	NC
Firsthealth Moore Regional-Richmond	0	0.4	10924	NC
Cape Fear Valley Hoke Hospital	0	0.1	6815	NC
Novant Health Kernersville	1	0.4	17592	NC
WakeMed North Family Health & Women's	0	0.6	24757	NC
Central Harnett Hospital	0	0.4	8487	NC
Novant Health Clemmons Medical Center	0	0.2	7894	NC
Novant Health Mint Hill Medical Center	0	0.5	12283	NC
Rex Holly Springs Hospital	0	0.3	12200	NC



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PD = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
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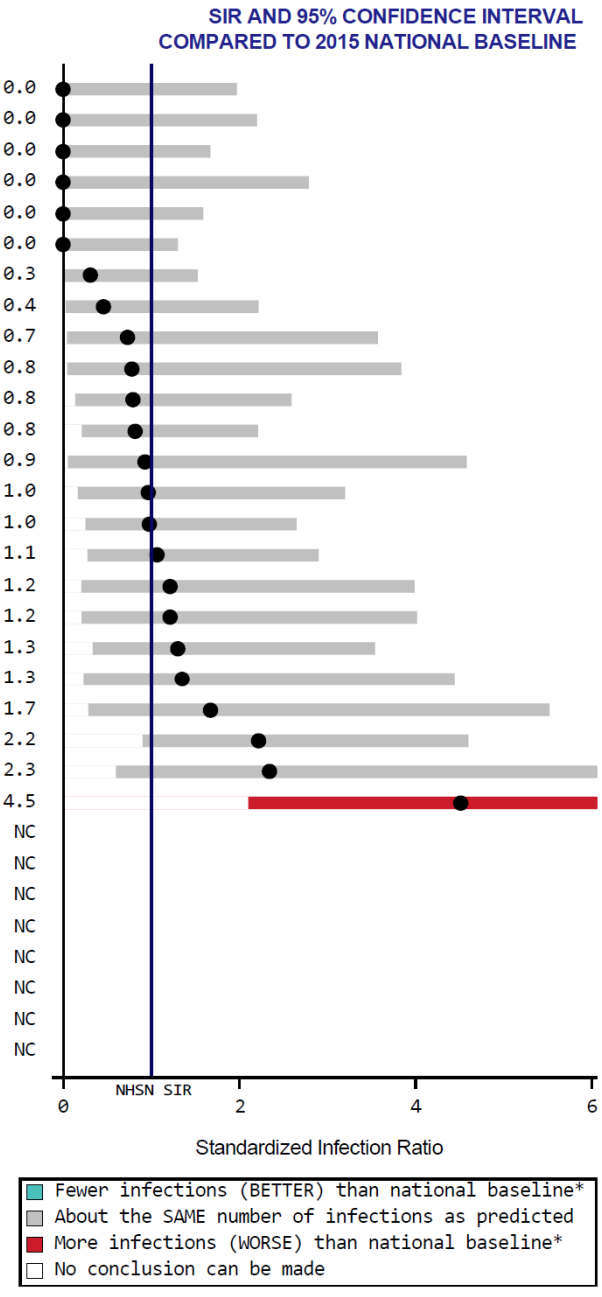
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 100 to 199 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Sentara Albemarle Medical Center	0	1.5	22216	0.0
ECU Health Roanoke-Chowan Hospital	0	1.4	22829	0.0
Maria Parham Medical Center	0	1.8	19641	0.0
Northern Regional Hospital	0	1.1	20879	0.0
Novant Health Huntersville	0	1.9	46340	0.0
UNC Health Blue Ridge	0	2.3	34496	0.0
Atrium Health Union	1	3.2	47477	0.3
Novant Health Matthews Medical Center	1	2.2	51946	0.4
ARHS-Watauga Medical Center	1	1.4	22531	0.7
Atrium Health Lincoln	1	1.3	21077	0.8
Wesley Long Hospital	2	2.6	48295	0.8
Atrium Health Mercy	3	3.7	62563	0.8
Pardee Hospital	1	1.1	35006	0.9
Atrium Health University City	2	2.1	42858	1.0
Duke Raleigh Hospital	3	3.1	61861	1.0
Nash Health Care Systems	3	2.8	51468	1.1
Scotland Memorial Hospital	2	1.7	30133	1.2
Lenoir Memorial Hospital	2	1.6	26245	1.2
Frye Regional Medical Center	3	2.3	38640	1.3
Wilson Medical Center	2	1.5	25204	1.3
Haywood Regional Medical Center	2	1.2	22147	1.7
Johnston Health	6	2.7	41407	2.2
Iredell Memorial Hospital	3	1.3	41547	2.3
Onslow Memorial Hospital	8	1.8	33420	4.5
Rutherford Regional Medical Center	2	0.5	10746	NC
ECU Health Edgecombe Hospital	2	0.8	13256	NC
Novant Health Thomasville Medical Center	0	0.9	17118	NC
Sampson Regional Medical Center	1	0.5	9998	NC
Lake Norman Regional Medical Center	0	0.6	14949	NC
Caldwell Memorial Hospital	3	0.9	22090	NC
Atrium Health Stanly	1	0.6	15462	NC
UNC Rockingham Health	0	0.4	8244	NC



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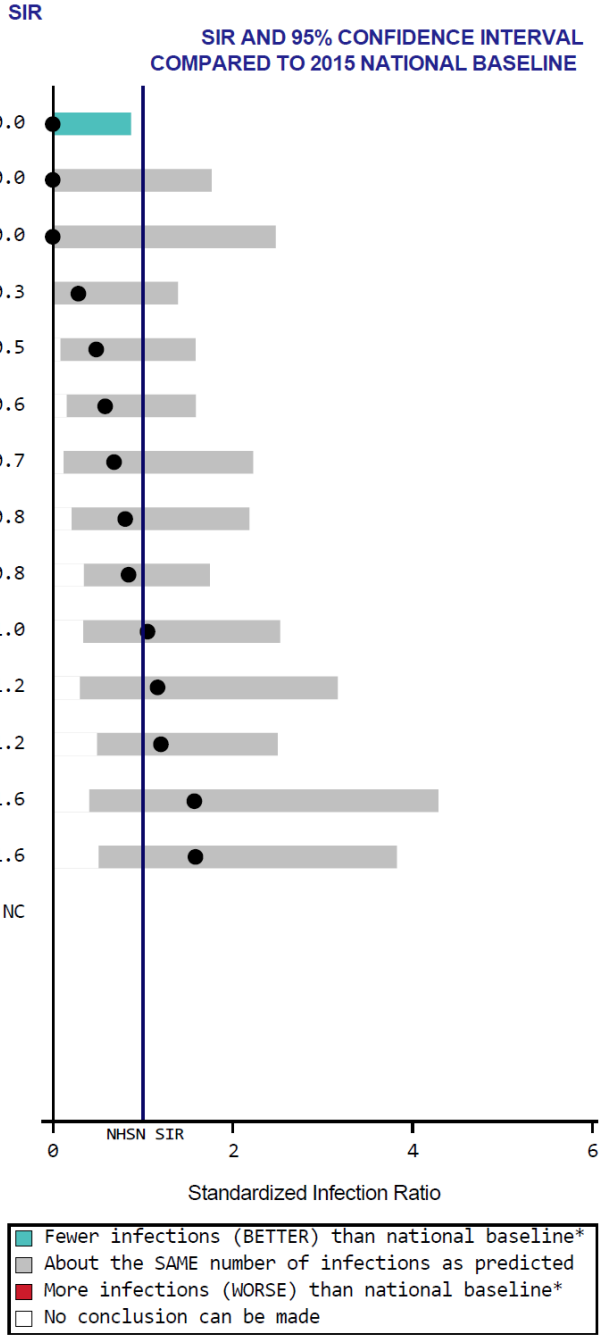
*Significantly different than 2015 national baseline

Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 200 to 399 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
WakeMed Cary Hospital	0	3.5	69547	0.0
Central Regional Hospital	0	1.7	99715	0.0
Broughton Hospital	0	1.2	61667	0.0
Alamance Regional Medical Center	1	3.6	55074	0.3
CarolinaEast Medical Center	2	4.2	70721	0.5
FirstHealth Moore Regional Hospital	3	5.1	94509	0.6
Wayne Memorial Hospital	2	3.0	55809	0.7
Atrium Health Cleveland	3	3.7	56291	0.8
Duke Regional Hospital	6	7.2	95182	0.8
Atrium Health Pineville	4	3.8	88496	1.0
Southeastern Regional Medical Center	3	2.6	52097	1.2
High Point Regional Health System	6	5.0	67393	1.2
Catawba Valley Medical Center	3	1.9	55422	1.6
Novant Health Rowan Medical Center	4	2.5	49443	1.6
Cherry Hospital	0	0.7	43144	NC



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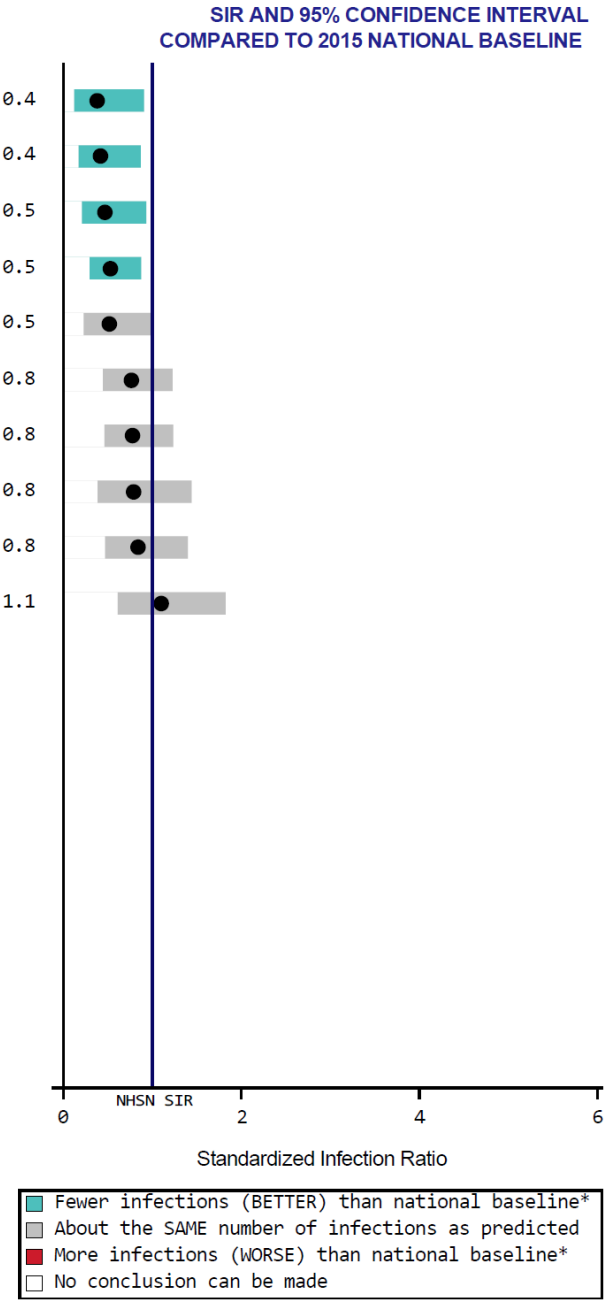
*Significantly different than 2015 national baseline

Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 400 or More Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Gaston Memorial Hospital	4	10.7	133516	0.4
WakeMed	6	14.4	181380	0.4
Atrium Health Cabarrus	7	14.9	153051	0.5
Novant Health Forsyth Medical Center	13	24.8	227761	0.5
Novant Health Presbyterian Medical	7	13.6	172258	0.5
Mission Hospital	15	19.7	235289	0.8
New Hanover Regional Medical Center	16	20.6	224676	0.8
Moses Cone Hospital	9	11.5	159911	0.8
Cape Fear Valley Health System	13	15.5	184491	0.8
Rex Healthcare	13	11.9	170909	1.1



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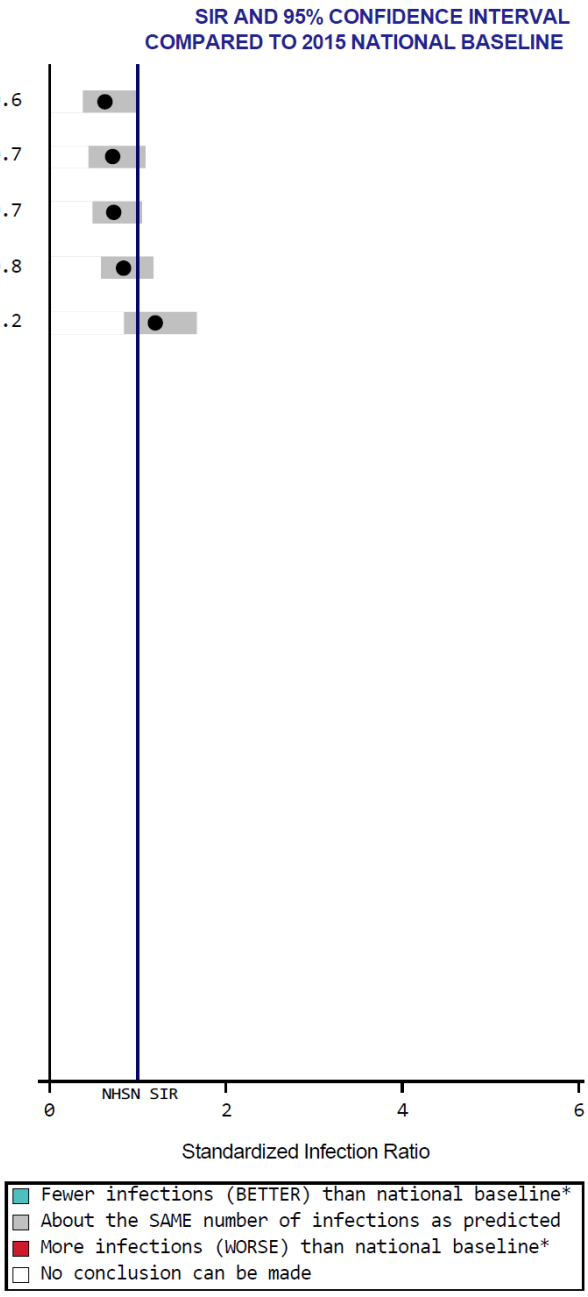
Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with Primary Medical School Affiliation

HOSPITAL	OBS	PRED	CLdays	SIR
ECU Health Medical Center	16	25.3	267650	0.6
UNC Health	19	26.8	277575	0.7
Atrium Health Carolinas Medical Center	26	35.8	347791	0.7
Duke University Hospital	31	36.9	339272	0.8
Wake Forest University Baptist Medical	33	27.5	252276	1.2



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NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

3. *Clostridioides difficile* Laboratory-Identified Events (CDI LabID)

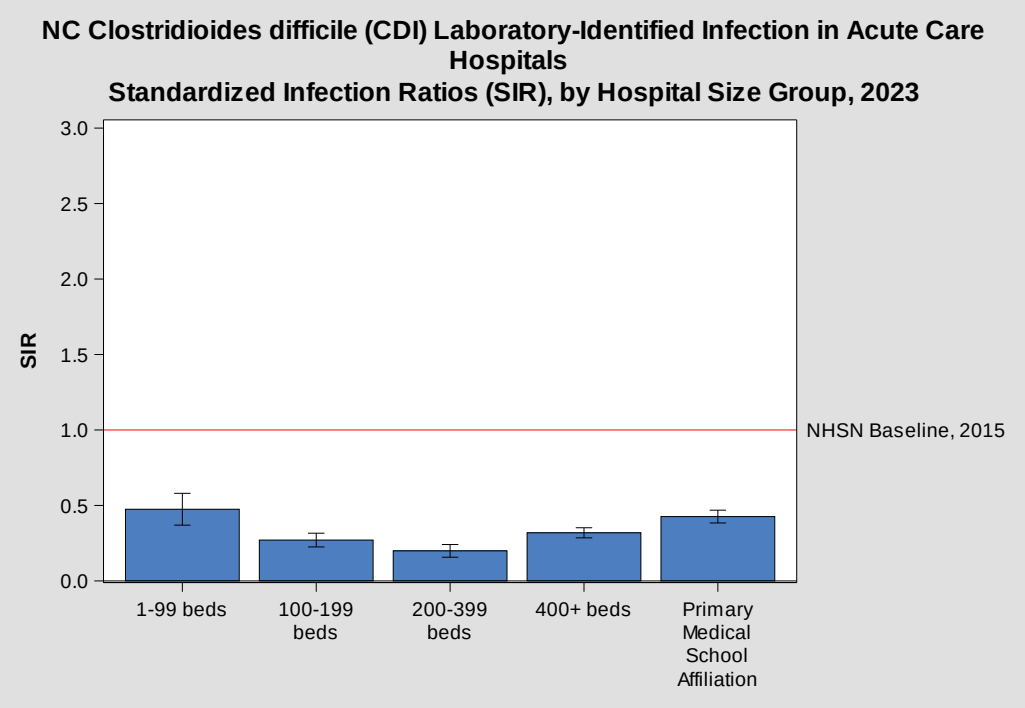
North Carolina 2023 CDI LabID Highlights

- In 2023, North Carolina hospitals reported 1,038 CDI LabID events, compared to the 3,106.1 CDI LabID events which were predicted. This was better than the 2015 national experience.

Table 7. NC *Clostridioides difficile* Laboratory-Identified Events, 2023

Year	# Observed Infections	# Predicted Infections	How Does North Carolina compare to the 2015 National Experience?
2023	**1,038**	**3,106.1**	**BETTER: Fewer infections than were predicted (better than the 2015 national experience)**

Figure 26.



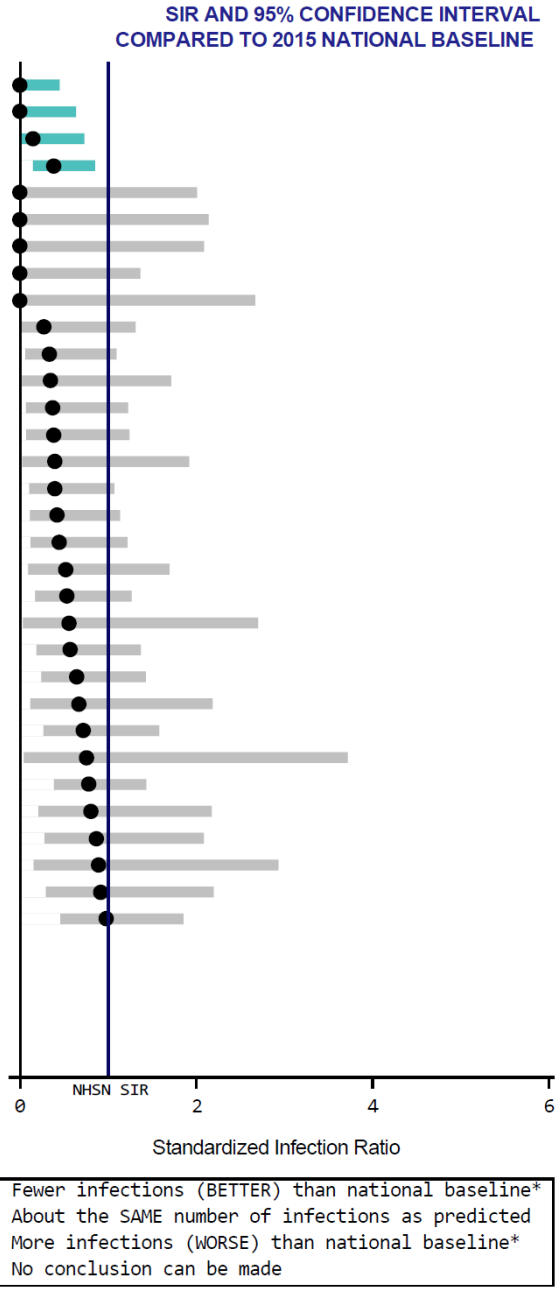
Interpreting Figure 26:

- All hospital size groups experienced fewer CDI LabID events than predicted, performing BETTER than the 2015 national experience.

The following SIR plots summarize CDI LabID data for North Carolina hospitals by hospital groups (Appendix D)

Clostridioides difficile infection (CDI) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with less than 100 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
Annie Penn Hospital	0	6.7	15593	0.0
Firsthealth Moore Regional-Richmond	0	4.7	10924	0.0
Novant Health Mint Hill Medical Center	1	6.8	11291	0.1
Novant Health Brunswick Medical Center	5	13.1	22617	0.4
Cherokee Indian Hospital	0	1.5	6350	0.0
Person Memorial Hospital	0	1.4	3616	0.0
Novant Health Charlotte Orthopedic	0	1.4	9243	0.0
Novant Health Clemmons Medical Center	0	2.2	7894	0.0
Novant Health New Hanover Orthopedic Hos	0	1.1	7762	0.0
Central Harnett Hospital	1	3.8	8487	0.3
ECU North Hospital	2	6.0	19561	0.3
Central Carolina Hospital	1	2.9	10861	0.3
Duke LifePoint-Harris Regional Hospital	2	5.4	10169	0.4
Advent Health Hendersonville	2	5.3	14872	0.4
Rex Holly Springs Hospital	1	2.6	11583	0.4
ECU Health Beaufort Hospital	3	7.6	18819	0.4
Novant Health Kernersville	3	7.2	17592	0.4
Wake Forest Baptist Health-Lexington	3	6.7	17279	0.4
Granville Medical Center	2	3.9	8045	0.5
Columbus Regional Healthcare System	4	7.6	18242	0.5
Wake Forest Baptist Health-Davie Medical	1	1.8	8858	0.5
Wake Forest Baptist Health-Wilkes	4	7.0	21284	0.6
Randolph Hospital Dba Randolph Health	5	7.8	18657	0.6
Kings Mountain Hospital	2	3.0	8950	0.7
Betsy Johnson Hospital	5	7.0	15724	0.7
Cape Fear Valley Hoke Hospital	1	1.3	6815	0.8
Hugh Chatham Memorial Hospital	9	11.5	12920	0.8
Johnston Health Clayton	3	3.8	13735	0.8
WakeMed North Family Health & Women's	4	4.6	20210	0.9
McDowell Hospital	2	2.3	8455	0.9
ECU Health Duplin Hospital	4	4.4	12124	0.9
Carteret General Hospital	8	8.2	28380	1.0
Davis Regional Medical Center	0	0.0	0	NC
Martin General Hospital	0	0.4	1535	NC
Novant Health Medical Park Hospital	0	0.7	3311	NC
Atrium Health Anson	0	0.4	1400	NC
North Carolina Specialty Hospital	0	0.6	3098	NC



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*Significantly different than 2015 national baseline

Clostridioides difficile infection (CDI) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 100 to 199 Beds

HOSPITAL	OBS	PRED	CLdays	SIR
ECU Health Roanoke-Chowan Hospital	0	8.7	22267	0.0
Maria Parham Medical Center	0	7.3	19060	0.0
Wesley Long Hospital	0	24.8	48295	0.0
Duke Raleigh Hospital	3	34.4	61861	0.1
Sentara Albemarle Medical Center	1	9.9	21783	0.1
Frye Regional Medical Center	2	19.9	38026	0.1
Nash Health Care Systems	3	29.4	47865	0.1
Atrium Health Stanly	1	8.1	14696	0.1
Novant Health Matthews Medical Center	5	32.1	45954	0.2
Rutherford Regional Medical Center	1	6.2	10404	0.2
Johnston Health	4	23.2	39492	0.2
Novant Health Thomasville Medical Center	2	10.1	15983	0.2
Atrium Health Union	5	22.8	44965	0.2
Atrium Health University City	5	19.2	37542	0.3
Wilson Medical Center	3	11.3	24011	0.3
Novant Health Huntersville	8	28.0	40369	0.3
Atrium Health Mercy	12	39.0	62563	0.3
Lenoir Memorial Hospital	4	12.8	25810	0.3
Onslow Memorial Hospital	7	21.4	30332	0.3
Haywood Regional Medical Center	3	8.8	21801	0.3
Atrium Health Lincoln	4	10.3	20129	0.4
ARHS-Watauga Medical Center	5	11.2	21748	0.4
Iredell Memorial Hospital	13	25.4	40186	0.5
ECU Health Edgecombe Hospital	1	4.2	12517	0.2
Northern Regional Hospital	4	9.6	20388	0.4
Caldwell Memorial Hospital	4	9.2	22090	0.4
Lake Norman Regional Medical Center	4	8.7	13597	0.5
Pardee Hospital	7	12.3	35006	0.6
Sampson Regional Medical Center	3	5.0	9720	0.6
UNC Health Blue Ridge	9	14.6	31898	0.6
UNC Rockingham Health	3	3.6	7612	0.8
Scotland Memorial Hospital	10	11.1	28170	0.9

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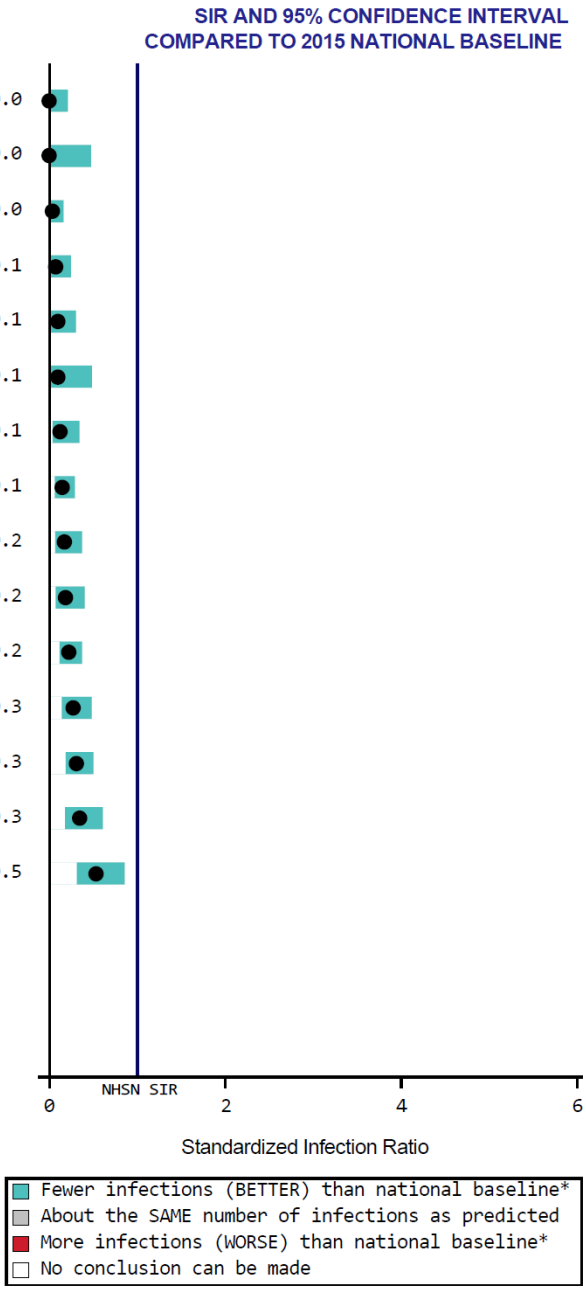
*Significantly different than 2015 national baseline

Clostridioides difficile infection (CDI) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 200 to 399 Beds

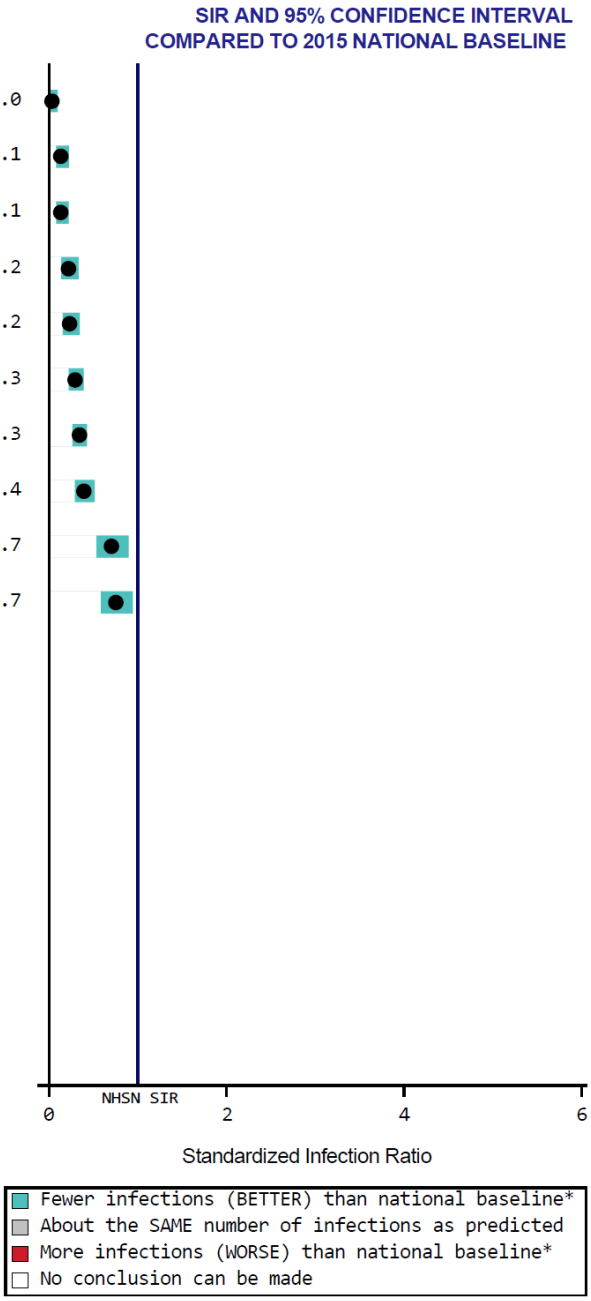
HOSPITAL	OBS	PRED	CLdays	SIR
Central Regional Hospital	0	14.4	83203	0.0
Cherry Hospital	0	6.4	43144	0.0
Novant Health Rowan Medical Center	1	31.3	48016	0.0
Alamance Regional Medical Center	2	27.2	51572	0.1
Catawba Valley Medical Center	2	22.0	52797	0.1
Broughton Hospital	1	10.2	61667	0.1
Southeastern Regional Medical Center	3	24.1	48595	0.1
FirstHealth Moore Regional Hospital	6	43.3	88531	0.1
Atrium Health Cleveland	5	30.0	53671	0.2
WakeMed Cary Hospital	5	27.8	61258	0.2
Duke Regional Hospital	11	51.8	85784	0.2
CarolinaEast Medical Center	10	37.3	68674	0.3
Atrium Health Pineville	15	48.5	81512	0.3
Wayne Memorial Hospital	10	29.4	53304	0.3
High Point Regional Health System	15	28.4	65095	0.5



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
PD = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Clostridioides difficile infection (CDI) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with 400 or More Beds

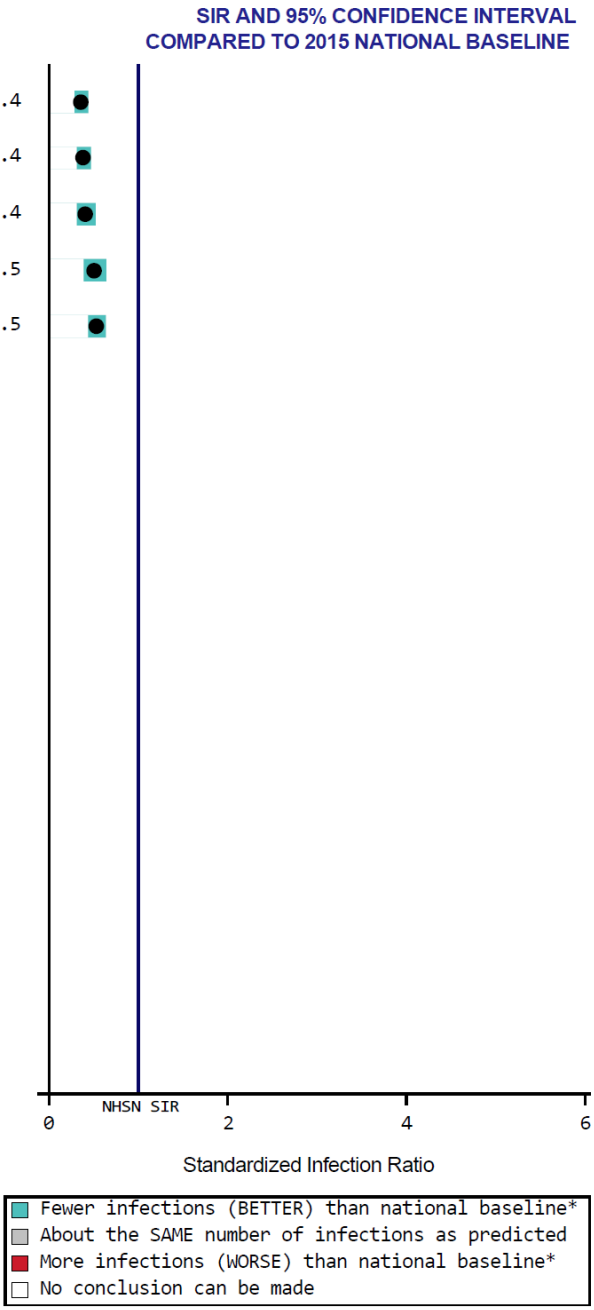
HOSPITAL	OBS	PRED	CLdays	SIR
Moses Cone Hospital	2	69.1	137924	0.0
Gaston Memorial Hospital	14	104	128765	0.1
Novant Health Presbyterian Medical	14	104	140877	0.1
WakeMed	19	87.7	157148	0.2
Atrium Health Cabarrus	23	98.4	142462	0.2
Mission Hospital	47	159	220028	0.3
Novant Health Forsyth Medical Center	62	184	212765	0.3
New Hanover Regional Medical Center	47	121	209816	0.4
Cape Fear Valley Health System	56	80.5	165856	0.7
Rex Healthcare	65	87.2	154182	0.7



Data reported as of September 9, 2024.
OBS = # infections observed
PRED = # infections statistically predicted by national baseline
PD = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

Clostridioides difficile infection (CDI) LabID Events
Standardized Infection Ratios: January 1 – December 31, 2023
Hospital Group: Hospitals with Primary Medical School Affiliation

HOSPITAL	OBS	PRED	CLdays	SIR
Atrium Health Carolinas Medical Center	79	222	296066	0.4
Duke University Hospital	89	233	309591	0.4
ECU Health Medical Center	55	136	244964	0.4
Wake Forest University Baptist Medical	59	118	223447	0.5
UNC Health	107	203	248643	0.5



Data reported as of September 9, 2024.
OBS = # infections observed
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NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

FAST FACTS: What You Need to Know About Healthcare-Associated Infections

Device-Associated HAIs

Sometimes, patients have medical devices inserted into their bodies to provide necessary medical care. These devices are called "invasive devices" and patients with these devices have a higher chance of getting an infection. Here is what you need to know about invasive devices and what kinds of infections they can be associated with:

- A **central line** is a tube placed in a large vein to allow access to the bloodstream and provide the patient with important medicine. A **central line-associated bloodstream infection (CLABSI)** can occur when bacteria or other germs travel along a central line and enter the blood. When not put in correctly or not kept clean, central lines can become a pathway for germs to enter the body and cause serious bloodstream infections.

- A **urinary catheter** is a tube placed in the bladder to drain urine. A **catheter-associated urinary tract infection (CAUTI)** can occur when bacteria or other germs travel along a urinary catheter, resulting in an infection in the bladder or kidneys.

Other HAIs

- A **surgical site infection (SSI)** occurs after surgery in the part of the body where the surgery took place. These infections may involve only the skin or may be more serious and involve tissue under the skin or organs. SSIs sometimes take days or months after surgery to develop. Symptoms may include fever, redness or pain around the surgical site, and drainage of fluid from the wound.

- **Methicillin-resistant *Staphylococcus aureus* (MRSA)** infections are caused by bacteria that are resistant to certain types of drugs including the antibiotic methicillin. MRSA can cause skin or wound infections. Sometimes, MRSA can infect the blood and cause serious illness and even death. Only bloodstream infections are shown in this report.

- ***Clostridioides difficile* (*C. difficile*)** is a type of bacteria that causes severe diarrhea and can be deadly. *C. difficile* infections usually occur in people who have recently taken antibiotics and been under medical care.

READING GUIDE: Explanation of Each Variable in the Tables and Figures

Below is a list of all variables shown in the data tables and figures:

- **Title**: The title of the table gives you information about the infection type, time period, and facility unit(s)/group(s) included in the table.

- **Procedure Type:** This is the specific type of surgery for which the surgical site infection (SSI) data are presented (e.g., abdominal hysterectomy, colon surgery).

- **Unit/Unit Type:** This is the specific unit/type of unit in the hospital from which the data was collected. Hospitals have distinct locations, or units, within the facility that are designated for certain types of patients. For example: "Med/Surg ICU" represents the intensive care unit (ICU) for very sick patients needing medical or surgical care.

- **Observed Infections (or Observed Events):** This is the number of infections (or events, for LabID measures) reported in the hospital.

- **Predicted Infections (or Predicted Events):** This is a calculated value that reflects the number of infections (or events, for LabID measures) that we have "predicted" to occur in each hospital state, based on the 2015 national experience.

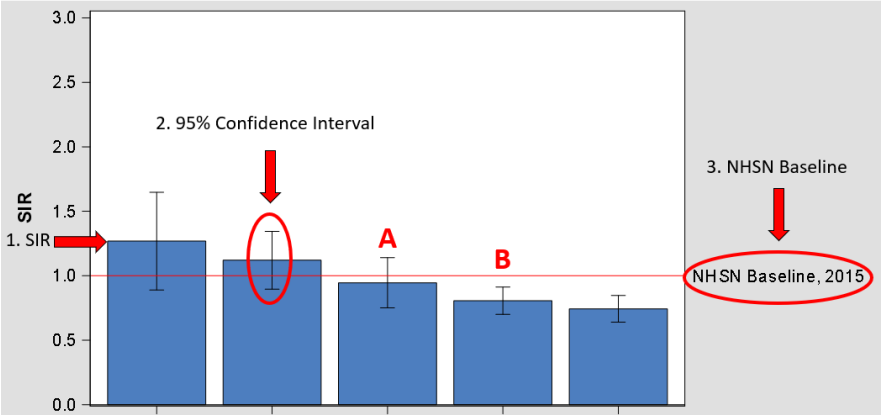
- **"How Does North Carolina Compare to the National Experience?"** Colors and symbols are used to help you quickly understand and interpret the data. This is the "take-home message" about healthcare -associated infections in North Carolina.

  Indicates that North Carolina had fewer infections than were predicted (better than the 2015 national experience)
  Indicates that North Carolina had about the same number of infections as were predicted (same as the 2015 national experience)
  Indicates that North Carolina had more infections than were predicted (worse than the 2015 national experience)

- More information about units types and their descriptions can be found here: CDC Locations and Descriptions and Instructions for Mapping.

NUMBERS GUIDE: Explanation of Numbers and Data Calculations

Below is an explanation of numbers and data calculations used in the figures:



1. SIR - Represented by the colored bars in each figure.

- SIR = number of *observed* infections / numbers of *predicted* infections based on the 2015 national baseline experience.
- An SIR of 1 means that the same number of infections were observed as was predicted. An SIR greater than 1 means that more infections were observed than predicted (worse), while an SIR less than 1 means fewer infections were observed than predicted (better).
- SIR is calculated for each HAI.
- The SIR is considered a "best guess" or estimate of observed infections compared to those predicted during the period presented.
- SIRs are NOT calculated if the predicted number of infections is less than 1.
- If the observed number of infections is 0, the 95% confidence interval will NOT go below 0.
- More information on SIRs can be found here: Keys to Success with the SIR.

2. 95% confidence intervals for the SIR – Represented by the skinny gray lines in each figure.
These gray lines represent a lower and a higher limit around the SIR; together these limits create an interval. It means there is 95% confidence the SIR estimate falls within this interval. Wider bars indicate less confidence in the SIR estimate.

Interpreting the 95% confidence intervals:

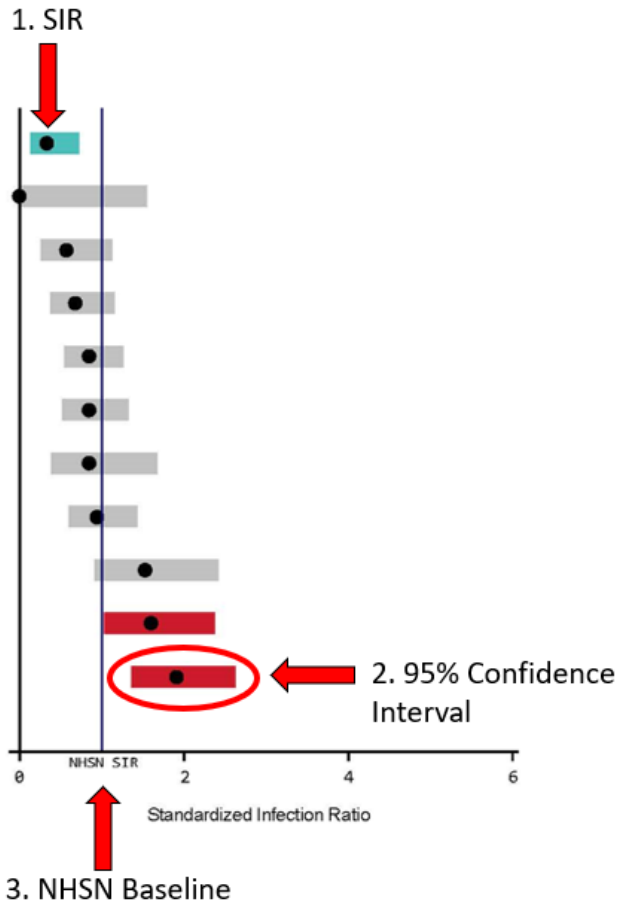
- If the value of 1.0 is included between the lower and upper limit, there is NO significant difference between the number of observed and predicted infections. For example, the bar marked A above is not significantly better than the 2015 national experience because the 95% confidence interval crosses the red line at 1.0 (the NHSN baseline).
- If the value of 1.0 is NOT included between the lower and upper limit, there IS a significant difference between the number of observed and predicted infections. For example, the bar marked B above is significantly better than the 2015 national experience because the 95% confidence interval does not cross the red line at 1.0.

3. NHSN Baseline (i.e., national experience) – Represented by the solid red line in each figure.

- The NHSN baseline is the number of predicted infections based on 2015 national experience.
- The NHSN baseline year for all HAIs use data from 2015.

4. How can I use the SIR, 95% Confidence Interval, and the NHSN Baseline to know how North Carolina did compared to the 2015 national experience? To understand each figure, you will need to look at all three of these numbers. You'll specifically need to know whether the SIR falls around 1.0 (the NHSN baseline), less than 1.0 or greater than 1.0 and whether the 95% Confidence Interval contains the value of 1.0.

Below is an explanation of numbers and data calculations used in the SIR plots:



SIR plots are used to compare HAI infection data in North Carolina within hospital size groups. Each plot displays the facilities in a particular hospital size group on the left-hand side. To the right of each facility's information is the plot. The elements of this plot are described as follows:

1. SIR - Represented by a black circle on the plots

- SIR = number of *observed* infections / numbers of *predicted* infections based on the 2015 national baseline experience.
- SIR is calculated for each facility.
- The SIR is considered a "best guess" or estimate of observed infections compared to those predicted during period displayed.

2. 95% confidence intervals for the SIR – Represented by the red, grey, and green bands surrounding the SIR dot. These bands represent a lower and a higher limit around the SIR. It means we are 95% confident the SIR estimate falls within this interval. Wider bands indicate less confidence in the SIR estimate.

Interpreting the 95% confidence intervals:

- If the value of 1.0 is included between the lower and upper limit, there is NO significant difference between the number of observed and predicted infections. Facilities with about the same number observed infections as predicted will have a grey confidence interval.
- If the upper confidence limit is less than 1.0, there were FEWER observed infections than predicted by the 2015 national experience. Facilities with fewer observed infections than predicted will have a green confidence interval.
- If the lower confidence limit is greater than 1.0, there were MORE observed infections than predicted by the 2015 national experience. Facilities with MORE observed infections than predicted will have a red confidence interval.

3. NHSN Baseline (i.e. national experience) – Represented by the solid line in each plot.

- The NHSN baseline is the number of predicted infections based on 2015 national experience.
- The NHSN baseline year is 2015.

APPENDICES

APPENDIX A. Definitions

Term	Definition
Aggregate data	Sum or total data. For example, aggregate NC HAI data refers to the sum, or total, of all hospital HAI data in NC.
Beds	The number of staffed patient beds in a facility or patient care location. This may be different from the number of licensed beds.
Catheter-associated urinary tract infection	Urinary tract infection (UTI) that occurs in a patient who had an indwelling urinary catheter in place within the 48-hour period before the onset of the UTI.
Central line	A catheter (tube) that doctors place in a large vein in the neck, chest, or groin ending in a large vein near the heart. It is used to give medication or fluids or to collect blood for medical tests. Also known as a central venous catheter.
Central line-associated bloodstream infection	A bloodstream infection (BSI) that occurs in a patient who had a central line within the 48-hour period before the onset of the BSI and is not related to an infection at another site.
Healthcare-Associated infections	Healthcare-Associated infections (HAI) are infections caused by a wide variety of common and unusual bacteria, fungi, and viruses during the course of receiving medical care.
Intensive care unit	A nursing care area that provides intensive observation, diagnosis, and therapeutic procedures for adults and children who are critically ill. Also referred to as critical care unit.
Medical affiliation	Affiliation with a medical school. There are four categories: *Major teaching* – Hospital is an important part of the teaching program of a medical school and the majority of medical students rotate through multiple clinical services. *Graduate* – Hospital used by the medical school for graduate training programs only (i.e., residency and/or fellowships). *Limited* – Hospital used in the medical school's teaching program to a limited extent. *No* – Hospital not affiliated with a medical school.
Standardized infection ratio	A ratio of observed to expected (or predicted) numbers of infection events that is adjusted for selected risk factors.
Surgical site infection	Infection that occurs after surgery, in the part of the body where the surgery took place.
Urinary catheter	A drainage tube that is inserted into the urinary bladder through the urethra, is left in place, and is connected to a closed collection system.
Validity (data)	The extent to which reported cases of a disease or event correspond accurately to cases of a disease event that actually occurred.

APPENDIX B. Acronyms

APIC-NC	Association for Professionals in Infection Control and Epidemiology, NC Chapter
BSI	Bloodstream infection
CAUTI	Catheter-associated urinary tract infection
CDC	Centers for Disease Control and Prevention
C. diff	*Clostridioides difficile*
CDI	*Clostridioides difficile* infection
CI	Confidence interval
CMS	Centers for Medicare & Medicaid Services
CLABSI	Central line-associated bloodstream infections
CRE	Carbapenem-resistant Enterobacterales
DHHS	Department of Health and Human Services
DHSR	Division of Health Service Regulation
DPH	Division of Public Health
HAI	Healthcare-Associated Infections
ICU	Intensive care unit
IP	Infection preventionist
MRSA	Methicillin-resistant *Staphylococcus aureus*
NCHA	North Carolina Health care Association
NC SPICE	North Carolina Statewide Program for Infection Control and Epidemiology
NHSN	National Health care Safety Network
NICU	Neonatal intensive (critical) care unit
SIR	Standardized infection ratio
SSI	Surgical site infection

Appendix C. 2023 Surveillance for Health care-Associated and Resistant Pathogens Patient Safety (SHARPPS) Program Advisory Group

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Head, Medical Consultation Unit
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Appendix D. Health care Facility Groupings, 2023 National Health care Safety Network Annual Hospital Survey

Hospital Group	Hospital Name	Number of Beds
1-99 Beds	ECU HEALTH BERTIE HOSPITAL	6
	FIRSTHEALTH MOORE REGIONAL HOSPITAL - HOKE CAMPUS	8
	CAROLINAS HEALTHCARE SYSTEM ANSON	15
	CHEROKEE INDIAN HOSPITAL	17
	DLP - SWAIN COMMUNITY HOSPITAL	17
	PERSON MEMORIAL HOSPITAL	18
	THE OUTER BANKS HOSPITAL	21
	HIGHLANDS CASHIERS HOSPITAL	24
	BLUE RIDGE REGIONAL HOSPITAL	25
	TRANSYLVANIA REGIONAL HOSPITAL	25
	ADVENTHEALTH POLK	25
	MURPHY MEDICAL CENTER	25
	ANGEL MEDICAL CENTER	25
	DOSHER MEMORIAL HOSPITAL	25
	ECU HEALTH CHOWAN HOSPITAL	25
	PENDER MEMORIAL HOSPITAL	25
	NORTH CAROLINA SPECIALTY HOSPITAL	26
	MCDOWELL HOSPITAL	30
	NOVANT HEALTH MEDICAL PARK HOSPITAL	33
	WAKE FOREST BAPTIST HEALTH-DAVIE MEDICAL CENTER	36
	NOVANT HEALTH CLEMMONS MEDICAL CENTER	36
	CAPE FEAR VALLEY HOKE HOSPITAL	41
	DAVIS REGIONAL MEDICAL CENTER	42
	NOVANT HEALTH CHARLOTTE ORTHOPEDIC HOSPITAL	42
	CENTRAL HARNETT HOSPITAL	44
	JOHNSTON HEALTH CLAYTON	50
	NOVANT HEALTH MINT HILL MEDICAL CENTER	50
	REX HOLLY SPRINGS HOSPITAL	50
	ANNIE PENN HOSPITAL	53
	NOVANT HEALTH NEW HANOVER ORTHOPEDIC HOSPITAL	55
	NOVANT HEALTH BALLANTYNE MEDICAL CENTER	56
	CENTRAL CAROLINA HOSPITAL	57
	GRANVILLE MEDICAL CENTER	62
	NOVANT HEALTH KERNERSVILLE MEDICAL CENTER	64
	DLP - HARRIS REGIONAL HOSPITAL	65
	KINGS MOUNTAIN HOSPITAL	67
	WAKE FOREST BAPTIST HEALTH-LEXINGTON MEDICAL CENTER	71
	WAKE FOREST BAPTIST HEALTH WILKES MEDICAL CENTER	75
	CARTERET GENERAL HOSPITAL	76
	COLUMBUS REGIONAL HEALTHCARE SYSTEM	77
	ECU HEALTH BEAUFORT HOSPITAL	77
	FIRSTHEALTH MOORE REGIONAL HOSPITAL - RICHMOND CAMPUS	79
	RANDOLPH HOSPITAL DBA RANDOLPH HEALTH	80

	HUGH CHATHAM MEMORIAL HOSPITAL	81
	WAKEMED NORTH FAMILY HEALTH & WOMEN'S HOSPITAL	82
	BETSY JOHNSON HOSPITAL	87
	NOVANT HEALTH BRUNSWICK MEDICAL CENTER	88
	ADVENT HEALTH HENDERSONVILLE	89
	ECU HEALTH DUPLIN HOSPITAL	89
	ECU HEALTH NORTH HOSPITAL	97
100-199 Beds	NORTHERN REGIONAL HOSPITAL	100
	RUTHERFORD REGIONAL MEDICAL CENTER	101
	ATRIUM HEALTH LINCOLN	101
	LENOIR MEMORIAL HOSPITAL, INC	102
	ATRIUM HEALTH UNIVERSITY CITY	104
	SCOTLAND MEMORIAL HOSPITAL	104
	ECU HEALTH EDGECOMBE HOSPITAL	105
	UNC ROCKINGHAM HEALTH	108
	ATRIUM HEALTH STANLY	109
	ECU HEALTH ROANOKE-CHOWAN HOSPITAL	114
	SENTARA ALBEMARLE MEDICAL CENTER	115
	SAMPSON REGIONAL MEDICAL CENTER	116
	HAYWOOD REGIONAL MEDICAL CENTER	117
	LAKE NORMAN REGIONAL MEDICAL CENTER	123
	WILSON MEDICAL CENTER	123
	MARIA PARHAM MEDICAL CENTER	124
	ARHS-WATAUGA MEDICAL CENTER	127
	NOVANT HEALTH THOMASVILLE MEDICAL CENTER	130
	CALDWELL MEMORIAL HOSPITAL	137
	CAROLINAS MEDICAL CENTER - UNION	142
	PARDEE HOSPITAL	143
	WESLEY LONG HOSPITAL	150
	UNC HEALTH BLUE RIDGE	151
	ONSLOW MEMORIAL HOSPITAL	162
	JOHNSTON HEALTH	165
	NASH HEALTH CARE SYSTEMS	178
	DUKE RALEIGH HOSPITAL	186
	FRYE REGIONAL MEDICAL CENTER	190
	NOVANT HEALTH HUNTERSVILLE MEDICAL CENTER	193
	CAROLINAS MEDICAL CENTER- MERCY	196
	NOVANT HEALTH MATTHEWS MEDICAL CENTER	197
	IREDELL MEMORIAL HOSPITAL	199
200-399 Beds	SOUTHEASTERN REGIONAL MEDICAL CENTER	218
	WAYNE MEMORIAL HOSPITAL	226
	WAKEMED CARY HOSPITAL	234
	ALAMANCE REGIONAL MEDICAL CENTER	238
	CAROLINAS HEALTHCARE SYSTEM CLEVELAND	241
	NOVANT HEALTH ROWAN MEDICAL CENTER	245
	CATAWBA VALLEY MEDICAL CENTER	253
	CHERRY HOSPITAL	259

	BROUGHTON HOSPITAL	265
	CAROLINAS MEDICAL CENTER- PINEVILLE	278
	HIGH POINT REGIONAL HEALTH SYSTEM	299
	CAROLINAEAST MEDICAL CENTER	350
	FIRSTHEALTH MOORE REGIONAL HOSPITAL	362
	DUKE REGIONAL HOSPITAL	369
	CENTRAL REGIONAL HOSPITAL	398
400+ Beds	GASTON MEMORIAL HOSPITAL	445
	ATRIUM HEALTH CABARRUS	447
	MOSES CONE HOSPITAL	517
	CAPE FEAR VALLEY HEALTH SYSTEM	544
	WAKEMED	545
	REX HEALTHCARE	635
	NOVANT HEALTH PRESBYTERIAN MEDICAL CENTER	636
	NEW HANOVER REGIONAL MEDICAL CENTER	793
	NOVANT HEALTH FORSYTH MEDICAL CENTER	825
	MISSION HOSPITAL	853
	CAROLINAS MEDICAL CENTER	868
Primary Medical School Affiliation	WAKE FOREST UNIVERSITY BAPTIST MEDICAL CENTER	850
	UNC HEALTH CARE	1001
	ECU HEALTH MEDICAL CENTER	1039
	DUKE UNIVERSITY HOSPITAL	1062