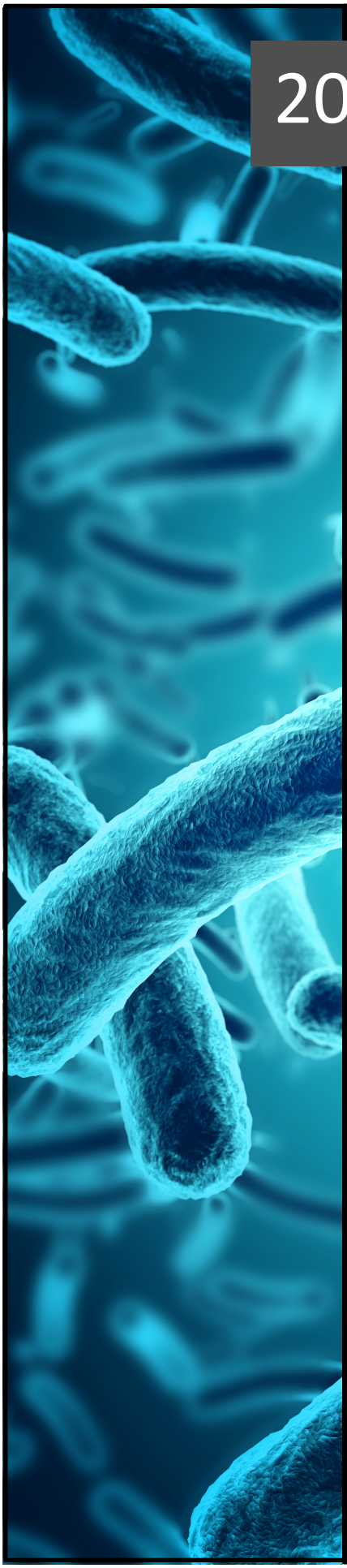

2022

Issued January 2024

# Healthcare-Associated Infections in North Carolina

Reporting Period:
January 1, 2022—December 31, 2022

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. • 01/2024**

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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, 2022, through December 31, 2022. 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 healthcare 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 North Carolina Division of Public Health. Report definitions are available in Appendix A. The report is provided as a resource for healthcare 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 healthcare by asking infection prevention questions when coming into contact with healthcare facilities. Providers can use this report to compare statewide and hospital-specific progress to the national experience.

**The mission of the NC SHARPPS Program is to collaborate with healthcare 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 healthcare settings by:

1. Conducting statewide surveillance for selected HAIs.
2. Providing useful, unbiased information to healthcare 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 healthcare 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 collective stakeholders across North Carolina put into infection prevention every day. We at NC DPH remain committed to our partners and dedicated to our common goal of patient safety.

The COVID-19 pandemic resulted in unprecedented challenges to the healthcare and public health infrastructure. The SHARPPS Program would like to thank and commend hospital infection preventionists across the state who worked tirelessly to protect the health and safety of both patients and staff in their institutions during the pandemic, all while continuing to perform their routine responsibilities including HAI surveillance. It is thanks to these dedicated individuals that the SHARPPS Program is able to present and analyze these HAI data for 2022 despite the impact of the pandemic. Hospital infection preventionists provided the data used to create this report and worked with their hospital colleagues to identify and reconcile any potential problems with the data. The recent progress and successes in fighting healthcare-associated infections would not have been possible without their continuing efforts, dedication, and collaboration.

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 NC DPH HAI reports.

Finally, the Program would like to acknowledge our partners who have been important leaders and ardent 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 North Carolina Division of Health Service Regulation.

# I. Highlights of Healthcare-Associated Infection Prevention Activities in 2022

## 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 2022 include the following:

- ***MDRO Investigation and Response:*** In 2022, the SHARPPS Program led or participated in 42 acute responses to multidrug-resistant organisms (MDROs) statewide, including outbreaks and sentinel events (a single event initiating response).

- ***Invasive GAS Investigation and Response:*** In 2022, the SHARPPS program led or participated in 32 acute public health responses for invasive Group A *Streptococcus* (GAS) in healthcare facilities. There were eight invasive GAS outbreaks, all of which occurred in long-term care (LTC) facilities.

- ***Program Infrastructure:*** Using federal supplemental funding, the SHARPPS team has expanded to a total of 11 staff, composed of infection preventionists, epidemiologists, an industrial hygienist, a program manager, and a medical director. Excluding COVID-19 related activities, the SHARPPS team provided 12 educational sessions in 2022 focusing on infection prevention, antimicrobial stewardship, and investigation and control of antimicrobial-resistant pathogens including carbapenem-resistant Enterobacterales and *Candida auris*.

  Additionally, the Regional Infection Prevention Support (RIPS) Teams continued to function as force multipliers in the field. The RIPS teams were established in August 2020 and are placed in each of North Carolina's 10 public health regions to provide on-site infection prevention and control assistance, training, and consultation to all types of long-term care facilities. Under the guidance of the Division of Public Health, these Teams use evidence-based infection control procedures consistent with applicable CDC, CMS, and HHS guidance to bolster infection prevention knowledge and practices, mitigating and preventing health threats like COVID and all other infectious diseases, thereby reducing morbidity and mortality. To date, these teams have contacted all 3,700+ long-term care facilities in the state, completed over 7,300 on-site visits, conducted over 3,500 in-depth infection control assessments, and educated over 21,000 long-term care staff.

- ***One and Only Safe Injection Practices Campaign****:* The One & Only Campaign webpage has been created that centralizes the campaign's suite of resources available to educate about the basics of injection safety. It features multi-media resources developed over the last 10 years that address injection safety and related topics such as insulin pens and drug diversion. The webpage also highlights campaign partners and members that have committed to amplifying injection safety messaging.

- ***Be Antibiotics Aware: Smart Use Best Care:*** The Be Antibiotics Aware: Smart Use, Best Care Campaign is CDC's national educational effort to improve antibiotic prescribing among healthcare 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.

- ***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.

***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 provides mentorship opportunities and educational offerings in addition to recognition through certificates and listing participating facilities on the NC SHARPPS website.

## 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 healthcare spectrum. Activities for 2022 are summarized below.

**Classroom Courses:**

- In 2022, SPICE offered infection control courses targeting new infection preventionists (IPs) via classroom and/or virtual, live-streamed webinars, training 696 healthcare professionals on infection control in acute care and long-term care settings.

**.0206 NC Curriculum for Infection Control:**

- 368 outpatient, dental and home health hospice health care professionals completed the .0206 NC Infection Control Curriculum online.
- 1,495 outpatient, dental, home health/hospice, and dialysis health care professionals completed the .0206 NC Infection Control Curriculum in a classroom/online seminar 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. 579 learners completed the course in 2022.

**Phone and Email Consultations:**

- SPICE provided 2,747 infection control consultations by phone or email in 2022.

**Special Projects:** NC SPICE administered three contracts awarded by NC DHHS:

- ELC CARES (ended 4/30/22): to provide targeted infection prevention training and development of program resources with the aim of facilitating CDC Project Firstline efforts to provide every person working in a U.S. healthcare facility the foundational understanding of infection control to protect the nation from infectious disease threats, such as COVID-19.
- ELC Enhancing Detection (Year 1 ended 7/31/22; Year 2 started 8/1/22): to expand North Carolina's existing HAI and communicable disease prevention capacity by addressing gaps in principles and practices within infection prevention programs, and training, specifically in congregate care facilities. Infection prevention guidance will be targeted on development of a sustainable infrastructure of readiness and response to not only healthcare-associated infections but also to high consequence emerging disease threats (including SARS-CoV-2).
- HAI-AR (started 10/1/2022): 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). 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.

**In-Services/Presentations by Evelyn Cook and Infection Prevention Consultants:**

| | |
|---|---|
| January 25, 2022 | Webinar - Qiagen - "Finding TB in Crowd" |
| February 9, 2022 | CDC Guideline Updates |
| March 9, 2022 | Capitol Hill Webinar: National APIC's Whitepaper - "Between a Rock and a Hard Place" |
| March 16, 2022 | Webinar - "Review of NCDOL's repeal of COVID-19 ETS for Healthcare and CMS Guidance in LTCFs" |
| March 29, 2022 | Webinar - Senior Living Association - "Visitation Guidance-Assisted Living Facilities" |
| May 5, 2022 | NC APIC talk - "Mobilizing APIC Members for Change Getting Involved in the Legislative Process to Promote Infection Prevention" |
| May 25, 2022 | NCNA talk – "State of the Union: Impact of SARS-CoV-2" |
| May 2022 | NC APIC Congregate Care and Behavioral Health - "An approach to Outbreak Prevention and Management" |
| June 2022 | "Prevention of Multidrug-Resistant Organisms in the Geriatric Population" |
| July 14, 2022 | Charlotte Mecklenburg HD talk - "Disinfection, Sterilization" |
| July 19, 2022 | Webinar - CDC - "Updated Guidance on Enhanced Barrier Precautions" |
| September 16, 2022 | Crystal Coast 1st Annual Nursing Conference: "Infection Control Composite-It's Not Just a Score" |
| September 20, 2022 | Local Health Department talk - "Personal Protective Equipment: Back to the Basics" |
| September 30, 2022 | CMS & CDC Updates |
| October 28, 2022 | RIPS team conference - "Facility Assessment and Tools" |
| October 31 to November 3, 2022 | IC Part 2 |
| November 7-9, 2022 | Infection Control in LTCFs |
| November 2, 2022 | NCNA Gero Council Meeting – "Prevention of Multidrug Resistant Organisms in the Geriatric Population" |
| December 2, 2022 | Infection Control in Outpatient Settings |

**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 2022, 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 Healthcare Safety Network (NHSN). Monthly SHOP Talk calls continue with additional information posted on the Alliant Health Solutions 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 to improve their vaccination booster 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 2022 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, including long-term acute care facilities, inpatient rehabilitation facilities, and specialty hospitals such as psychiatric facilities. While not reflected in this Annual Report, data for these additional facility types are provided in the Quarterly Reports.

## A. WHAT IS THE PURPOSE OF THIS REPORT?

This report is provided to help patients who need inpatient medical treatment decide whether they should be concerned about healthcare-associated infections (HAIs) at the hospital they may choose. HAIs are infections patients can get while receiving medical treatment in a healthcare 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 North Carolina 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 healthcare 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 NC DPH using a free, web-based software system called the National Healthcare Safety Network (NHSN). The CDC and the NC SHARPPS Program provide 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, 2022, through December 31, 2022. 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., 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. All HAIs use data from 2015 to come up with their 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 (2022) 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 guesses or 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

118 North Carolina hospitals reported HAIs in 2022, including 97 short-term acute-care hospitals, seven long-term acute-care hospitals, seven inpatient rehabilitation facilities, and 7 specialty hospitals. This report includes data from the 97 short-term acute-care hospitals. Facility-specific data for all types of facilities can be found in the Quarterly Reports.

These reports cover data from January 1, 2022, through December 31, 2022. Data were downloaded from the National Healthcare Safety Network (NHSN) on July 7, 2023; 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 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 time 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.

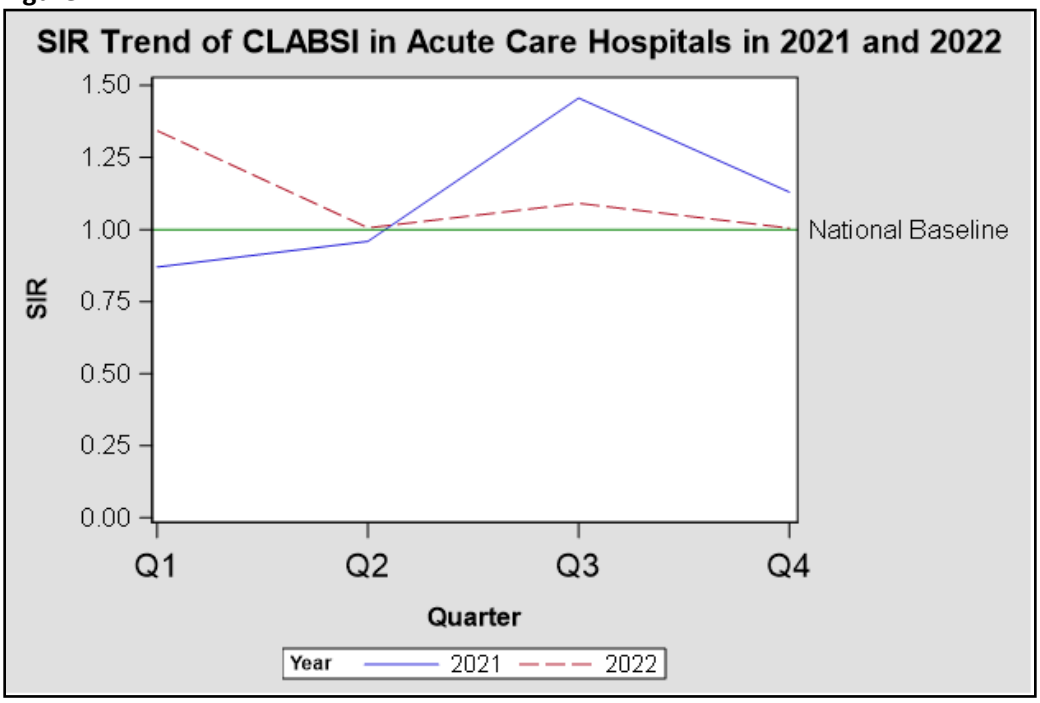
6. **Laboratory-Identified Events (LabID Events):** *Clostridioides difficile* infections (CDI) and methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia (blood infection) LabID events rely on laboratory data. Patients did not have to be ill to have a positive result, and a positive result 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 2021 AND 2022

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 2021 and 2022.

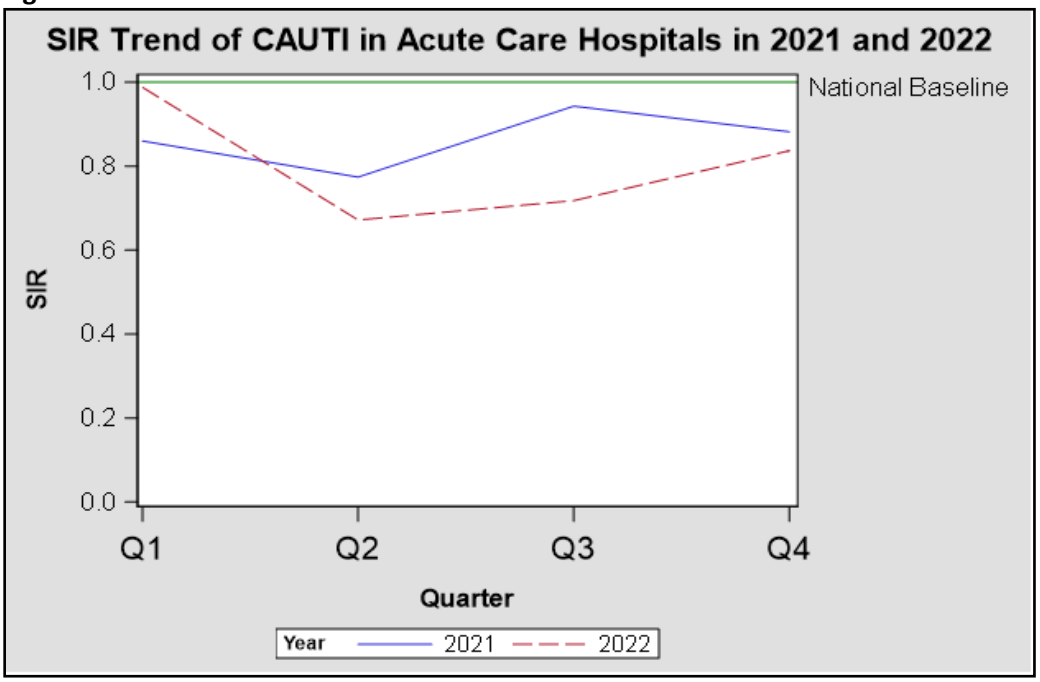
**Figure 1.**




**Interpreting Figure 1:**

- The majority of 2021 (Q1, Q2, Q4) and majority of 2022 (Q2, Q3, Q4) experienced about the same number of CLABSIs as predicted, performing the SAME as the national experience.
- 2021Q3 and 2022Q1 experienced more CLABSIs than predicted, performing WORSE than the national experience.

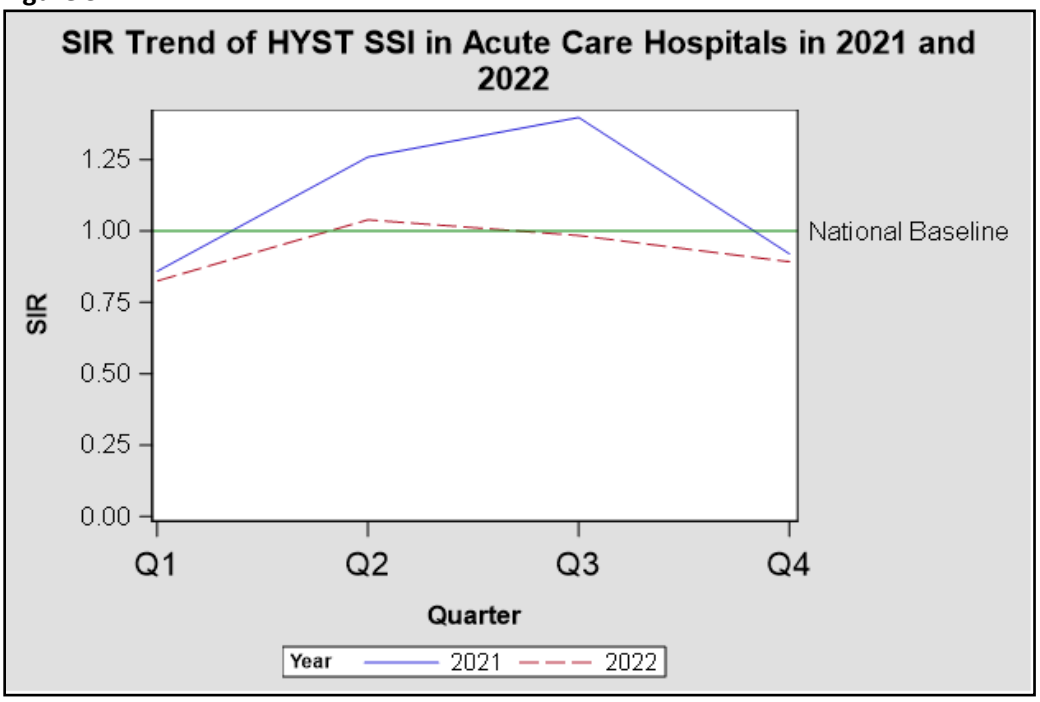
**Figure 2.**




**Interpreting Figure 2:**

- Most of 2021 (Q1, Q3-Q4) and 2022Q1 experienced about the same number of CAUTIs as the predicted, performing the SAME as the national experience.
- 2021Q2 and most of 2022 (Q2, Q3, Q4) experienced fewer CAUTIs than predicted, performing BETTER than the national experience.

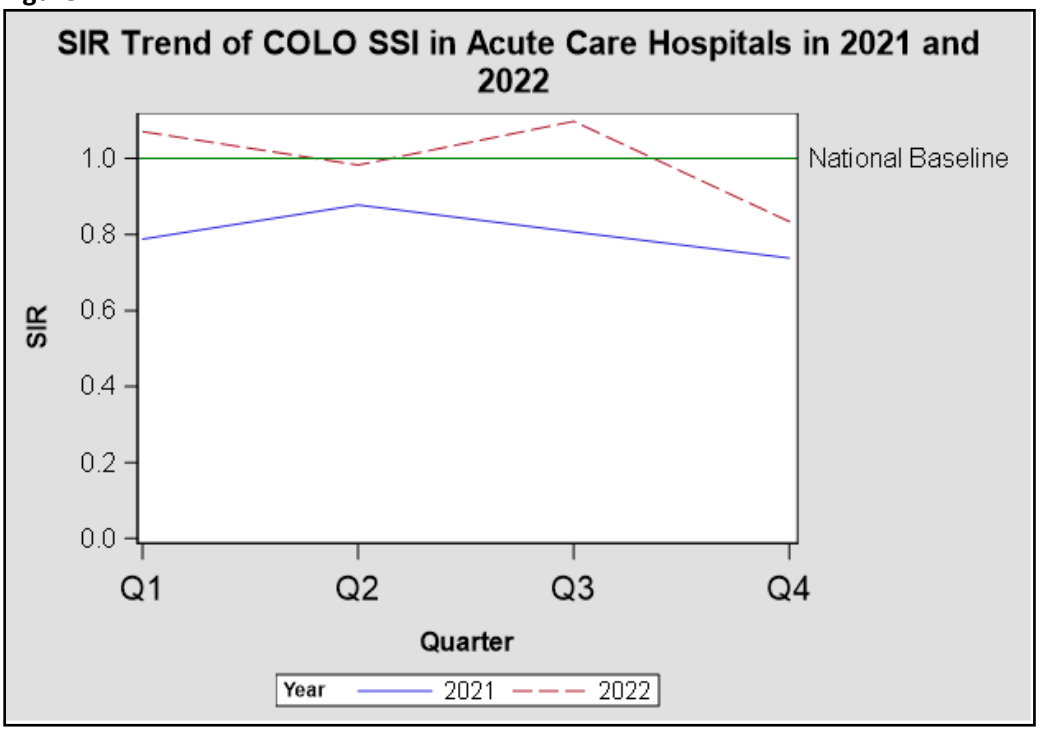
**Figure 3**.




**Interpreting Figure 3:**

- All quarters experienced the about same number of HYST SSIs as predicted, performing the SAME as the national experience.

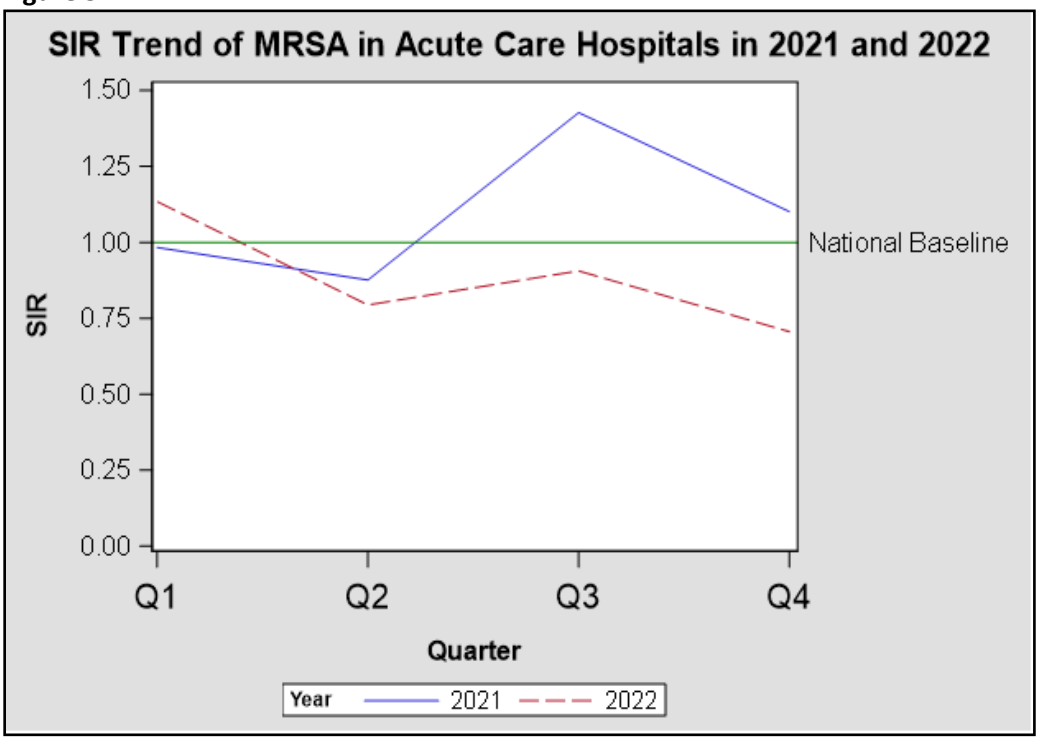
**Figure 4.**




**Interpreting Figure 4:**

- Most of 2021 (Q1-Q3) and all of 2022 (Q1-Q4) experienced about the same number of SSIs associated with COLO procedure as predicted, performing the SAME as the national experience.
- 2021Q4 experienced fewer SSIs associated with COLO procedure than predicted, performing BETTER than the national experience.

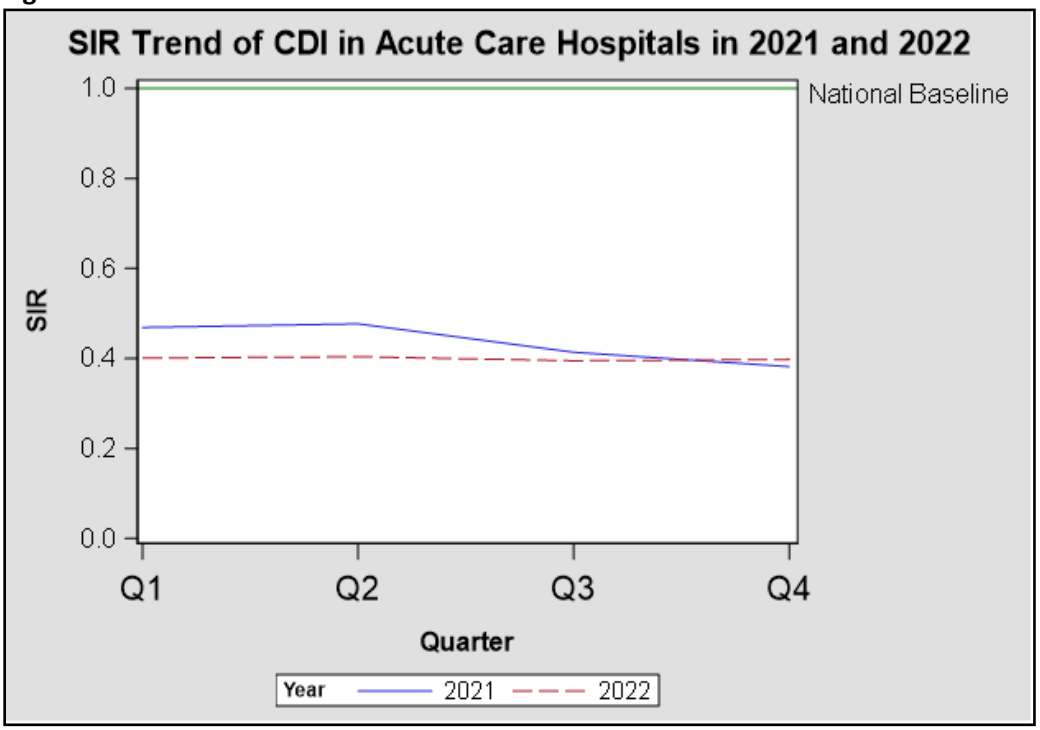
**Figure 5**.




**Interpreting Figure 5:**

- 2022Q2 and 2022Q4 experienced fewer MRSA LabID Events than predicted, performing BETTER than the national experience.
- Most of 2021 (Q1, Q2, Q4), 2022Q1, and 2022Q3 experienced about the same number of MRSA LabID Events as predicted, performing the SAME as the national experience.
- 2021Q3 experienced more MRSA LabID Events than predicted, performing WORSE than the national experience.

**Figure 6.**




**Interpreting Figure 6:**

- All quarters in both 2021 and 2022 had fewer CDI LabID events than predicted, performing BETTER than the national experience.

# II. Statewide Healthcare-Associated Infections

## A. Central Line-Associated Bloodstream Infections (CLABSI)

### 1. CLABSI in Adult/Pediatric ICUs and Wards

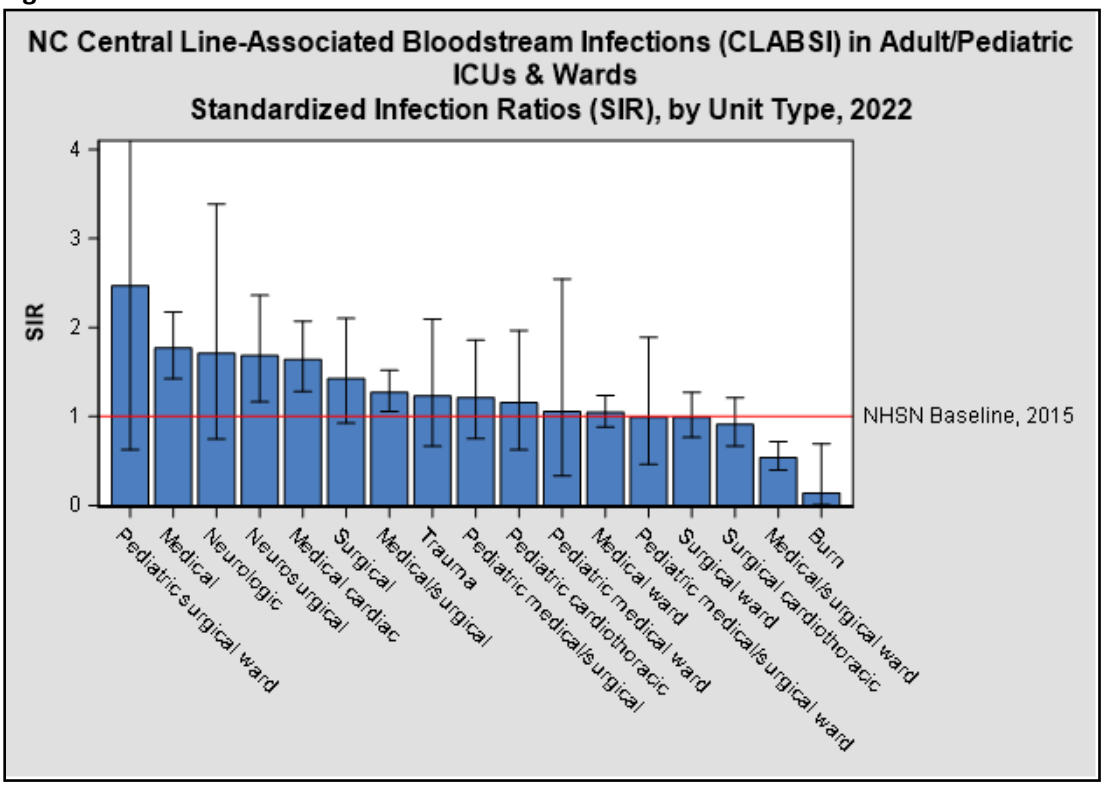
**North Carolina 2022 CLABSI Highlights in Adult/Pediatric Medical, Surgical, and Medical/Surgical Wards & ICUs**

- North Carolina hospitals reported 729 infections, compared to the 653.68 infections predicted by the national experience; this was worse than the 2015 national experience.
- The most identified organisms from adult and pediatric CLABSI patients were *Candida* 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, 2022**

| Year | # Observed Infections | # Predicted Infections | How Does North Carolina compare to the National Experience? |
|---|---|---|---|
| 2022 | 729 | 653.68 | WORSE: more than the number of infections predicted (worse than the national experience) |

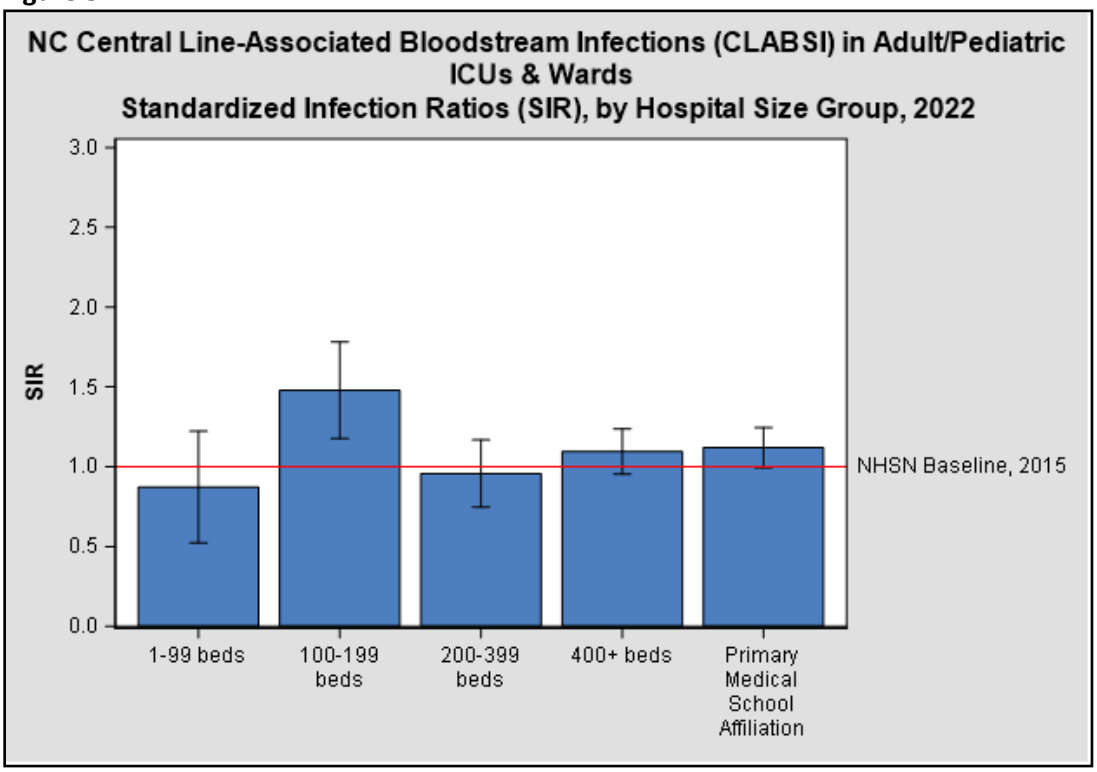
**Figure 7.**




**Interpreting Figure 7:**

- In 2022, Medical/Surgical Ward and Burn units reported fewer infections than predicted, performing BETTER than the national experience.
- Medical, Neurosurgical, Medical Cardiac, and Medical/Surgical units reported more infections than predicted, performing WORSE than the national experience.
- All other unit types performed the SAME as the national experience.

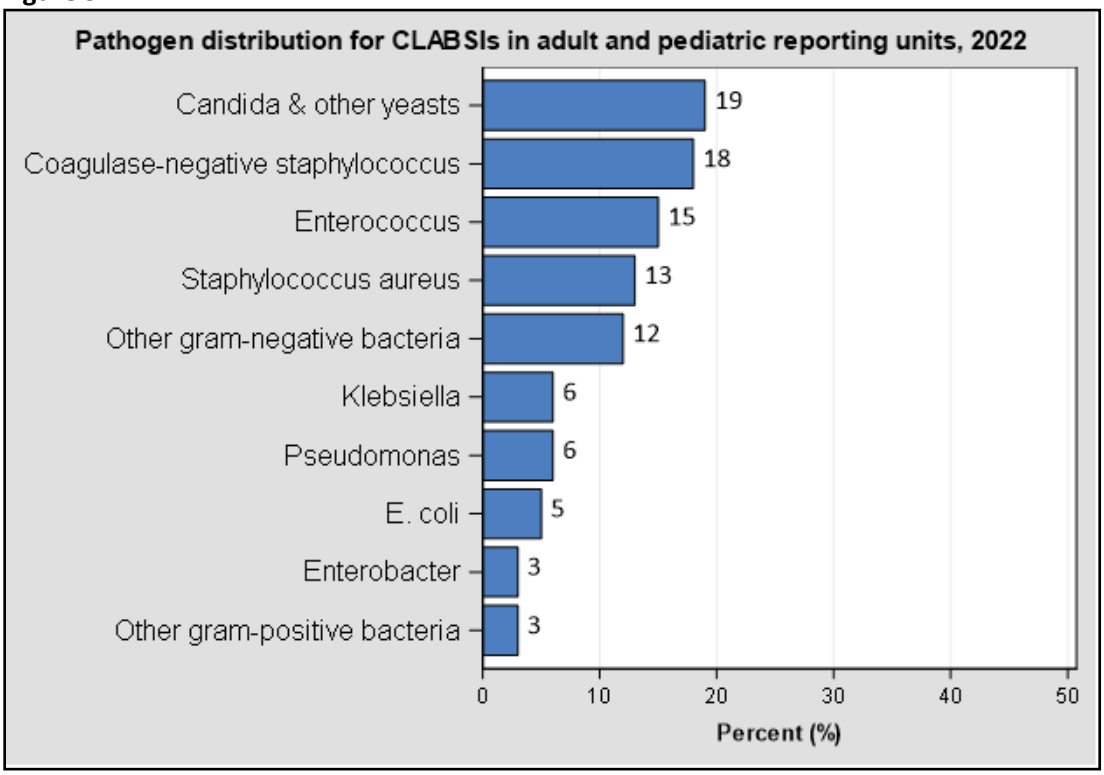
**Figure 8.**




**Interpreting Figure 8:**

- In 2022, hospitals with 100-199 beds had more CLABSIs than predicted, performing WORSE than the national experience.
- All other hospitals observed about the same number of CLABSIs as predicted, performing the SAME as the national experience.

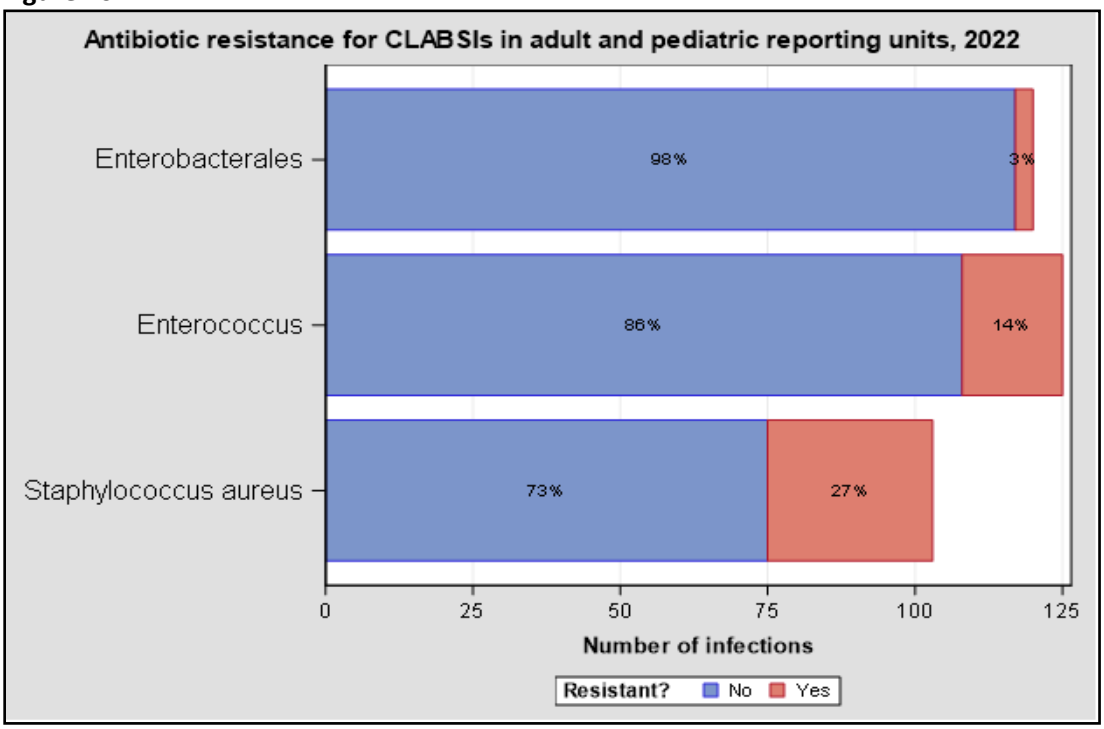
**Figure 9.**




**Interpreting Figure 9:**

- In 2022, the most commonly identified organisms from adult and pediatric CLABSI patients were *Candida* spp. and other yeasts/fungi (19%), followed by coagulase-negative *Staphylococci* (18%).

**Figure 10.**



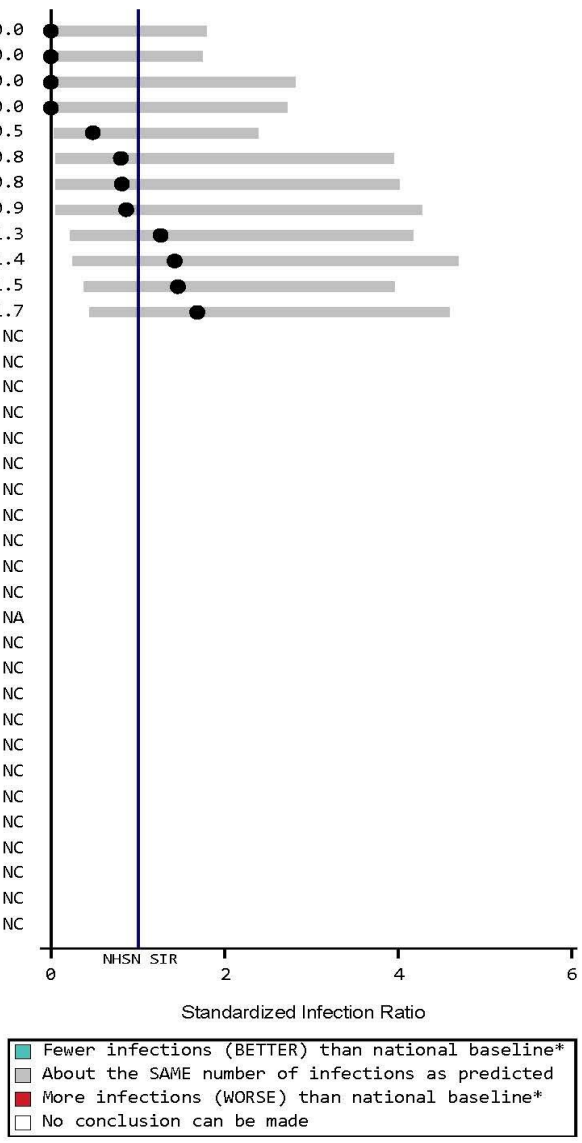

**Interpreting Figure 10:**

- In 2022, 27% of *Staphylococcus aureus* identified among adult/pediatric CLABSIs were resistant to methicillin.
- 14% of *Enterococcus* identified among adult/pediatric CLABSIs were resistant to vancomycin.
- The percentage of Enterobacterales identified among adult/pediatric CLABSIs resistant to carbapenems is low (3%).

**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, 2022**
**Hospital Group: Hospitals with less than 100 Beds**

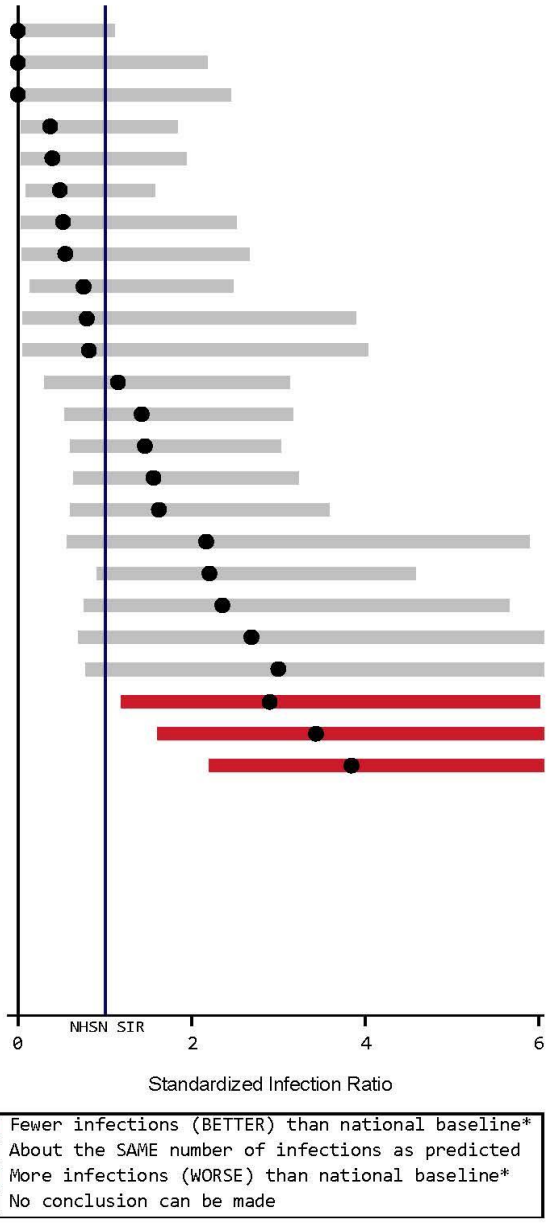
| HOSPITAL | OBS | PRED | CLdays | SIR |
|---|---|---|---|---|
| Duke LifePoint-Harris Regional Hospital | 0 | 1.7 | 2682 | 0.0 |
| Haywood Regional Medical Center | 0 | 1.7 | 2120 | 0.0 |
| Hugh Chatham Memorial Hospital | 0 | 1.1 | 1747 | 0.0 |
| Novant Health Kernersville | 0 | 1.1 | 1403 | 0.0 |
| Betsy Johnson Hospital | 1 | 2.1 | 2910 | 0.5 |
| Central Carolina Hospital | 1 | 1.2 | 2014 | 0.8 |
| ECU Health Beaufort Hospital | 1 | 1.2 | 1968 | 0.8 |
| Novant Health Brunswick Medical Center | 1 | 1.2 | 1457 | 0.9 |
| Wake Forest Baptist Health-Wilkes | 2 | 1.6 | 2557 | 1.3 |
| Wake Forest Baptist Health-Lexington | 2 | 1.4 | 1803 | 1.4 |
| ECU North Hospital | 3 | 2.1 | 3035 | 1.5 |
| Columbus Regional Healthcare System | 3 | 1.8 | 2886 | 1.7 |
| McDowell Hospital | 0 | 0.3 | 390 | NC |
| Cherokee Indian Hospital | 0 | 0.3 | 575 | NC |
| Davis Regional Medical Center | 2 | 0.2 | 391 | NC |
| Martin General Hospital | 0 | 0.3 | 536 | NC |
| Randolph Hospital Dba Randolph Health | 0 | 0.6 | 1024 | NC |
| Granville Medical Center | 0 | 0.6 | 1041 | NC |
| Carteret General Hospital | 1 | 0.7 | 896 | NC |
| ECU Health Duplin Hospital | 1 | 0.7 | 787 | NC |
| Kings Mountain Hospital | 1 | 0.1 | 184 | NC |
| Person Memorial Hospital | 0 | 0.3 | 442 | NC |
| Novant Health Medical Park Hospital | 0 | 0.2 | 266 | NC |
| Atrium Health Anson | NA | NA | N | NA |
| Annie Penn Hospital | 2 | 0.8 | 1346 | NC |
| North Carolina Specialty Hospital | 0 | 0.1 | 111 | NC |
| Wake Forest Baptist Health-Davie Medical | 0 | 0.4 | 661 | NC |
| Johnston Health Clayton | 0 | 0.4 | 650 | NC |
| Firsthealth Moore Regional-Hoke | 0 | 0.0 | 71 | NC |
| Firsthealth Moore Regional-Richmond | 0 | 0.5 | 797 | NC |
| Cape Fear Valley Hoke Hospital | 1 | 0.3 | 471 | NC |
| WakeMed North Family Health & Women's | 0 | 0.3 | 400 | NC |
| Central Harnett Hospital | 1 | 0.8 | 1148 | NC |
| Novant Health Clemmons Medical Center | 0 | 0.4 | 549 | NC |
| Novant Health Mint Hill Medical Center | 1 | 0.8 | 1258 | NC |
| Rex Holly Springs Hospital | 0 | 0.2 | 251 | NC |




Data reported as of July 3, 2023.
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, 2022
## Hospital Group: Hospitals with 100 to 199 Beds

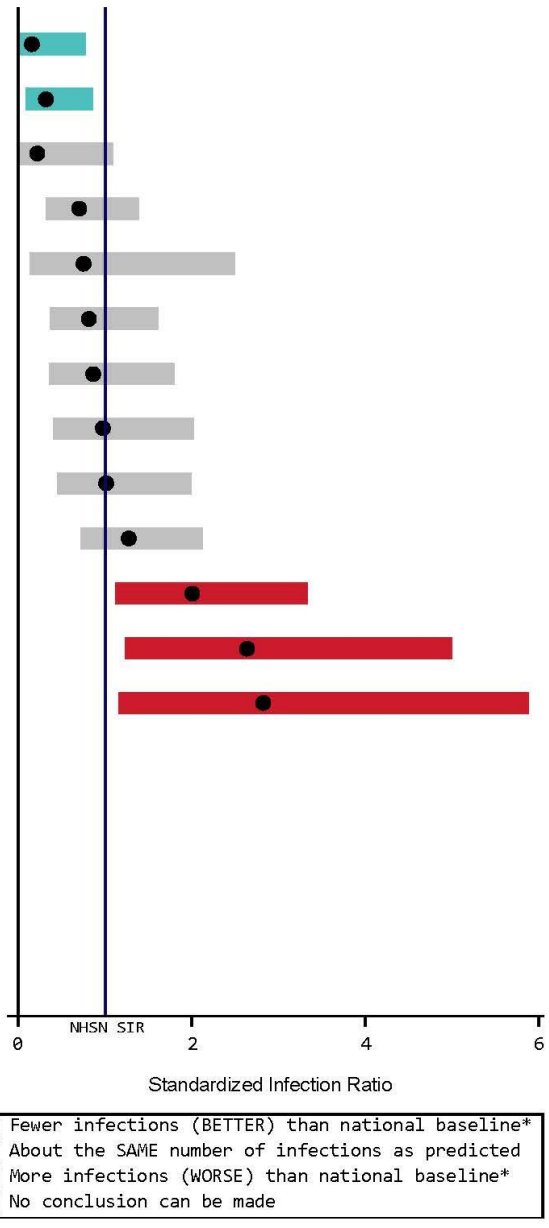
| HOSPITAL | OBS | PRED | CLdays | SIR |
|---|---|---|---|---|
| Maria Parham Medical Center | 0 | 2.7 | 2931 | 0.0 |
| Northern Regional Hospital | 0 | 1.4 | 1942 | 0.0 |
| Atrium Health Lincoln | 0 | 1.2 | 1786 | 0.0 |
| ECU Health Edgecombe Hospital | 1 | 2.7 | 2950 | 0.4 |
| Novant Health Huntersville | 1 | 2.5 | 2911 | 0.4 |
| Caldwell Memorial Hospital | 2 | 4.2 | 6076 | 0.5 |
| Sentara Albemarle Medical Center | 1 | 2.0 | 2075 | 0.5 |
| Wesley Long Hospital | 1 | 1.9 | 2547 | 0.5 |
| Lenoir Memorial Hospital | 2 | 2.7 | 3928 | 0.7 |
| UNC Rockingham Health | 1 | 1.3 | 1818 | 0.8 |
| Novant Health Thomasville Medical Center | 1 | 1.2 | 1368 | 0.8 |
| Iredell Memorial Hospital | 3 | 2.6 | 3715 | 1.1 |
| Nash Health Care Systems | 5 | 3.5 | 4301 | 1.4 |
| Johnston Health | 6 | 4.1 | 5153 | 1.5 |
| Atrium Health Mercy | 6 | 3.9 | 4817 | 1.6 |
| WakeMed Cary Hospital | 5 | 3.1 | 4520 | 1.6 |
| Lake Norman Regional Medical Center | 3 | 1.4 | 1959 | 2.2 |
| Frye Regional Medical Center | 6 | 2.7 | 3792 | 2.2 |
| Atrium Health University City | 4 | 1.7 | 2344 | 2.3 |
| ARHS-Watauga Medical Center | 3 | 1.1 | 1204 | 2.7 |
| ECU Health Roanoke-Chowan Hospital | 3 | 1.0 | 1102 | 3.0 |
| Pardee Hospital | 6 | 2.1 | 2583 | 2.9 |
| UNC Health Blue Ridge | 8 | 2.3 | 2853 | 3.4 |
| Atrium Health Union | 14 | 3.6 | 5185 | 3.8 |
| Rutherford Regional Medical Center | 0 | 0.9 | 1287 | NC |
| Advent Health Hendersonville | 3 | 0.6 | 877 | NC |
| Sampson Regional Medical Center | 1 | 0.6 | 798 | NC |
| Scotland Memorial Hospital | 4 | 0.7 | 1064 | NC |
| Wilson Medical Center | 2 | 0.9 | 1168 | NC |
| Onslow Memorial Hospital | 0 | 0.8 | 1015 | NC |
| Atrium Health Stanly | 0 | 0.8 | 1151 | NC |




Data reported as of July 3, 2023.
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, 2022
## Hospital Group: Hospitals with 200 to 399 Beds

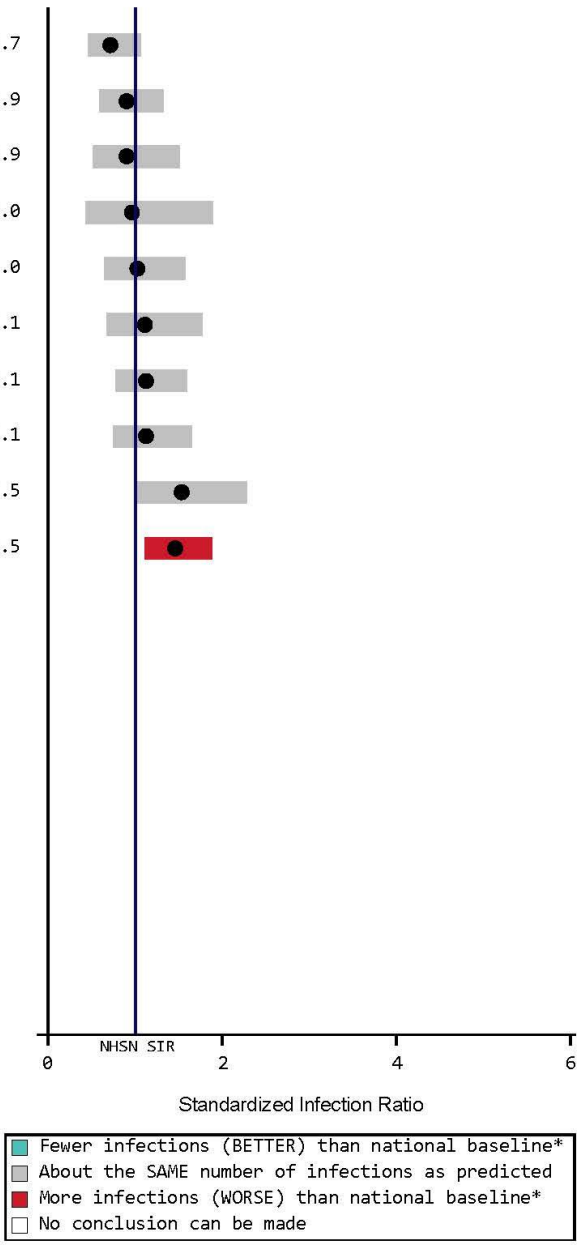
| HOSPITAL | OBS | PRED | CLdays | SIR |
|---|---|---|---|---|
| CarolinaEast Medical Center | 1 | 6.4 | 6896 | 0.2 |
| Duke Raleigh Hospital | 3 | 9.5 | 9480 | 0.3 |
| Alamance Regional Medical Center | 1 | 4.5 | 4270 | 0.2 |
| Duke Regional Hospital | 7 | 9.9 | 9669 | 0.7 |
| Novant Health Matthews Medical Center | 2 | 2.6 | 3749 | 0.8 |
| Wayne Memorial Hospital | 7 | 8.6 | 9263 | 0.8 |
| FirstHealth Moore Regional Hospital | 6 | 6.9 | 8890 | 0.9 |
| Catawba Valley Medical Center | 6 | 6.2 | 7416 | 1.0 |
| Atrium Health Pineville | 7 | 7.0 | 7486 | 1.0 |
| High Point Regional Health System | 13 | 10.2 | 9973 | 1.3 |
| Southeastern Regional Medical Center | 13 | 6.5 | 8105 | 2.0 |
| Atrium Health Cleveland | 8 | 3.0 | 3693 | 2.6 |
| Novant Health Rowan Medical Center | 6 | 2.1 | 2682 | 2.8 |




Data reported as of July 3, 2023.
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, 2022
## Hospital Group: Hospitals with 400 or More Beds

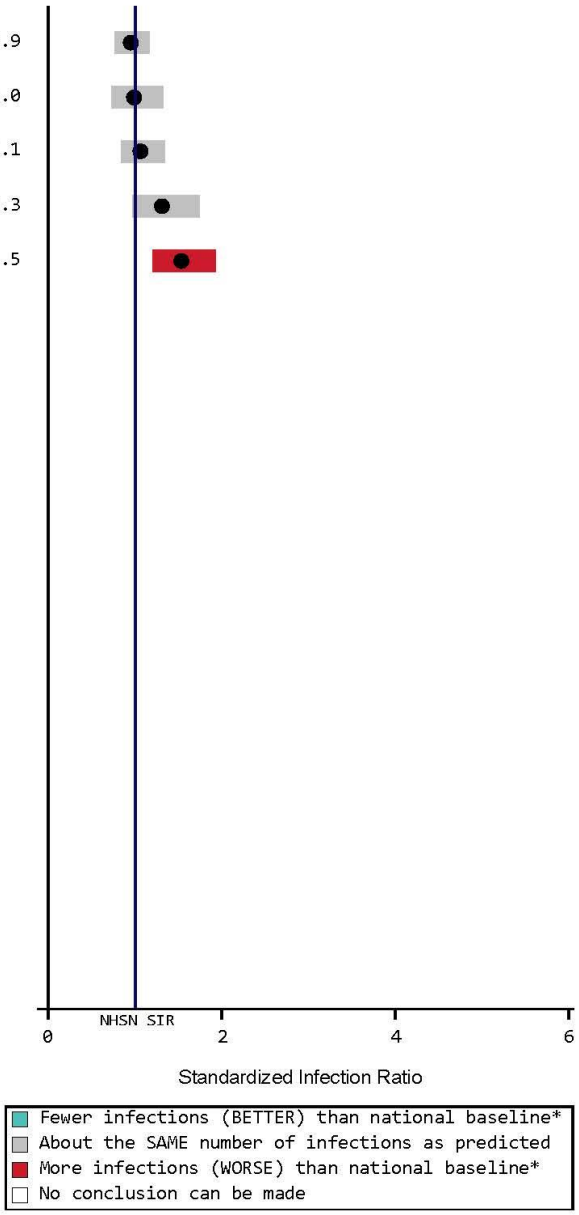
| HOSPITAL | OBS | PRED | CLdays | SIR |
|---|---|---|---|---|
| Mission Hospital | 21 | 29.6 | 26190 | 0.7 |
| Novant Health Forsyth Medical Center | 23 | 25.6 | 23257 | 0.9 |
| Moses Cone Hospital | 13 | 14.4 | 13425 | 0.9 |
| Gaston Memorial Hospital | 7 | 7.3 | 8965 | 1.0 |
| Cape Fear Valley Health System | 19 | 18.5 | 16981 | 1.0 |
| Novant Health Presbyterian Medical | 16 | 14.3 | 12553 | 1.1 |
| Rex Healthcare | 29 | 25.7 | 25051 | 1.1 |
| WakeMed | 24 | 21.3 | 18369 | 1.1 |
| Atrium Health Cabarrus | 22 | 14.4 | 15253 | 1.5 |
| New Hanover Regional Medical Center | 54 | 37.1 | 34654 | 1.5 |




Data reported as of July 3, 2023.
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, 2022
## Hospital Group: Hospitals with Primary Medical School Affiliation

| HOSPITAL | OBS | PRED | CLdays | SIR |
|---|---|---|---|---|
| Duke University Hospital | 83 | 87.9 | 78202 | 0.9 |
| ECU Health Medical Center | 41 | 41.6 | 38205 | 1.0 |
| UNC Health | 69 | 64.8 | 53915 | 1.1 |
| Wake Forest University Baptist Medical | 44 | 33.6 | 28216 | 1.3 |
| Atrium Health Carolinas Medical Center | 68 | 44.5 | 41112 | 1.5 |




Data reported as of July 3, 2023.
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

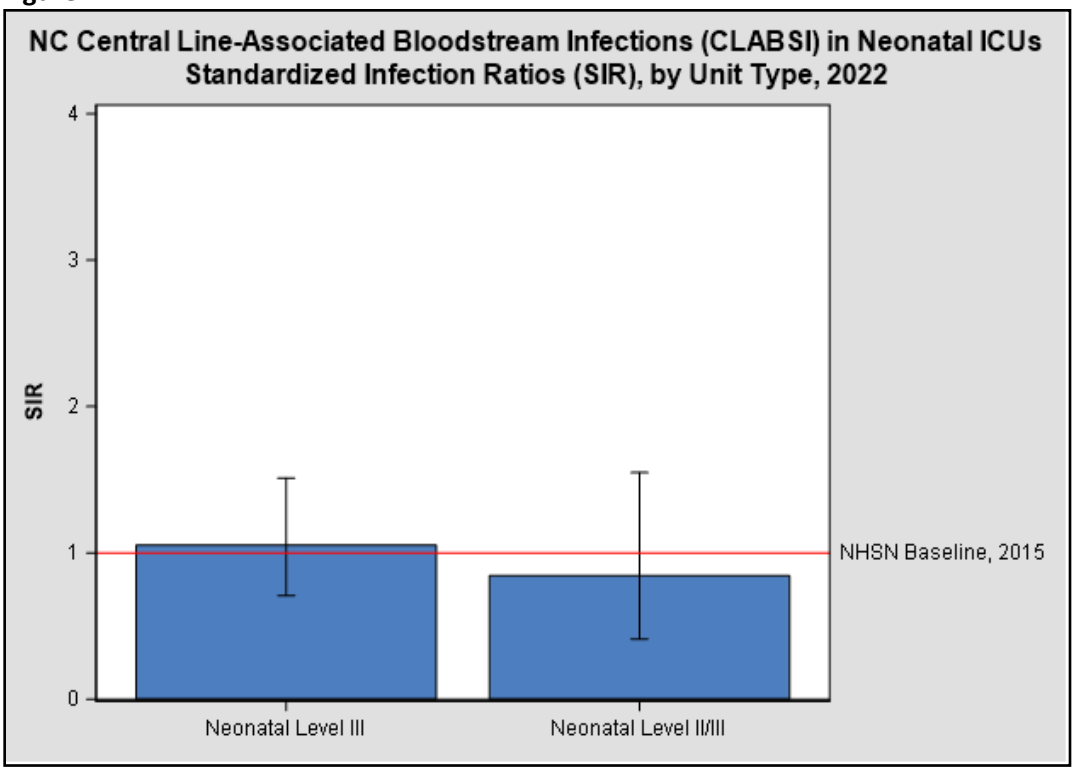
**North Carolina 2022 CLABSI Highlights in NICUs**

- In 2022, 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, 2022**

| Year | # Observed Infections | # Predicted Infections | How Does North Carolina compare to the National Experience? |
|---|---|---|---|
| **2022** | **56** | **60.44** | **= SAME: about the same number of infections as predicted (same as the national experience)** |

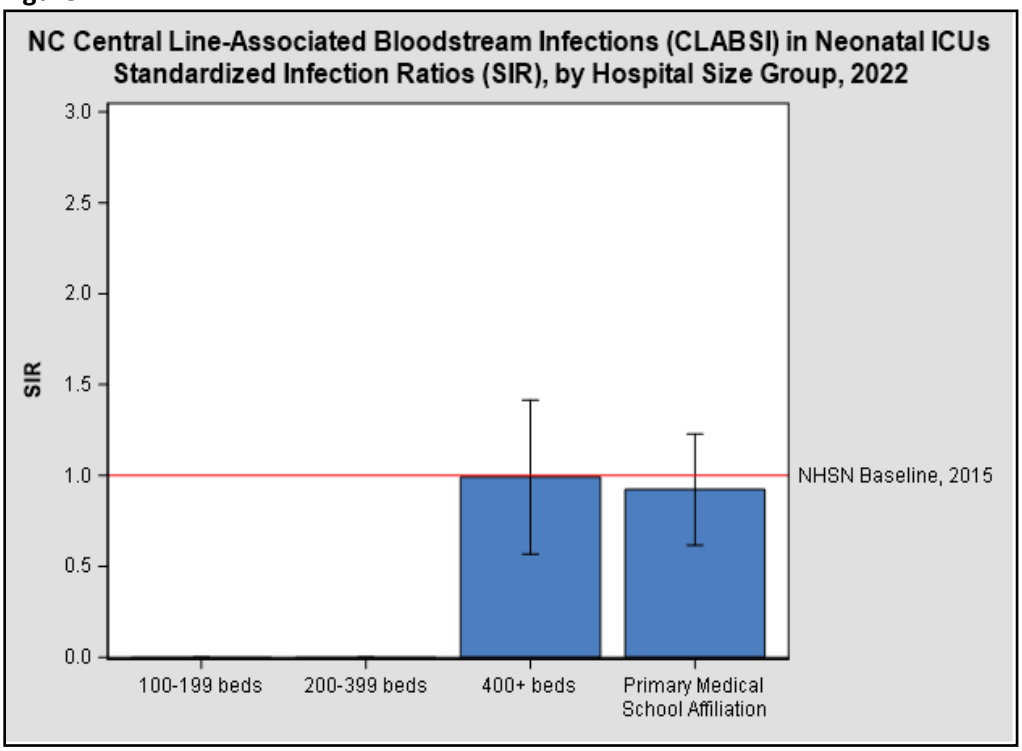
**Figure 11.**




**Interpreting Figure 11:**

- In 2022, Level II/III and Level III Neonatal ICUs observed about the same number of CLABSIs as predicted, performing the SAME as the national experience.

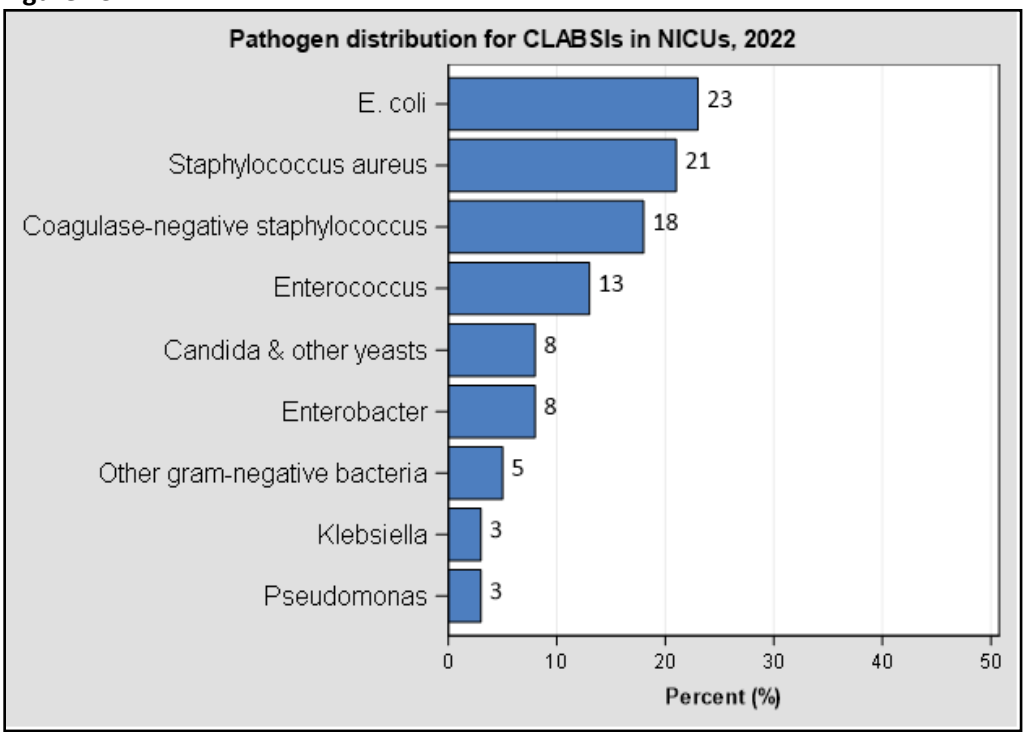
**Figure 12.**




**Interpreting Figure 12:**

- Not all hospital size groups have NICU locations.
- Hospitals with 400+ beds and hospitals with primary medial school affiliation experienced about the same number of CLABSIs in NICUs as predicted, performing the SAME as the national experience.

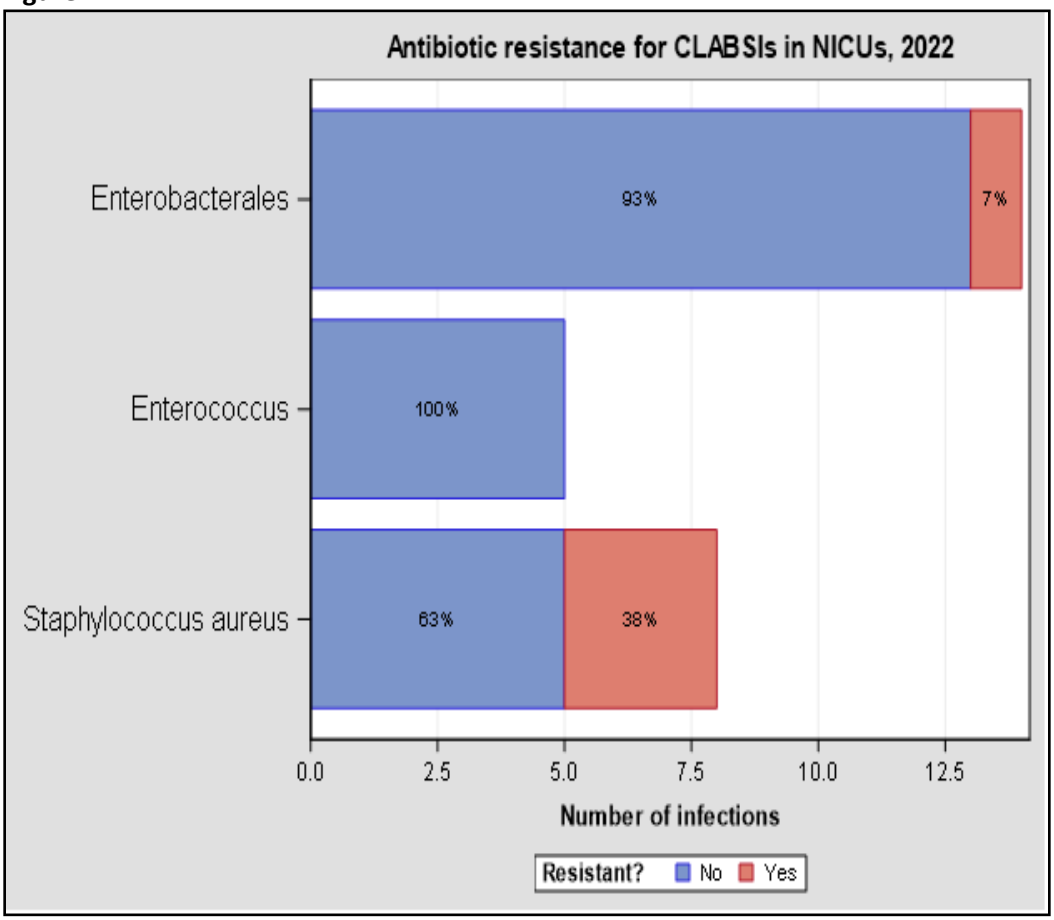
**Figure 13.**




**Interpreting Figure 13:**

- In 2022, *E.coli* (23%), was the most common pathogen identified from CLABSIs in NICU locations, followed by Staphylococcus a. and Coag-neg Staph.
- *E.coli* is a much more common cause of CLABSIs in NICUs than in adult/pediatric wards/ICUs.

**Figure 14.**



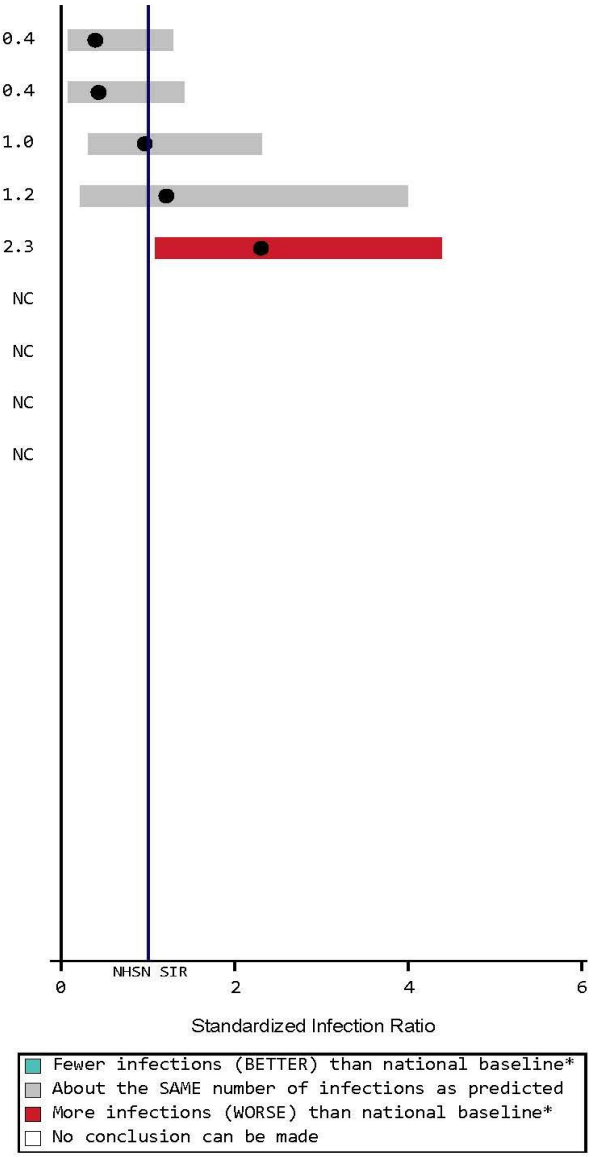

**Interpreting Figure 14:**

- In 2022, 3 of 8 (38%) *Staphylococcus aureus* identified among observed CLABSIs in NICUs were resistant to methicillin.
- 1 of 14 (7%) of 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, 2022**
**Hospital Group: Hospitals with 400 or More Beds**

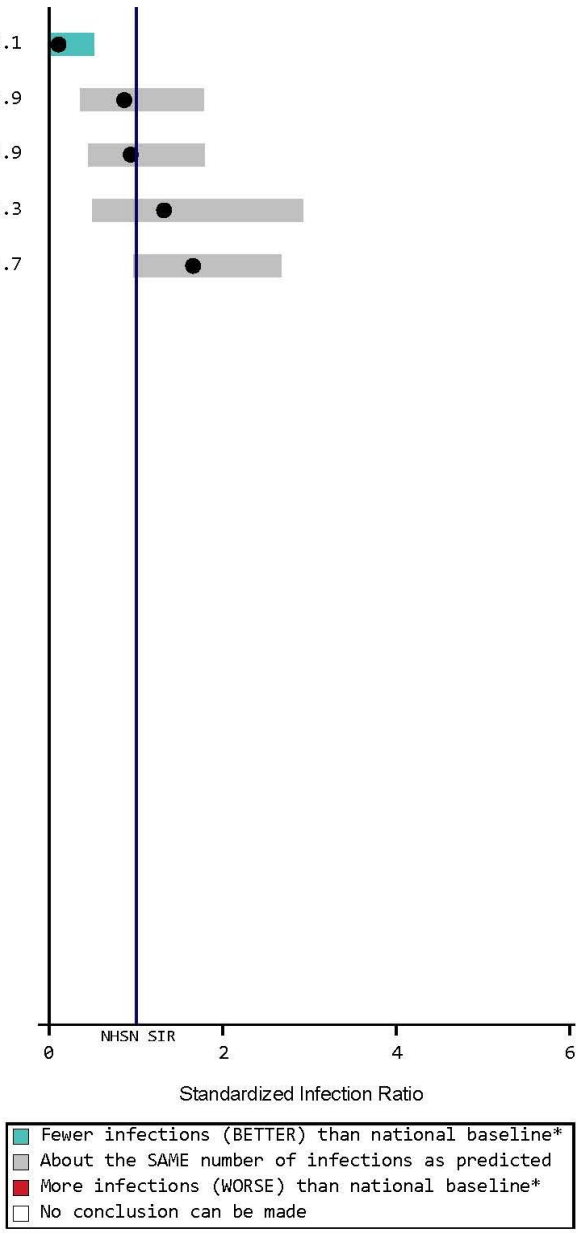
| HOSPITAL | OBS | PRED | CLdays | SIR |
|---|---|---|---|---|
| New Hanover Regional Medical Center | 2 | 5.2 | 3665 | 0.4 |
| Mission Hospital | 2 | 4.7 | 3150 | 0.4 |
| WakeMed | 4 | 4.2 | 2741 | 1.0 |
| Novant Health Forsyth Medical Center | 2 | 1.7 | 968 | 1.2 |
| Novant Health Presbyterian Medical | 8 | 3.5 | 2487 | 2.3 |
| Rex Healthcare | 0 | 0.7 | 773 | NC |
| Atrium Health Cabarrus | 0 | 0.6 | 345 | NC |
| Gaston Memorial Hospital | 0 | 0.1 | 149 | NC |
| Cape Fear Valley Health System | 3 | 0.6 | 335 | NC |




Data reported as of July 3, 2023.
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, 2022
## Hospital Group: Hospitals with Primary Medical School Affiliation

| HOSPITAL | OBS | PRED | CLdays | SIR |
|---|---|---|---|---|
| Duke University Hospital | 1 | 9.6 | 6371 | 0.1 |
| UNC Health | 6 | 7.0 | 4726 | 0.9 |
| Atrium Health Carolinas Medical Center | 8 | 8.5 | 5835 | 0.9 |
| ECU Health Medical Center | 5 | 3.8 | 2346 | 1.3 |
| Wake Forest University Baptist Medical | 15 | 9.0 | 5716 | 1.7 |




Data reported as of July 3, 2023.
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)

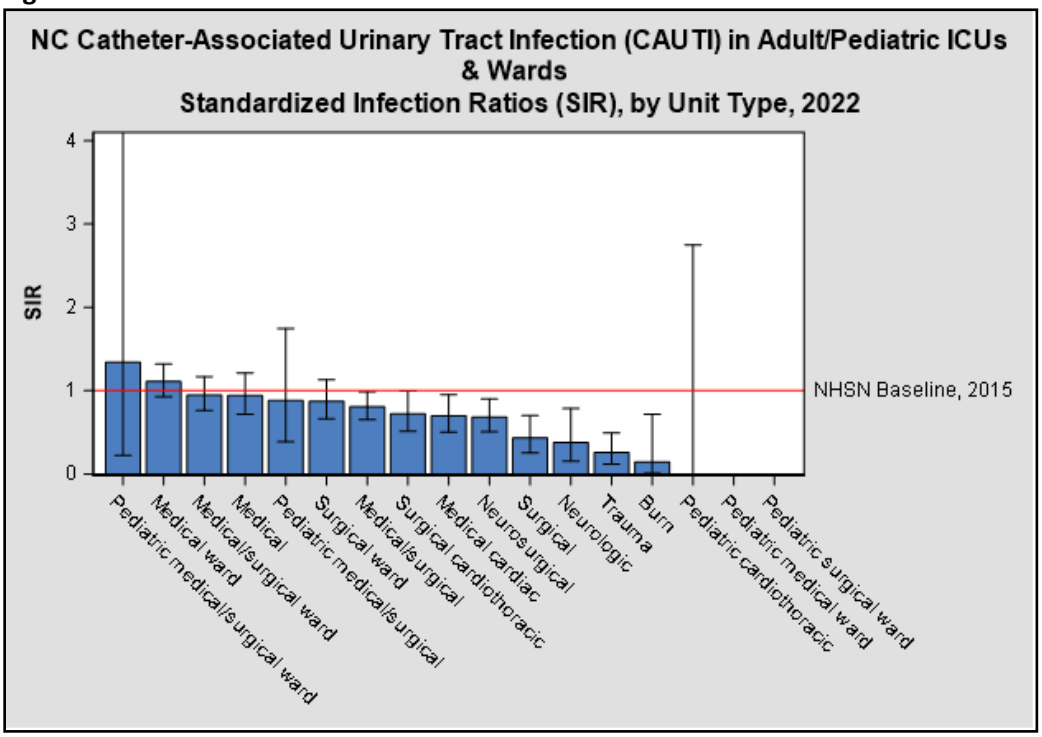
**North Carolina 2022 CAUTI Highlights**

- In 2022, North Carolina hospitals reported 572 CAUTI infections, compared to the 705.71 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, 2022**

| Year | # Observed Infections | # Predicted Infections | How Does North Carolina compare to the National Experience? |
|---|---|---|---|
| **2022** | **572** | **705.71** | **BETTER: Fewer infections than were predicted (better than the national experience)** |

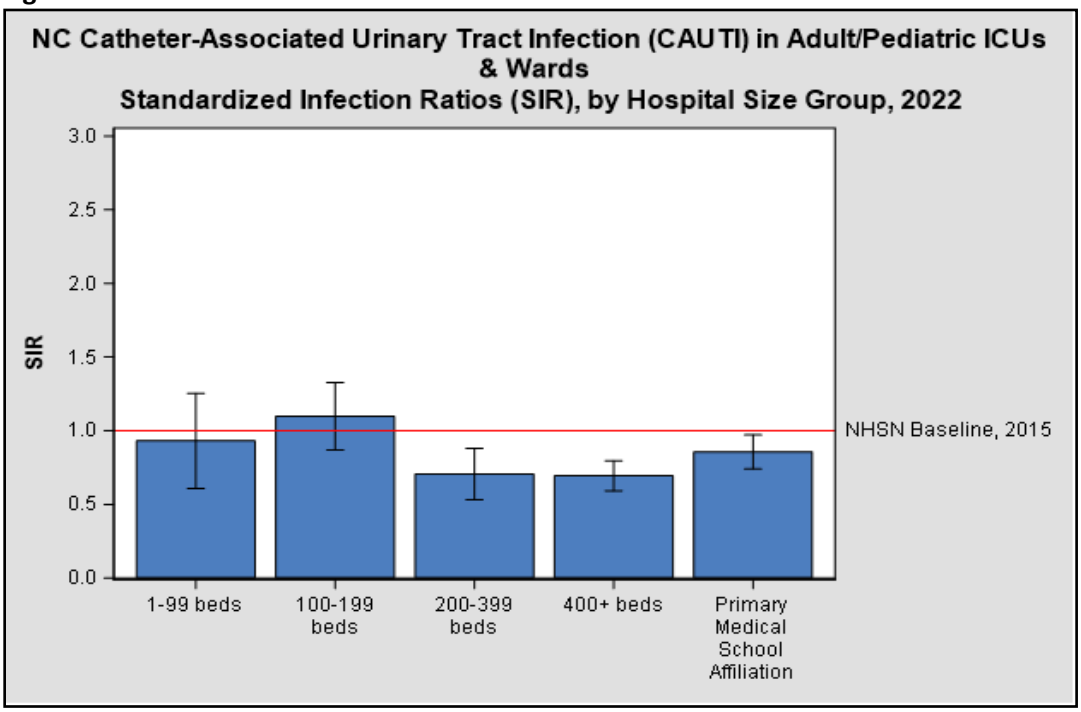
**Figure 15.**




**Interpreting Figure 15:**

- In 2022, Medical/Surgical, Surgical cardiothoracic, Medical cardiac, Neurosurgical, Surgical, Neurologic, Trauma, and Burn had fewer CAUTIs than predicted, performing BETTER than the national experience.
- All other locations reported about the same number of CAUTIs as predicted, performing the SAME as the national experience.
- Pediatric cardiothoracic ICUs, pediatric medical wards, and pediatric surgical wards reported 0 CAUTI events.

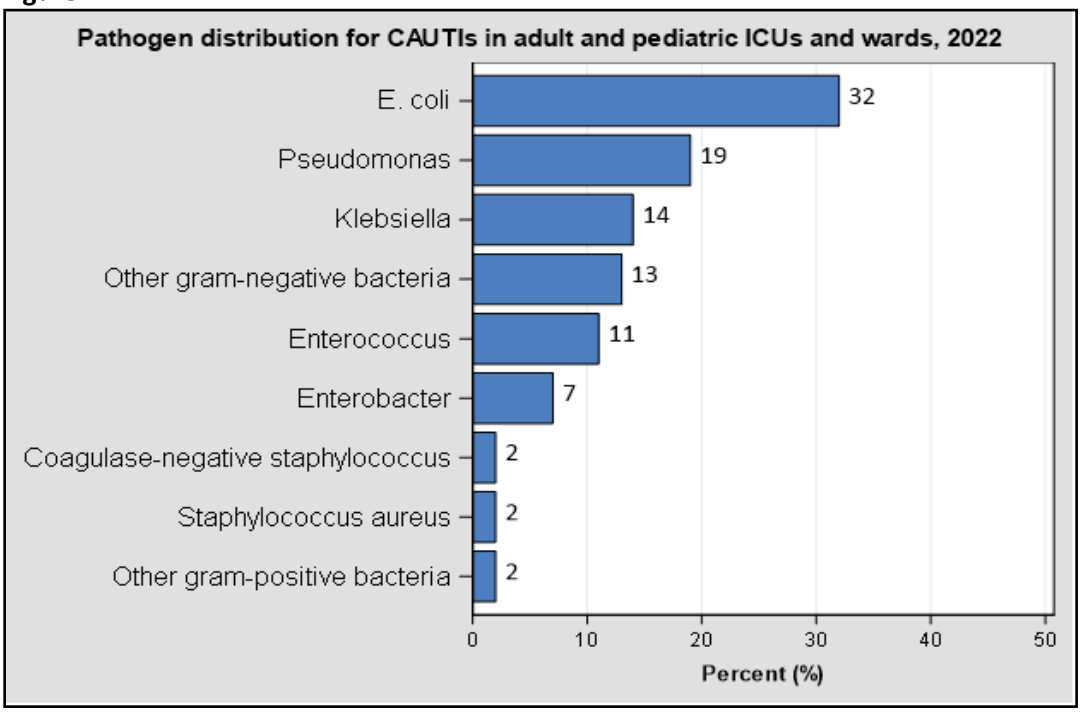
**Figure 16.**




**Interpreting Figure 16:**

- Hospitals with 200-399 beds, 400+ beds and primary medical school affiliations had fewer CAUTIs than predicted, performing BETTER than the national experience.
- All other hospital size groups reported about the same number of infections as predicted, performing the SAME as the 2015 national experience.

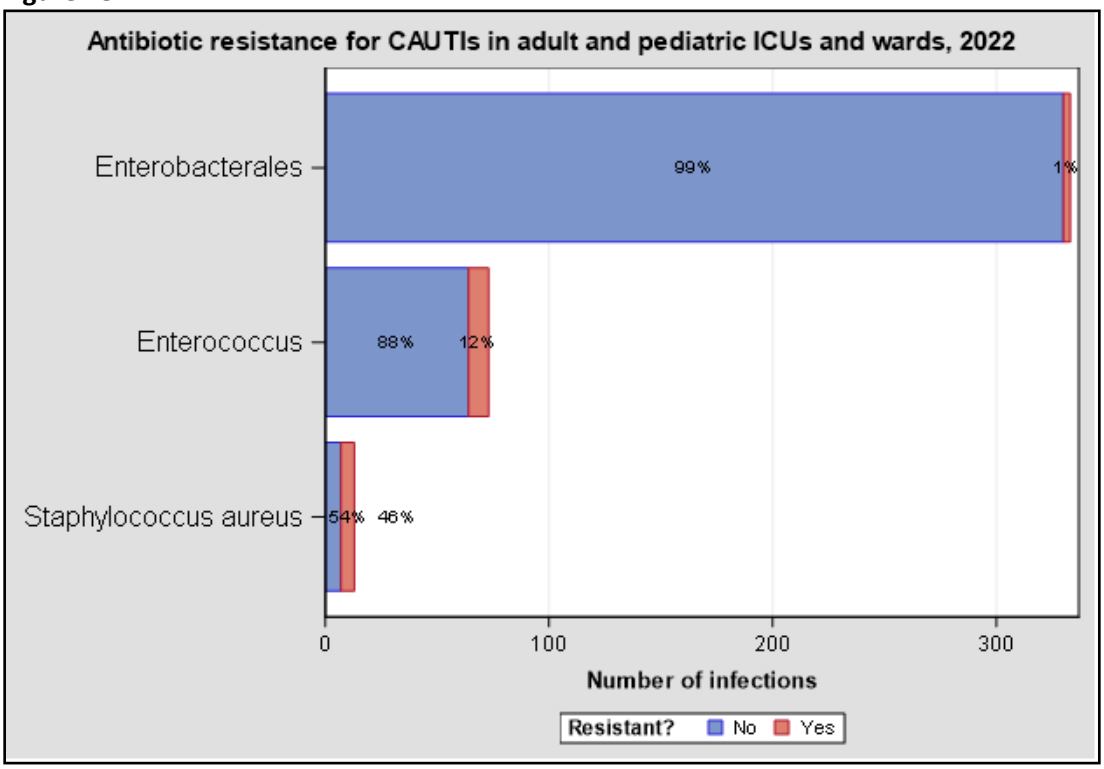
**Figure 17.**




**Interpreting Figure 17:**

- *E. coli* (32%) and *Pseudomonas* (19%) were the most commonly identified pathogens among reported CAUTI infections in 2022.
- *Candida* spp. and other yeasts are considered excluded organisms and cannot be used to meet the CAUTI definition.

**Figure 18.**



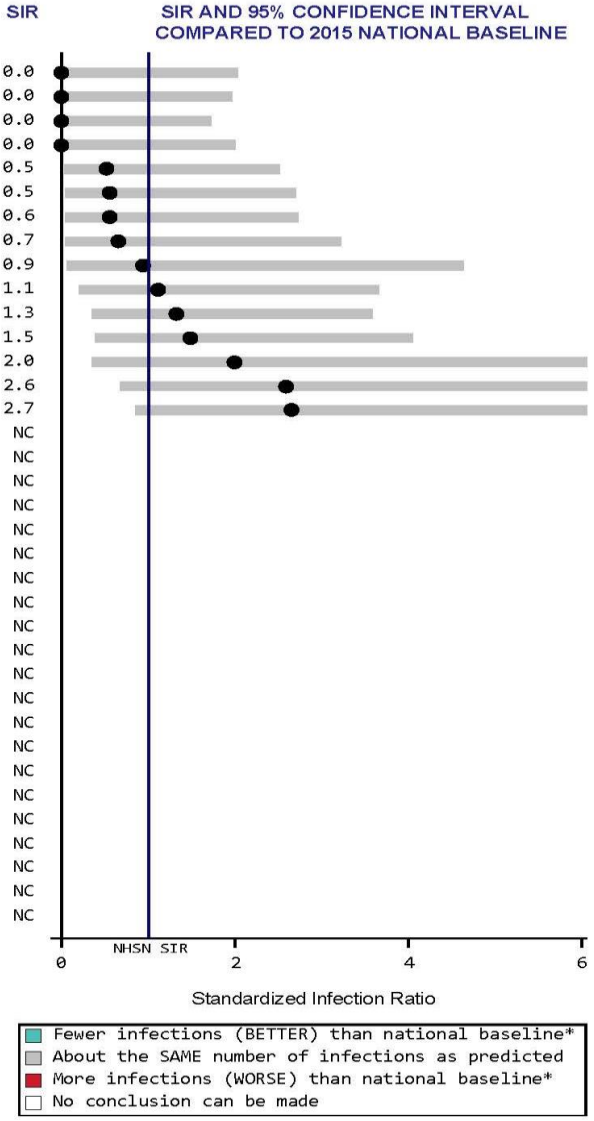

**Interpreting Figure 18:**

- Six of 13 (46%) *Staphylococcus aureus* identified among reported CAUTIs were resistant to methicillin.
- 12% of *Enterococcus* spp. among reported CAUTIs were resistant to vancomycin.
- 1% 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, 2022**
**Hospital Group: Hospitals with less than 100 Beds**

| HOSPITAL | OBS | PRED | UCD | SIR |
|---|---|---|---|---|
| Duke LifePoint-Harris Regional Hospital | 0 | 1.5 | 2704 | 0.0 |
| ECU Health Beaufort Hospital | 0 | 1.5 | 2887 | 0.0 |
| ECU Health Duplin Hospital | 0 | 1.7 | 1643 | 0.0 |
| Hugh Chatham Memorial Hospital | 0 | 1.5 | 2910 | 0.0 |
| Haywood Regional Medical Center | 1 | 2.0 | 2423 | 0.5 |
| ECU North Hospital | 1 | 1.8 | 2692 | 0.5 |
| Central Carolina Hospital | 1 | 1.8 | 2537 | 0.6 |
| Wake Forest Baptist Health-Wilkes | 1 | 1.5 | 2844 | 0.7 |
| Novant Health Medical Park Hospital | 1 | 1.1 | 1493 | 0.9 |
| Novant Health Brunswick Medical Center | 2 | 1.8 | 1836 | 1.1 |
| Betsy Johnson Hospital | 3 | 2.3 | 2928 | 1.3 |
| Wake Forest Baptist Health-Lexington | 3 | 2.0 | 2727 | 1.5 |
| Central Harnett Hospital | 2 | 1.0 | 1705 | 2.0 |
| Novant Health Kernersville | 3 | 1.2 | 1543 | 2.6 |
| Columbus Regional Healthcare System | 4 | 1.5 | 2919 | 2.7 |
| McDowell Hospital | 0 | 0.7 | 884 | NC |
| Cherokee Indian Hospital | 0 | 0.1 | 208 | NC |
| Davis Regional Medical Center | 0 | 0.5 | 590 | NC |
| Martin General Hospital | 0 | 0.5 | 974 | NC |
| Randolph Hospital Dba Randolph Health | 0 | 0.9 | 1820 | NC |
| Granville Medical Center | 0 | 0.8 | 1634 | NC |
| Carteret General Hospital | 1 | 0.7 | 939 | NC |
| Kings Mountain Hospital | 2 | 0.2 | 394 | NC |
| Person Memorial Hospital | 0 | 0.5 | 992 | NC |
| Atrium Health Anson | 0 | 0.1 | 147 | NC |
| Annie Penn Hospital | 3 | 0.8 | 1614 | NC |
| North Carolina Specialty Hospital | 0 | 0.1 | 191 | NC |
| Wake Forest Baptist Health-Davie Medical | 0 | 0.5 | 940 | NC |
| Johnston Health Clayton | 0 | 0.5 | 798 | NC |
| Firsthealth Moore Regional-Hoke | 0 | 0.1 | 132 | NC |
| Firsthealth Moore Regional-Richmond | 1 | 0.5 | 981 | NC |
| Cape Fear Valley Hoke Hospital | 1 | 0.2 | 436 | NC |
| WakeMed North Family Health & Women's | 0 | 0.7 | 953 | NC |
| Novant Health Clemmons Medical Center | 0 | 0.6 | 810 | NC |
| Novant Health Mint Hill Medical Center | 1 | 0.5 | 1054 | NC |
| Rex Holly Springs Hospital | 1 | 0.5 | 681 | NC |




Data reported as of July 3, 2023.
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UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
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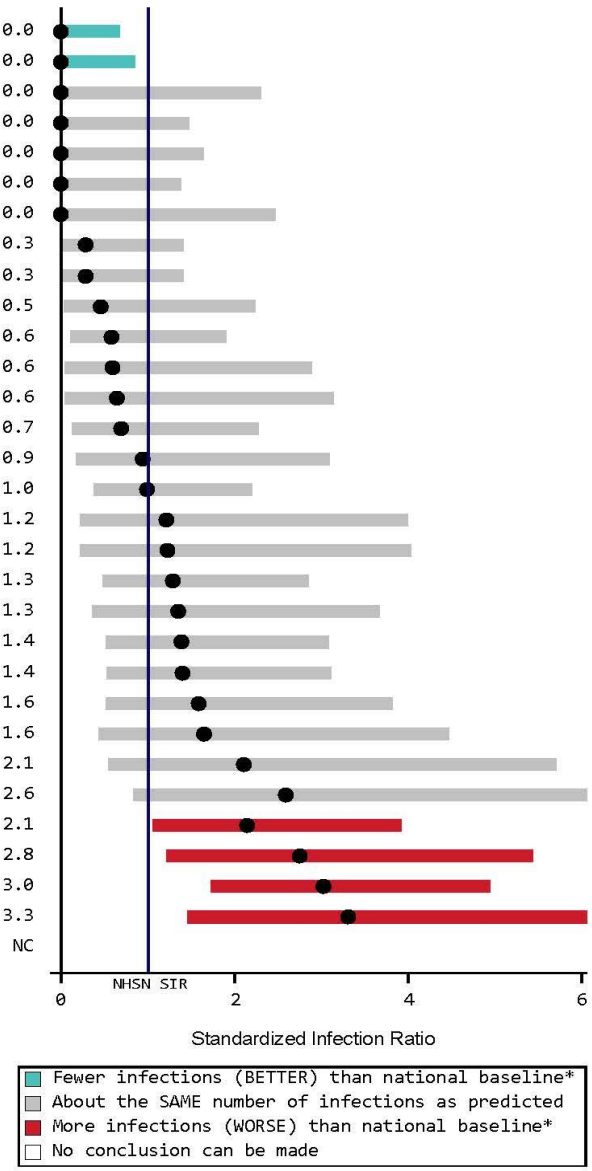
N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

## Catheter-Associated Urinary Tract Infections (CAUTI)
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with 100 to 199 Beds

| HOSPITAL | OBS | PRED | UCD | SIR |
|---|---|---|---|---|
| Maria Parham Medical Center | 0 | 4.5 | 4343 | 0.0 |
| Atrium Health Union | 0 | 3.5 | 4964 | 0.0 |
| Rutherford Regional Medical Center | 0 | 1.3 | 1900 | 0.0 |
| Sentara Albemarle Medical Center | 0 | 2.0 | 1991 | 0.0 |
| Novant Health Thomasville Medical Center | 0 | 1.8 | 1811 | 0.0 |
| Northern Regional Hospital | 0 | 2.2 | 3210 | 0.0 |
| Wilson Medical Center | 0 | 1.2 | 1541 | 0.0 |
| UNC Health Blue Ridge | 1 | 3.5 | 4391 | 0.3 |
| Novant Health Huntersville | 1 | 3.5 | 3563 | 0.3 |
| Atrium Health Lincoln | 1 | 2.2 | 3115 | 0.5 |
| WakeMed Cary Hospital | 2 | 3.5 | 4975 | 0.6 |
| Sampson Regional Medical Center | 1 | 1.7 | 2198 | 0.6 |
| Atrium Health University City | 1 | 1.6 | 2278 | 0.6 |
| Pardee Hospital | 2 | 2.9 | 3711 | 0.7 |
| Lake Norman Regional Medical Center | 2 | 2.1 | 2972 | 0.9 |
| Caldwell Memorial Hospital | 5 | 5.0 | 7247 | 1.0 |
| Atrium Health Stanly | 2 | 1.7 | 2355 | 1.2 |
| Advent Health Hendersonville | 2 | 1.6 | 2386 | 1.2 |
| Frye Regional Medical Center | 5 | 3.9 | 5152 | 1.3 |
| ARHS-Watauga Medical Center | 3 | 2.2 | 2194 | 1.3 |
| Atrium Health Mercy | 5 | 3.6 | 4477 | 1.4 |
| Iredell Memorial Hospital | 5 | 3.6 | 5137 | 1.4 |
| ECU Health Edgecombe Hospital | 4 | 2.5 | 2429 | 1.6 |
| Scotland Memorial Hospital | 3 | 1.8 | 2639 | 1.6 |
| UNC Rockingham Health | 3 | 1.4 | 1974 | 2.1 |
| Wesley Long Hospital | 4 | 1.5 | 2129 | 2.6 |
| Johnston Health | 9 | 4.2 | 5190 | 2.1 |
| Lenoir Memorial Hospital | 7 | 2.5 | 3633 | 2.8 |
| Nash Health Care Systems | 14 | 4.6 | 5588 | 3.0 |
| ECU Health Roanoke-Chowan Hospital | 7 | 2.1 | 2060 | 3.3 |
| Onslow Memorial Hospital | 0 | 0.9 | 1349 | NC |

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UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
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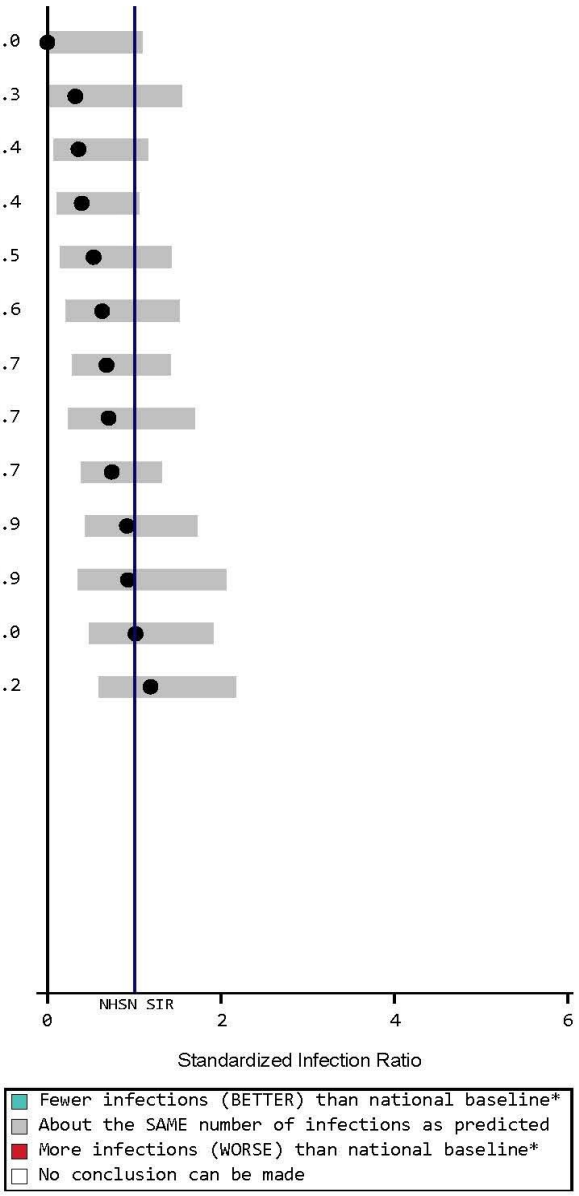
N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

## Catheter-Associated Urinary Tract Infections (CAUTI)
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with 200 to 399 Beds

| HOSPITAL | OBS | PRED | UCD | SIR |
|---|---|---|---|---|
| Novant Health Rowan Medical Center | 0 | 2.7 | 3153 | 0.0 |
| Novant Health Matthews Medical Center | 1 | 3.2 | 4596 | 0.3 |
| Atrium Health Cleveland | 2 | 5.7 | 6525 | 0.4 |
| Duke Raleigh Hospital | 3 | 7.7 | 6105 | 0.4 |
| FirstHealth Moore Regional Hospital | 3 | 5.7 | 6564 | 0.5 |
| Catawba Valley Medical Center | 4 | 6.4 | 7334 | 0.6 |
| Atrium Health Pineville | 6 | 8.8 | 8955 | 0.7 |
| CarolinaEast Medical Center | 4 | 5.7 | 5879 | 0.7 |
| High Point Regional Health System | 10 | 13.5 | 10822 | 0.7 |
| Duke Regional Hospital | 8 | 8.8 | 6864 | 0.9 |
| Alamance Regional Medical Center | 5 | 5.4 | 4220 | 0.9 |
| Wayne Memorial Hospital | 8 | 7.9 | 7989 | 1.0 |
| Southeastern Regional Medical Center | 9 | 7.6 | 7812 | 1.2 |

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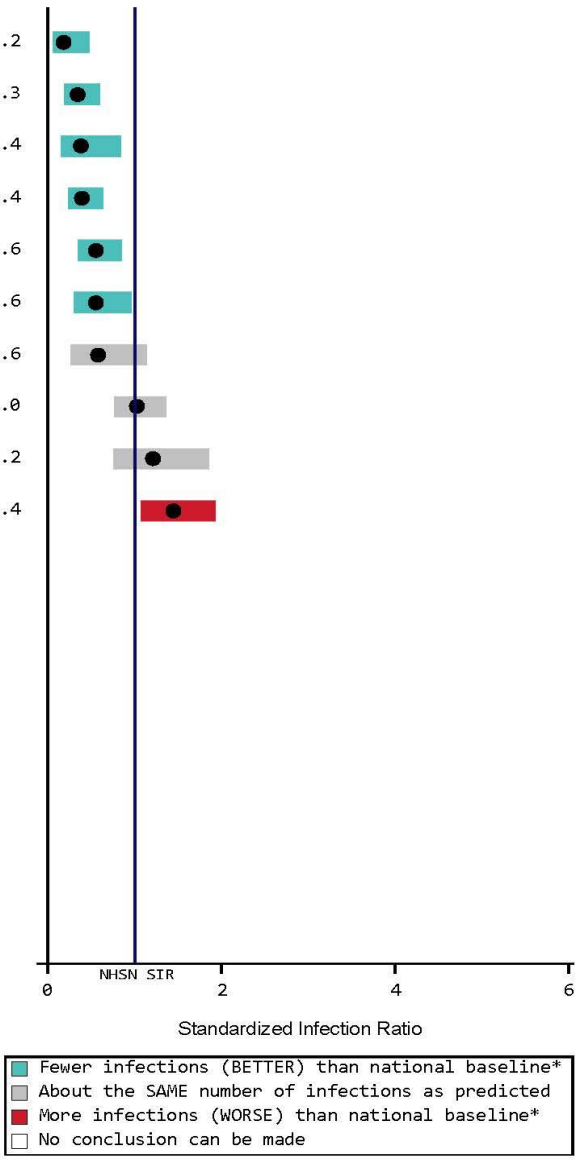
PRED = # infections statistically predicted by national baseline
UCD = # Urinary Catheter Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 catheter days
N = <50 catheter days reported
NC = SIR not calculated for hospitals with <1 predicted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

## Catheter-Associated Urinary Tract Infections (CAUTI)
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with 400 or More Beds

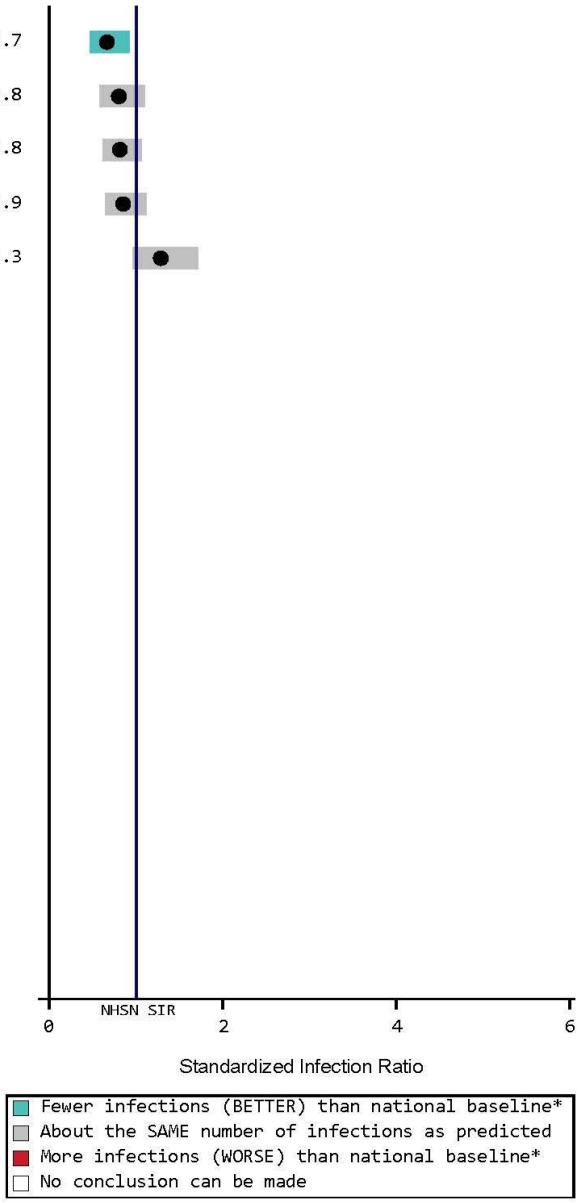
| HOSPITAL | OBS | PRED | UCD | SIR |
|---|---|---|---|---|
| Atrium Health Cabarrus | 3 | 17.1 | 17253 | 0.2 |
| WakeMed | 11 | 32.0 | 20679 | 0.3 |
| Novant Health Presbyterian Medical | 5 | 13.2 | 8243 | 0.4 |
| Mission Hospital | 15 | 38.3 | 23307 | 0.4 |
| Novant Health Forsyth Medical Center | 18 | 32.7 | 20147 | 0.6 |
| Moses Cone Hospital | 11 | 19.9 | 11433 | 0.6 |
| Gaston Memorial Hospital | 7 | 12.2 | 12907 | 0.6 |
| Rex Healthcare | 45 | 44.0 | 31135 | 1.0 |
| Cape Fear Valley Health System | 19 | 15.7 | 12360 | 1.2 |
| New Hanover Regional Medical Center | 43 | 29.8 | 21395 | 1.4 |




Data reported as of July 3, 2023.
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, 2022
## Hospital Group: Hospitals with Primary Medical School Affiliation

| HOSPITAL | OBS | PRED | UCD | SIR |
|---|---|---|---|---|
| Wake Forest University Baptist Medical | 32 | 48.4 | 28978 | 0.7 |
| Atrium Health Carolinas Medical Center | 36 | 44.6 | 30852 | 0.8 |
| Duke University Hospital | 50 | 61.7 | 39108 | 0.8 |
| UNC Health | 49 | 57.4 | 34586 | 0.9 |
| ECU Health Medical Center | 44 | 34.1 | 22119 | 1.3 |

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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

## C. Surgical Site Infections (SSI)

### 1. Abdominal Hysterectomies

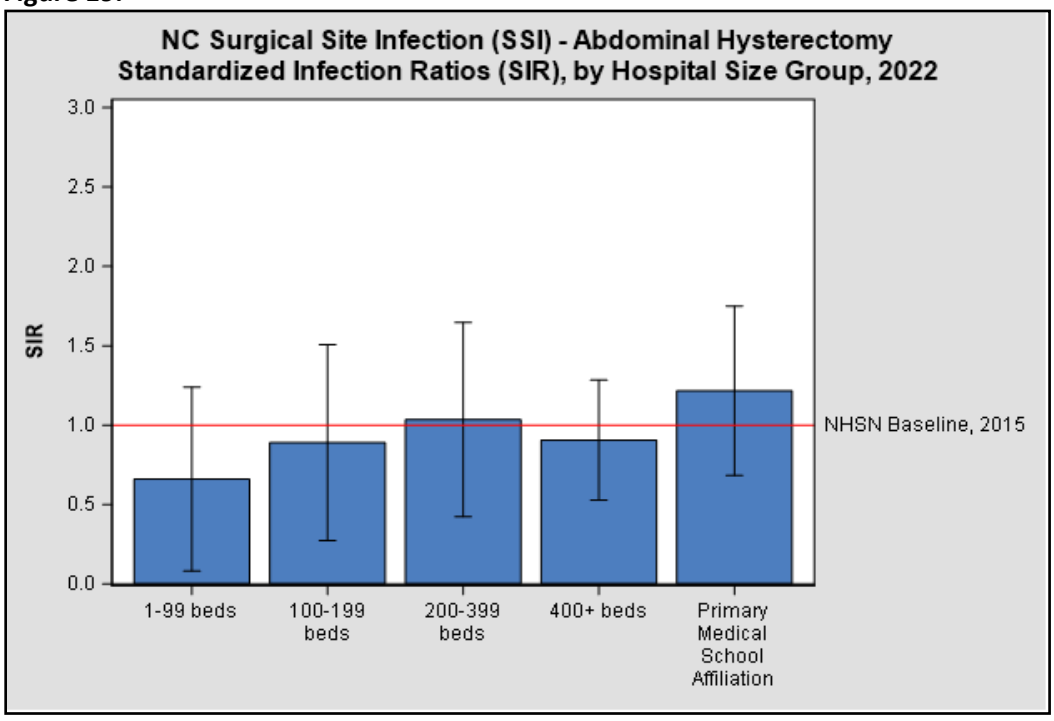
**North Carolina 2022 SSI Following Abdominal Hysterectomy Highlights**

- North Carolina reported 66 surgical site infections (SSIs) after inpatient abdominal hysterectomies performed on adults ≥ 18 years in North Carolina acute care hospitals, compared to the 70.48 infections predicted. This was the same as the 2015 national experience.
- In 2022, the most commonly identified organism from adult patients with SSI following inpatient abdominal hysterectomies was *E. coli*.

**Table 4. NC Surgical Site Infections following Abdominal Hysterectomies, 2022**

| Year | # Observed Infections | # Predicted Infections | How Does North Carolina compare to the National Experience? |
|---|---|---|---|
| **2022** | **66** | **70.48** | **= SAME: about the same number of infections as predicted (same as the national experience)** |

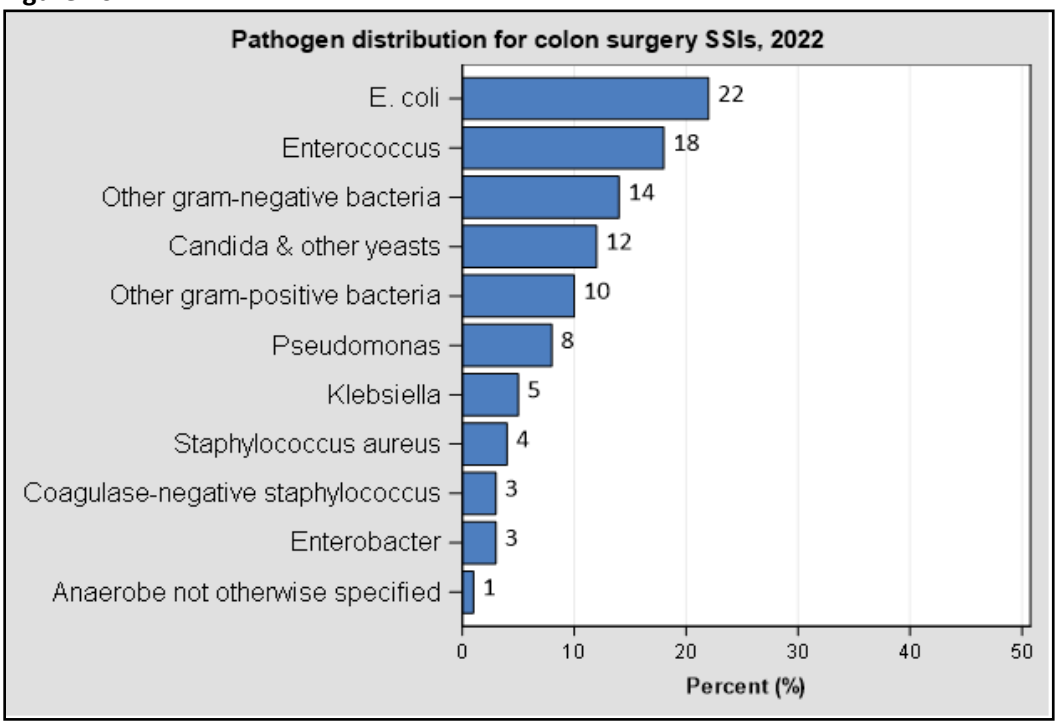
**Figure 19.**




**Interpreting Figure 19:**

- All hospital size groups observed about the same number of SSIs following abdominal hysterectomies as predicted, performing the SAME as the 2015 national experience.

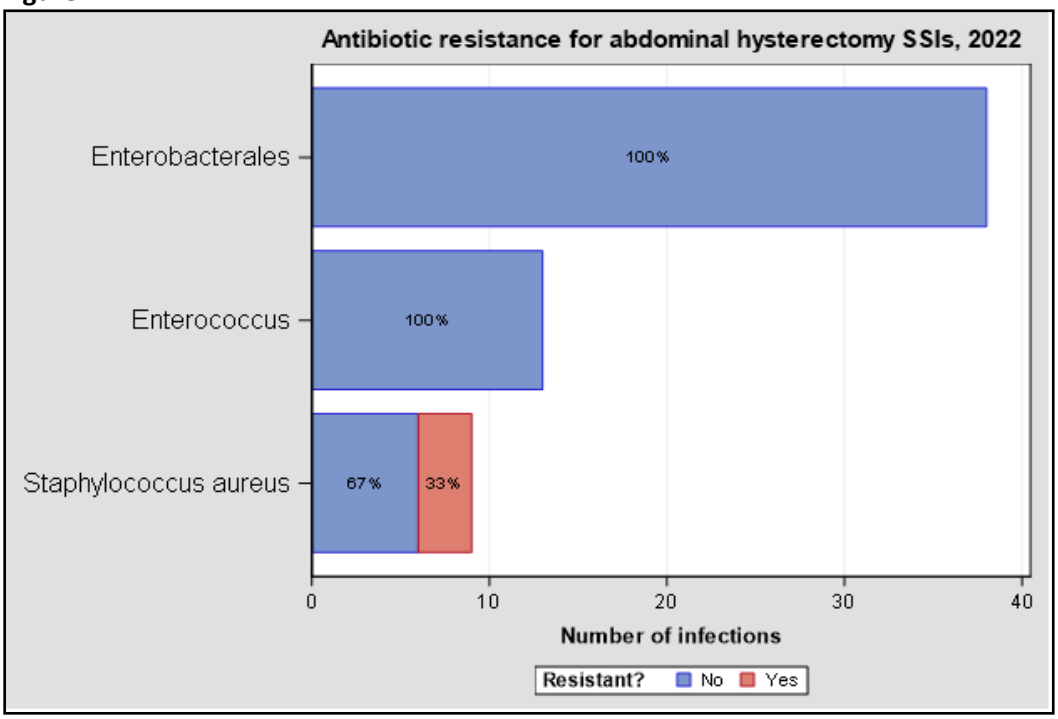
**Figure 20.**




**Interpreting Figure 20:**

- *E. coli* (22%) was the most commonly reported pathogen among SSIs following abdominal hysterectomies.

**Figure 21.**



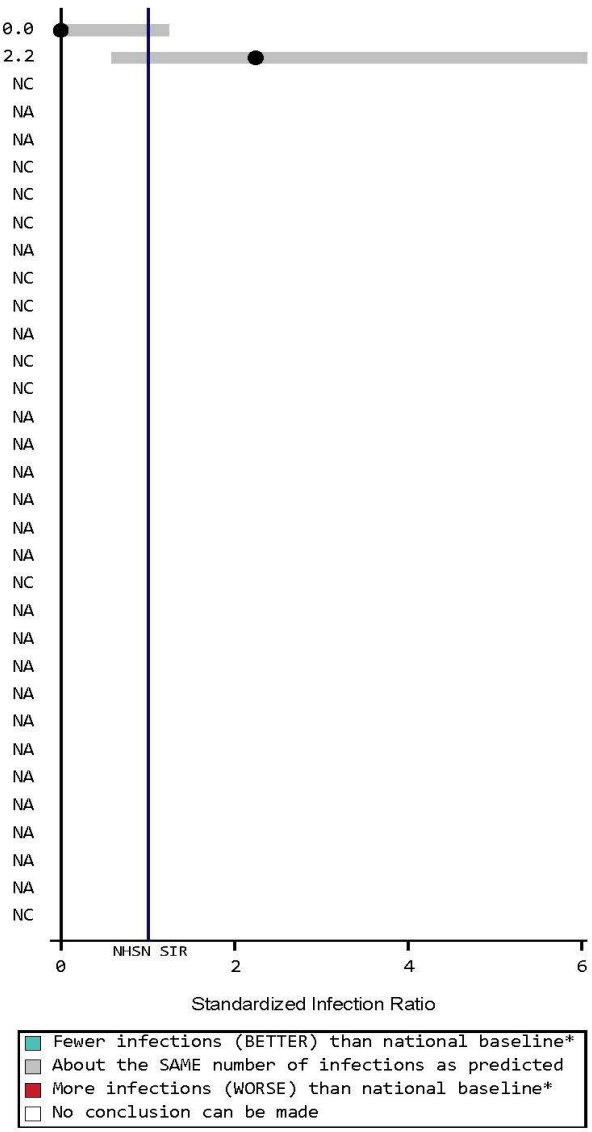

**Interpreting Figure 21:**

- In 2022, 33% of *Staphylococcus aureus* identified among SSIs following abdominal hysterectomies were resistant to methicillin.
- None of the Enterobacterales or *Enterococcus* spp. from SSIs following abdominal hysterectomies were resistant to carbapenems or vancomycin, respectively.

**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, 2022**
**Hospital Group: Hospitals with less than 100 Beds**

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Novant Health Medical Park Hospital | 0 | 2.4 | 283 | 0.0 |
| WakeMed North Family Health & Women's | 3 | 1.3 | 169 | 2.2 |
| McDowell Hospital | 0 | 0.4 | 38 | NC |
| Cherokee Indian Hospital | NA | NA | N | NA |
| Duke LifePoint-Harris Regional Hospital | NA | NA | N | NA |
| Haywood Regional Medical Center | 0 | 0.3 | 32 | NC |
| Davis Regional Medical Center | 0 | 0.2 | 20 | NC |
| Columbus Regional Healthcare System | 0 | 0.4 | 41 | NC |
| Martin General Hospital | NA | NA | N | NA |
| Randolph Hospital Dba Randolph Health | 0 | 0.6 | 70 | NC |
| ECU Health Beaufort Hospital | 0 | 0.4 | 47 | NC |
| Granville Medical Center | NA | NA | N | NA |
| Carteret General Hospital | 0 | 0.6 | 73 | NC |
| Novant Health Brunswick Medical Center | 2 | 0.6 | 61 | NC |
| ECU Health Duplin Hospital | NA | NA | N | NA |
| 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 | 0 | 0.2 | 21 | NC |
| 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 | 0.2 | 25 | NC |




Data reported as of July 3, 2023.
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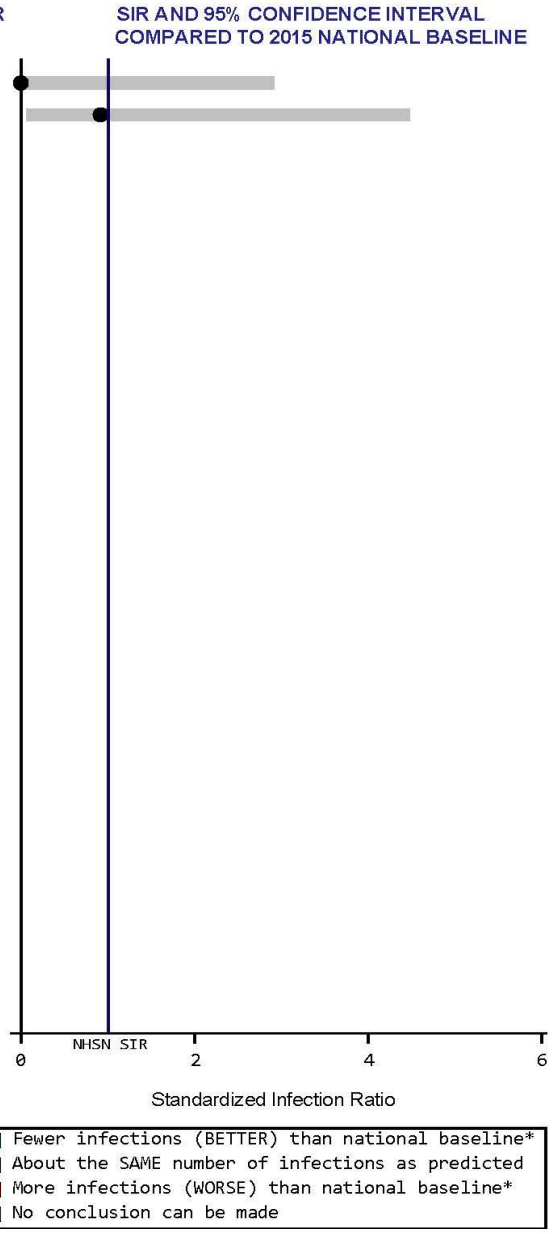
PRED = # infections statistically predicted by national baseline
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = 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, 2022
## Hospital Group: Hospitals with 100 to 199 Beds

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| WakeMed Cary Hospital | 0 | 1.0 | 116 | 0.0 |
| Lake Norman Regional Medical Center | 1 | 1.1 | 143 | 0.9 |
| Atrium Health University City | 2 | 0.6 | 69 | NC |
| Pardee Hospital | 0 | 0.6 | 61 | NC |
| Rutherford Regional Medical Center | NA | NA | N | NA |
| Advent Health Hendersonville | 0 | 0.6 | 80 | NC |
| ARHS-Watauga Medical Center | NA | NA | N | NA |
| Sentara Albemarle Medical Center | 0 | 0.7 | 71 | NC |
| ECU Health Roanoke-Chowan Hospital | 0 | 0.3 | 30 | NC |
| ECU Health Edgecombe Hospital | 0 | 0.3 | 31 | NC |
| Novant Health Thomasville Medical Center | 1 | 0.5 | 58 | NC |
| Sampson Regional Medical Center | NA | NA | N | NA |
| Lenoir Memorial Hospital | NA | NA | N | NA |
| Iredell Memorial Hospital | 0 | 0.5 | 63 | NC |
| Maria Parham Medical Center | 0 | 0.2 | 21 | NC |
| Nash Health Care Systems | NA | NA | N | NA |
| Northern Regional Hospital | 0 | 0.2 | 21 | NC |
| Frye Regional Medical Center | NA | NA | N | NA |
| Johnston Health | 0 | 0.3 | 30 | NC |
| Scotland Memorial Hospital | 2 | 0.4 | 44 | NC |
| Novant Health Huntersville | 0 | 0.8 | 95 | NC |
| Atrium Health Lincoln | 0 | 0.2 | 20 | NC |
| Wilson Medical Center | 0 | 0.3 | 34 | 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 |
| Atrium Health Stanly | NA | NA | N | NA |
| UNC Rockingham Health | 0 | 0.2 | 26 | NC |
| Wesley Long Hospital | 0 | 0.3 | 32 | NC |

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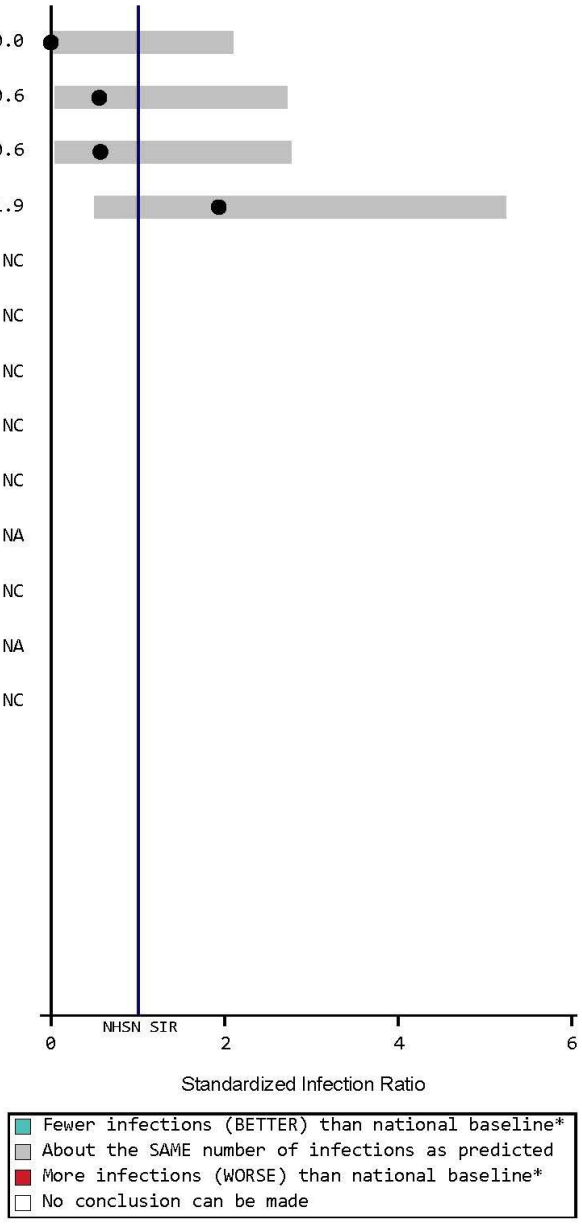
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly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

## Surgical Site Infections (SSI) - Abdominal Hysterectomies
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with 200 to 399 Beds

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Catawba Valley Medical Center | 0 | 1.4 | 122 | 0.0 |
| Novant Health Matthews Medical Center | 1 | 1.8 | 213 | 0.6 |
| High Point Regional Health System | 1 | 1.8 | 190 | 0.6 |
| FirstHealth Moore Regional Hospital | 3 | 1.6 | 168 | 1.9 |
| Atrium Health Pineville | 1 | 0.4 | 41 | NC |
| CarolinaEast Medical Center | 0 | 0.6 | 65 | NC |
| Novant Health Rowan Medical Center | 1 | 0.6 | 77 | NC |
| Wayne Memorial Hospital | 0 | 0.8 | 85 | NC |
| Duke Regional Hospital | 1 | 0.7 | 85 | NC |
| Alamance Regional Medical Center | NA | NA | N | NA |
| Atrium Health Cleveland | 0 | 0.2 | 20 | NC |
| Duke Raleigh Hospital | NA | NA | N | NA |
| Southeastern Regional Medical Center | 2 | 0.8 | 86 | NC |

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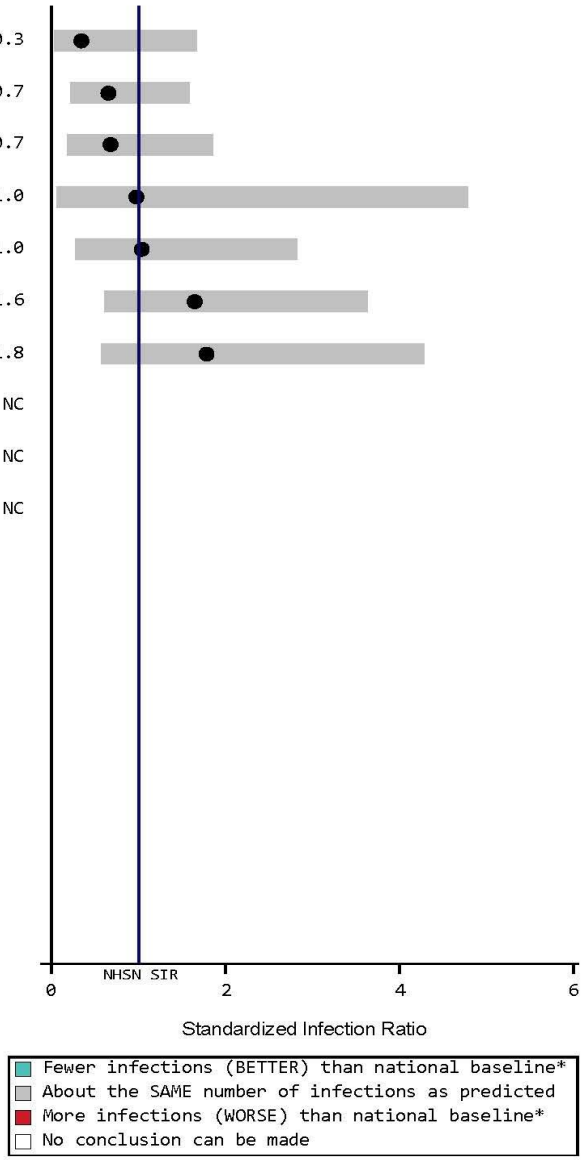
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

## Surgical Site Infections (SSI) - Abdominal Hysterectomies
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with 400 or More Beds

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Rex Healthcare | 1 | 2.9 | 347 | 0.3 |
| Mission Hospital | 4 | 6.1 | 689 | 0.7 |
| Novant Health Presbyterian Medical | 3 | 4.4 | 510 | 0.7 |
| WakeMed | 1 | 1.0 | 116 | 1.0 |
| Novant Health Forsyth Medical Center | 3 | 2.9 | 327 | 1.0 |
| New Hanover Regional Medical Center | 5 | 3.0 | 346 | 1.6 |
| Cape Fear Valley Health System | 4 | 2.3 | 225 | 1.8 |
| Atrium Health Cabarrus | 0 | 0.7 | 80 | NC |
| Gaston Memorial Hospital | 1 | 0.6 | 59 | NC |
| Moses Cone Hospital | 0 | 0.4 | 39 | NC |

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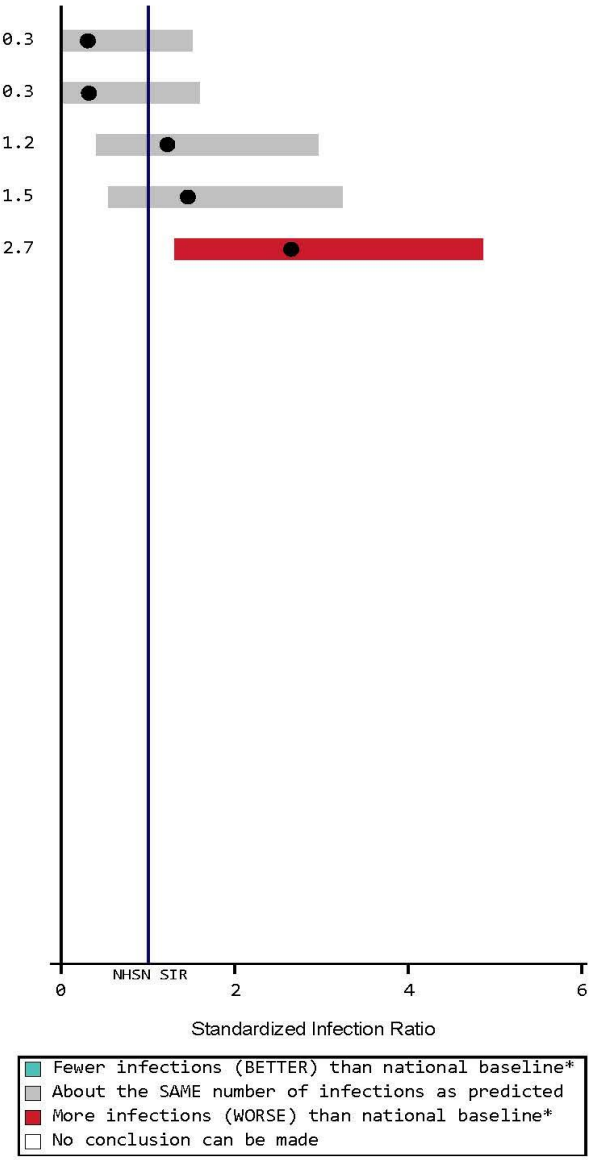
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly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

## Surgical Site Infections (SSI) - Abdominal Hysterectomies
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with Primary Medical School Affiliation

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| ECU Health Medical Center | 1 | 3.3 | 352 | 0.3 |
| Duke University Hospital | 1 | 3.1 | 344 | 0.3 |
| UNC Health | 4 | 3.3 | 330 | 1.2 |
| Wake Forest University Baptist Medical | 5 | 3.4 | 342 | 1.5 |
| Atrium Health Carolinas Medical Center | 9 | 3.4 | 358 | 2.7 |

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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

## 2. Colon Surgeries

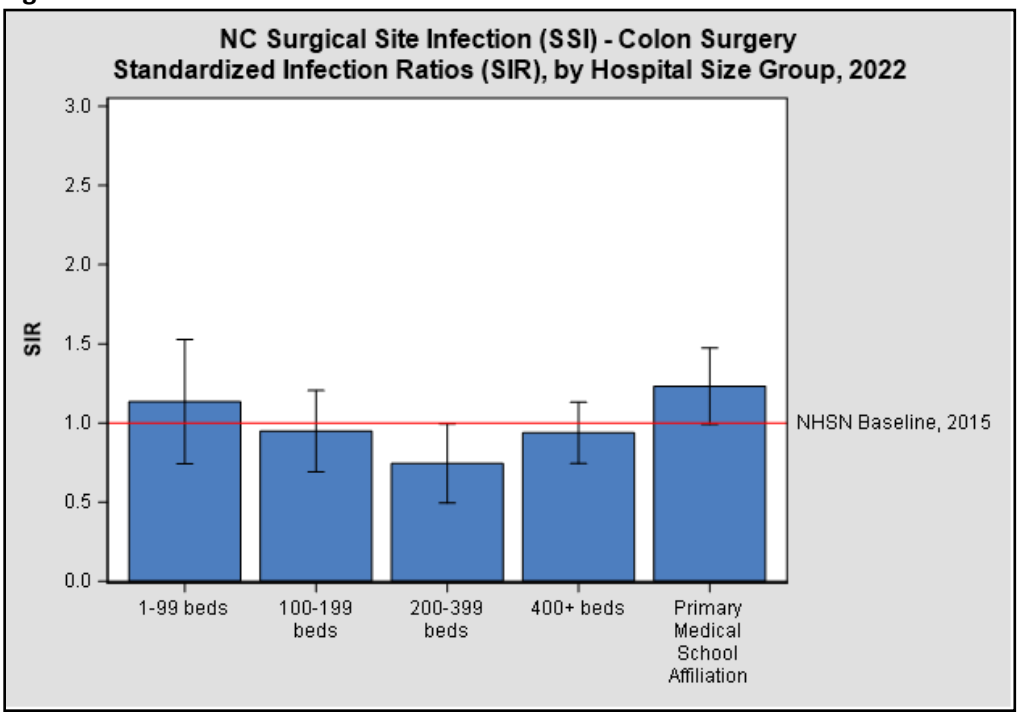
**North Carolina 2022 SSI Following Colon Surgery Highlights**

- Among inpatient colon surgeries performed on adults ≥ 18 years, North Carolina hospitals reported 309 infections, compared to the 310.73 infections which were predicted; this was better than 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, 2022**

| Year | # Observed Infections | # Predicted Infections | How Does North Carolina compare to the National Experience? |
|---|---|---|---|
| **2022** | **309** | **310.73** | **= SAME: about the same number of infections as predicted (same as the national experience)** |

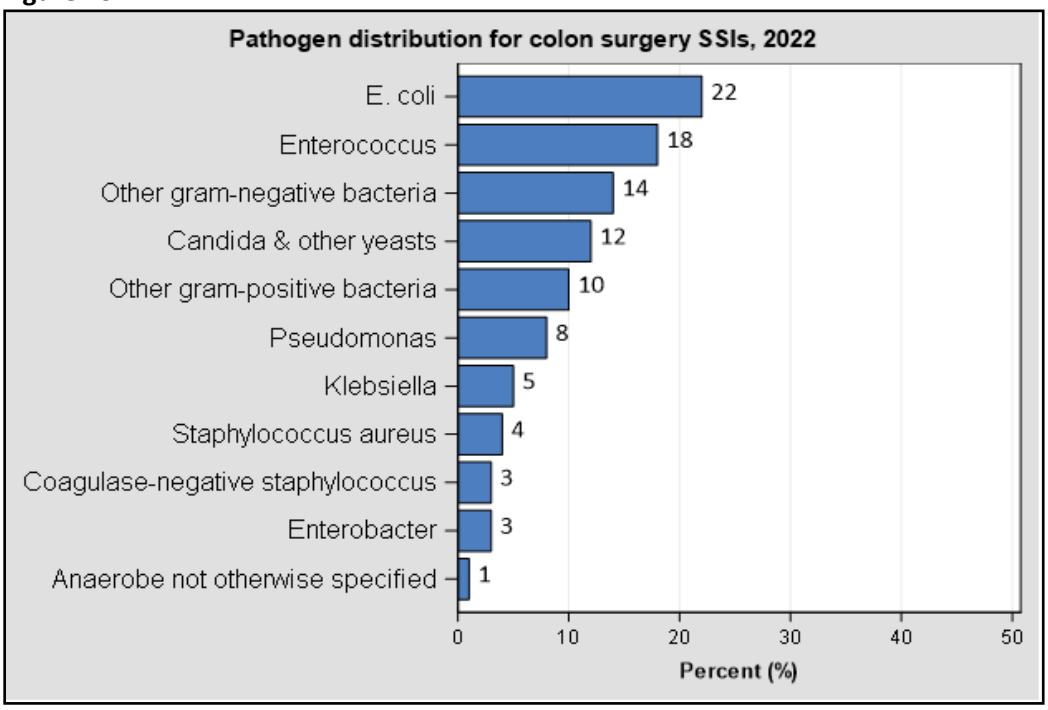
**Figure 22.**




**Interpreting Figure 22:**

- In 2022, 200-399 bed facilities experienced fewer SSIs following colon surgeries than predicted, performing BETTER than the national experience.
- Facilities with primary medical school affiliation, 1-99 beds, 100-199 beds, and 400+ beds experienced about the same number of SSIs following colon surgeries as predicted, performing the SAME as the national experience.

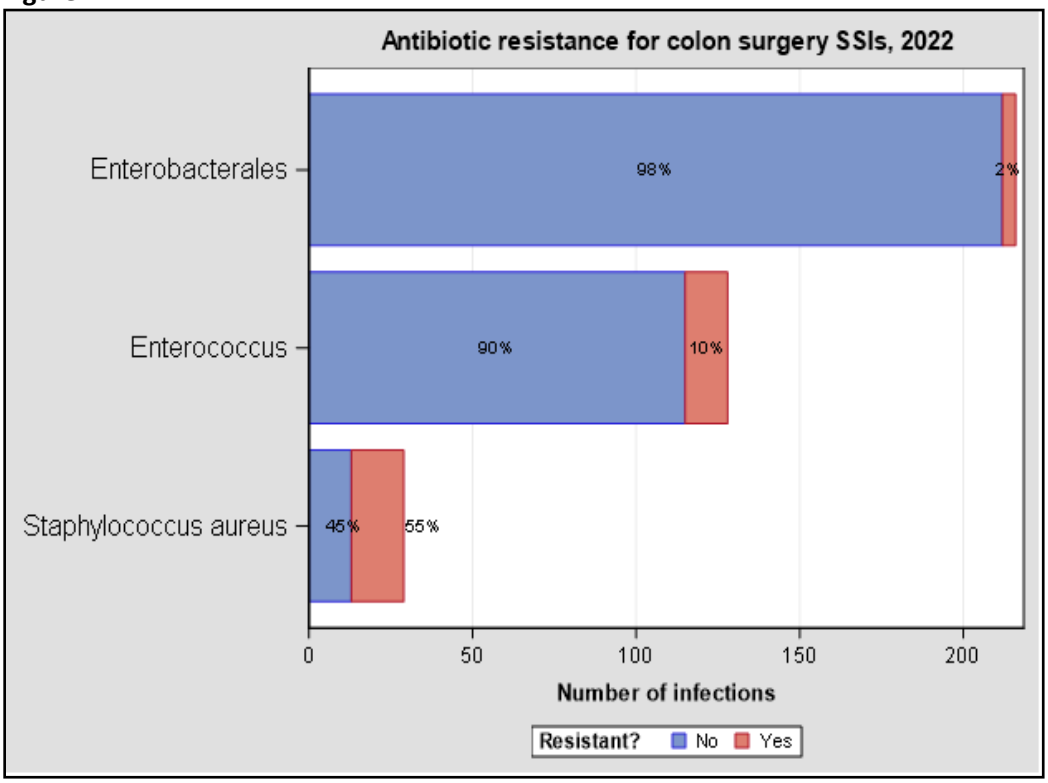
**Figure 23.**




**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. (18%).

**Figure 24.**



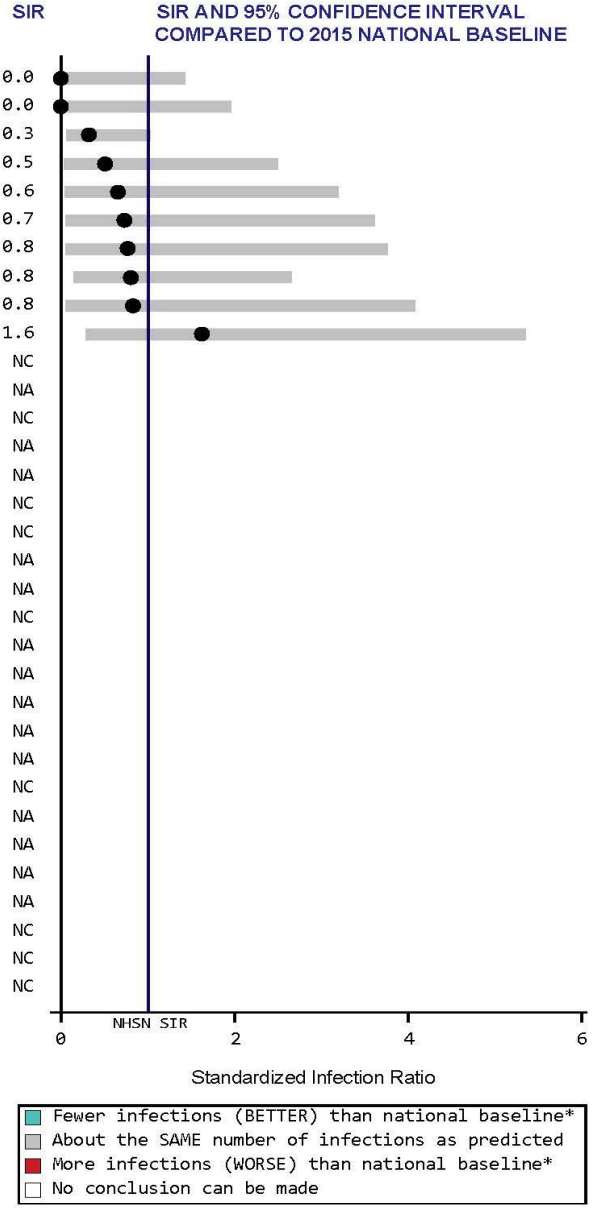

**Interpreting Figure 24:**

- In 2022, 55% of *Staphylococcus aureus* identified among SSIs following colon surgeries were resistant to methicillin.
- 10% of *Enterococcus* spp. identified among SSIs following colon surgeries were resistant to vancomycin.
- Only 2% of 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, 2022
## Hospital Group: Hospitals with less than 100 Beds

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Novant Health Medical Park Hospital | 0 | 2.1 | 79 | 0.0 |
| Johnston Health Clayton | 0 | 1.5 | 57 | 0.0 |
| Novant Health Clemmons Medical Center | 2 | 6.4 | 245 | 0.3 |
| Annie Penn Hospital | 1 | 2.0 | 73 | 0.5 |
| Carteret General Hospital | 1 | 1.5 | 59 | 0.6 |
| Wake Forest Baptist Health-Lexington | 1 | 1.4 | 49 | 0.7 |
| Duke LifePoint-Harris Regional Hospital | 1 | 1.3 | 45 | 0.8 |
| Novant Health Brunswick Medical Center | 2 | 2.5 | 100 | 0.8 |
| Columbus Regional Healthcare System | 1 | 1.2 | 44 | 0.8 |
| Novant Health Kernersville | 2 | 1.2 | 46 | 1.6 |
| McDowell Hospital | 2 | 0.9 | 39 | NC |
| Cherokee Indian Hospital | NA | NA | N | NA |
| Haywood Regional Medical Center | 0 | 0.8 | 34 | NC |
| Davis Regional Medical Center | NA | NA | N | NA |
| Martin General Hospital | NA | NA | N | NA |
| Randolph Hospital Dba Randolph Health | 5 | 0.9 | 39 | NC |
| ECU Health Beaufort Hospital | 0 | 0.6 | 24 | NC |
| Granville Medical Center | NA | NA | N | NA |
| ECU Health Duplin Hospital | NA | NA | N | NA |
| Central Carolina Hospital | 1 | 0.8 | 28 | 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 | 5 | 0.7 | 28 | 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 |
| WakeMed North Family Health & Women's | 2 | 0.8 | 29 | NC |
| Novant Health Mint Hill Medical Center | 2 | 0.8 | 29 | NC |
| Rex Holly Springs Hospital | 0 | 0.6 | 21 | NC |

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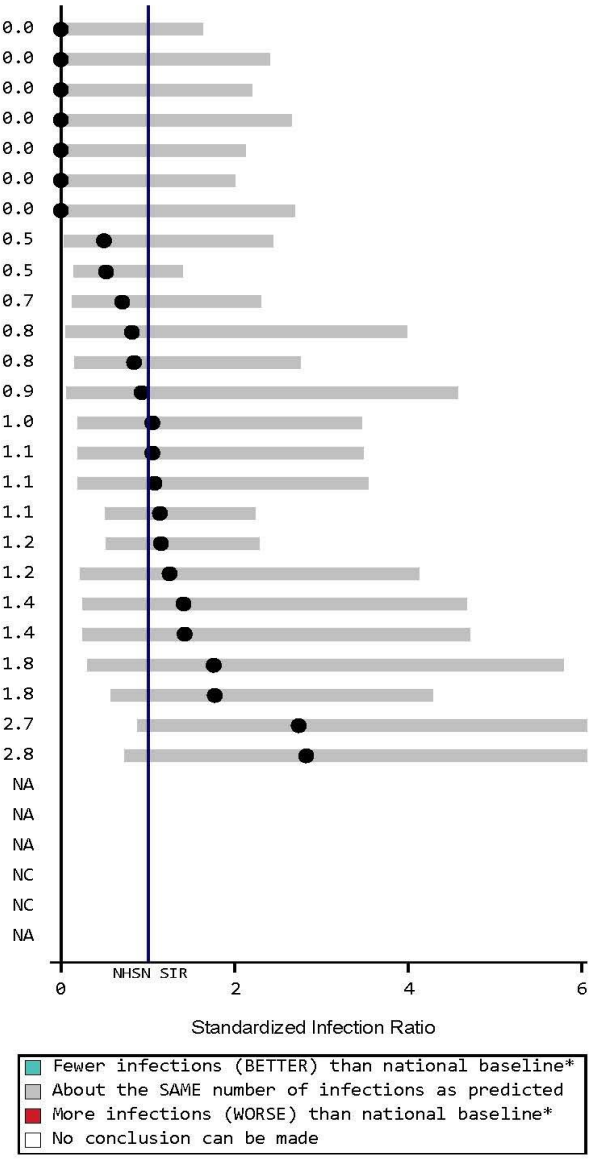
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

## Surgical Site Infections (SSI) - Colon Surgeries
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with 100 to 199 Beds

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Atrium Health University City | 0 | 1.8 | 61 | 0.0 |
| Rutherford Regional Medical Center | 0 | 1.2 | 46 | 0.0 |
| Advent Health Hendersonville | 0 | 1.4 | 53 | 0.0 |
| ARHS-Watauga Medical Center | 0 | 1.1 | 42 | 0.0 |
| Maria Parham Medical Center | 0 | 1.4 | 52 | 0.0 |
| Onslow Memorial Hospital | 0 | 1.5 | 55 | 0.0 |
| Atrium Health Stanly | 0 | 1.1 | 41 | 0.0 |
| Pardee Hospital | 1 | 2.0 | 79 | 0.5 |
| WakeMed Cary Hospital | 3 | 5.8 | 216 | 0.5 |
| UNC Health Blue Ridge | 2 | 2.9 | 103 | 0.7 |
| Lake Norman Regional Medical Center | 1 | 1.2 | 50 | 0.8 |
| Iredell Memorial Hospital | 2 | 2.4 | 94 | 0.8 |
| Scotland Memorial Hospital | 1 | 1.1 | 36 | 0.9 |
| Atrium Health Union | 2 | 1.9 | 67 | 1.0 |
| Lenoir Memorial Hospital | 2 | 1.9 | 60 | 1.1 |
| Sentara Albemarle Medical Center | 2 | 1.9 | 63 | 1.1 |
| Wesley Long Hospital | 7 | 6.2 | 231 | 1.1 |
| Novant Health Huntersville | 7 | 6.1 | 226 | 1.2 |
| Frye Regional Medical Center | 2 | 1.6 | 60 | 1.2 |
| Novant Health Thomasville Medical Center | 2 | 1.4 | 55 | 1.4 |
| Northern Regional Hospital | 2 | 1.4 | 51 | 1.4 |
| Wilson Medical Center | 2 | 1.1 | 40 | 1.8 |
| Johnston Health | 4 | 2.3 | 86 | 1.8 |
| Nash Health Care Systems | 4 | 1.5 | 54 | 2.7 |
| Atrium Health Lincoln | 3 | 1.1 | 39 | 2.8 |
| Atrium Health Mercy | NA | NA | N | NA |
| ECU Health Roanoke-Chowan Hospital | NA | NA | N | NA |
| ECU Health Edgecombe Hospital | NA | NA | N | NA |
| Sampson Regional Medical Center | 1 | 0.6 | 26 | NC |
| Caldwell Memorial Hospital | 1 | 0.9 | 36 | NC |
| UNC Rockingham Health | NA | NA | N | NA |

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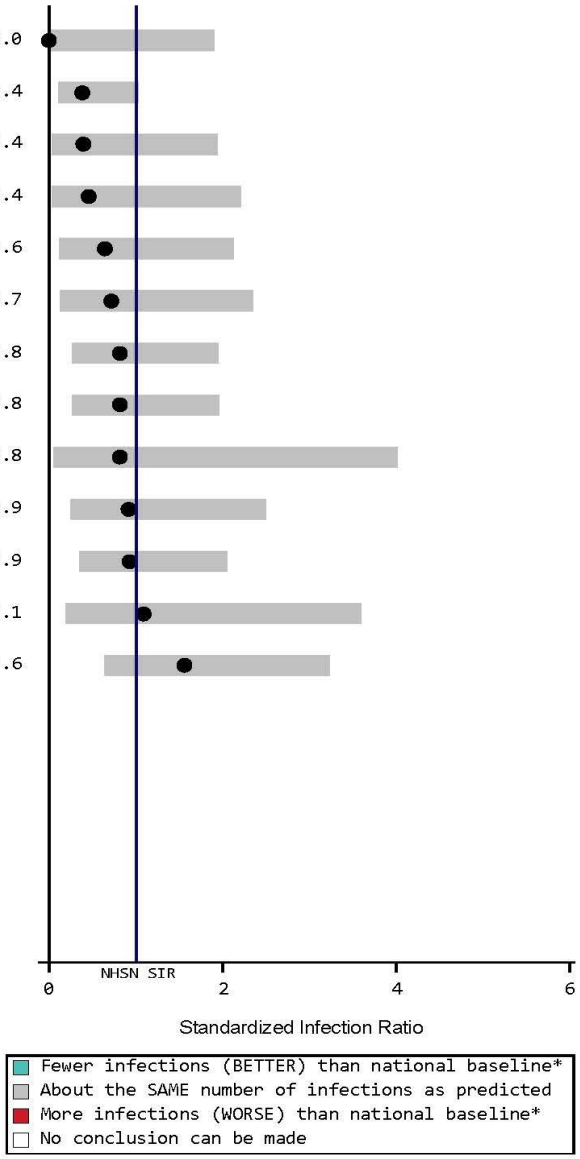
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

## Surgical Site Infections (SSI) - Colon Surgeries
## Standardized Infection Ratios: January 1 – December 31, 2022
## Hospital Group: Hospitals with 200 to 399 Beds

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Catawba Valley Medical Center | 0 | 1.6 | 54 | 0.0 |
| Atrium Health Pineville | 3 | 7.9 | 298 | 0.4 |
| Novant Health Rowan Medical Center | 1 | 2.5 | 88 | 0.4 |
| Wayne Memorial Hospital | 1 | 2.2 | 81 | 0.4 |
| Duke Regional Hospital | 2 | 3.1 | 114 | 0.6 |
| Alamance Regional Medical Center | 2 | 2.8 | 106 | 0.7 |
| Duke Raleigh Hospital | 4 | 5.0 | 187 | 0.8 |
| FirstHealth Moore Regional Hospital | 4 | 4.9 | 190 | 0.8 |
| Southeastern Regional Medical Center | 1 | 1.2 | 42 | 0.8 |
| CarolinaEast Medical Center | 3 | 3.3 | 131 | 0.9 |
| Novant Health Matthews Medical Center | 5 | 5.4 | 203 | 0.9 |
| Atrium Health Cleveland | 2 | 1.8 | 67 | 1.1 |
| High Point Regional Health System | 6 | 3.9 | 143 | 1.6 |

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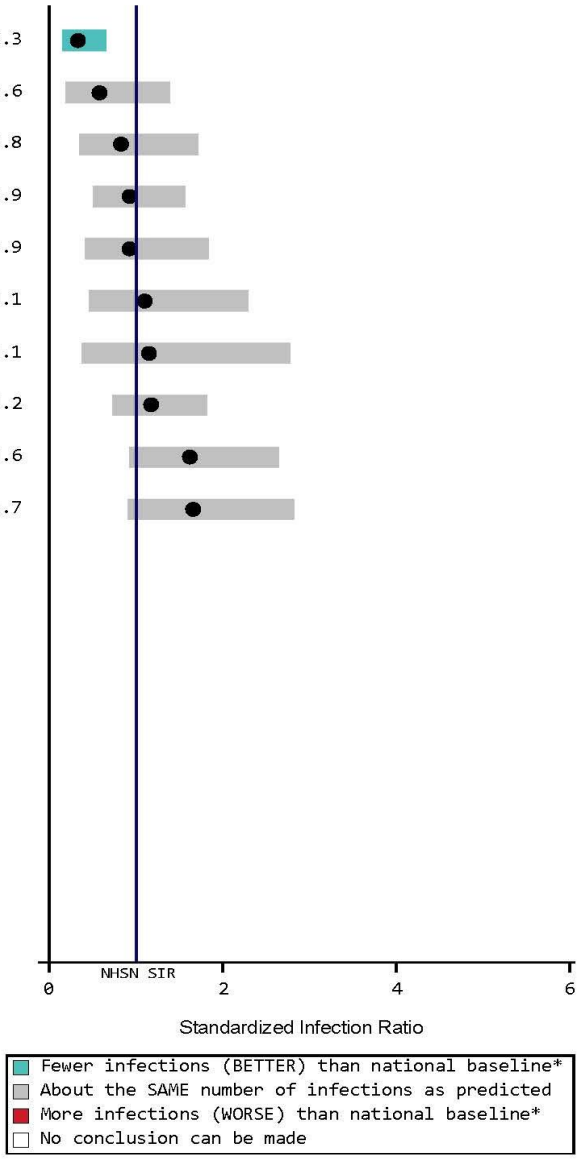
PRED = # infections statistically predicted by national baseline
OPAT = # Operative Procedures after 3 days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 operative procedures after 3 days
N = <50 operative procedures after 3 days reported
NC = 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, 2022
## Hospital Group: Hospitals with 400 or More Beds

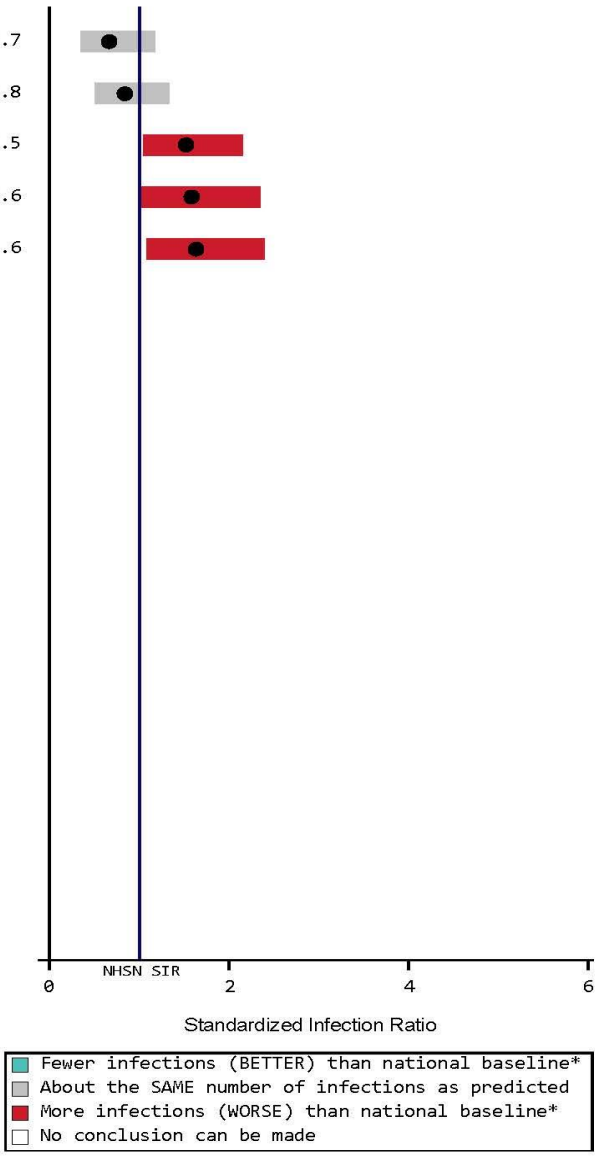
| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Rex Healthcare | 7 | 21.1 | 747 | 0.3 |
| Gaston Memorial Hospital | 4 | 6.9 | 250 | 0.6 |
| Novant Health Presbyterian Medical | 6 | 7.3 | 263 | 0.8 |
| Mission Hospital | 12 | 13.0 | 468 | 0.9 |
| Atrium Health Cabarrus | 7 | 7.5 | 272 | 0.9 |
| Cape Fear Valley Health System | 6 | 5.4 | 183 | 1.1 |
| Moses Cone Hospital | 4 | 3.5 | 109 | 1.1 |
| New Hanover Regional Medical Center | 18 | 15.3 | 540 | 1.2 |
| WakeMed | 14 | 8.7 | 280 | 1.6 |
| Novant Health Forsyth Medical Center | 12 | 7.2 | 250 | 1.7 |




Data reported as of July 3, 2023.
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, 2022
## Hospital Group: Hospitals with Primary Medical School Affiliation

| HOSPITAL | OBS | PRED | OPAT | SIR |
|---|---|---|---|---|
| Atrium Health Carolinas Medical Center | 10 | 15.1 | 480 | 0.7 |
| UNC Health | 16 | 19.1 | 608 | 0.8 |
| Duke University Hospital | 29 | 19.1 | 647 | 1.5 |
| ECU Health Medical Center | 22 | 13.9 | 454 | 1.6 |
| Wake Forest University Baptist Medical | 24 | 14.7 | 482 | 1.6 |




Data reported as of July 3, 2023.
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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

## D. Laboratory-Identified Events

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

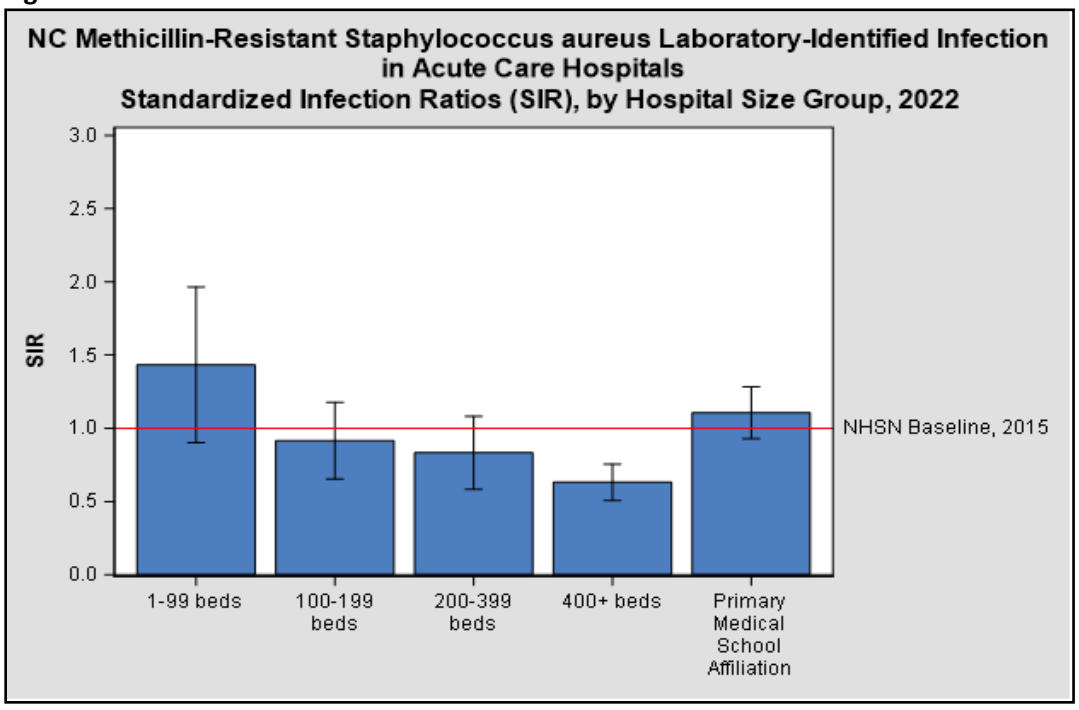
**North Carolina 2022 MRSA LabID Highlights**

- In 2022 North Carolina hospitals reported 370 MRSA LabID events, compared to the 417.95 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, 2022**

| Year | # Observed Events | # Predicted Events | How Does North Carolina compare to the National Experience? |
|---|---|---|---|
| **2022** | **370** | **417.95** | **BETTER: Fewer infections than were predicted (better than the national experience)** |

**Figure 25.**



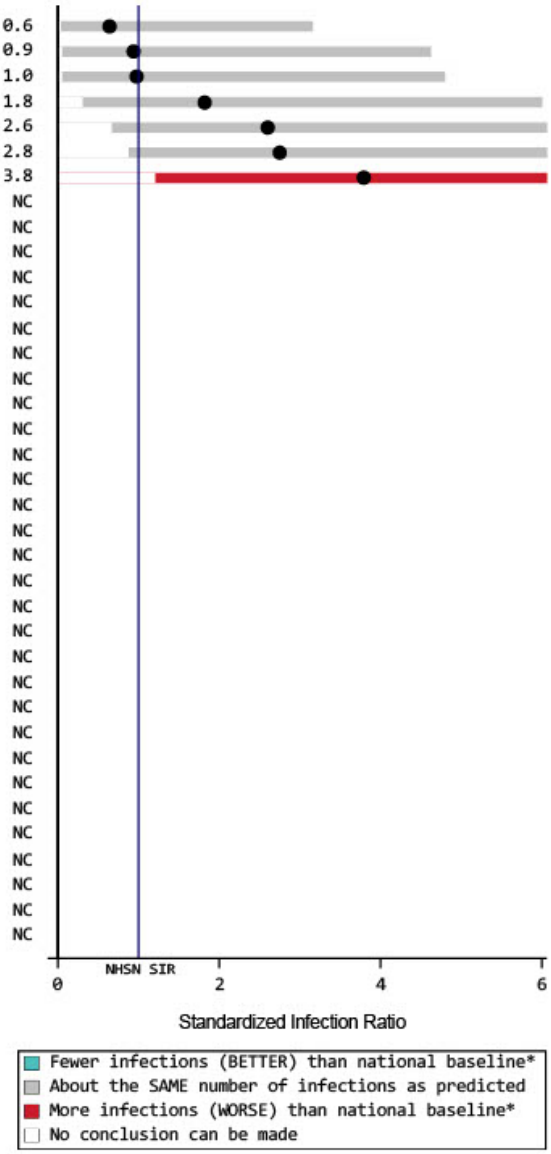

**Interpreting Figure 25:**

- Facilities with 400+ beds performed BETTER compared to the national experience with fewer MRSA LabID events than predicted.
- Hospitals with 1-99 beds, 100-199 beds, 200-399 beds, and Primary Medical School Affiliation reported about the same number of events as predicted, performing the SAME than 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, 2022**
**Hospital Group: Hospitals with less than 100 Beds**

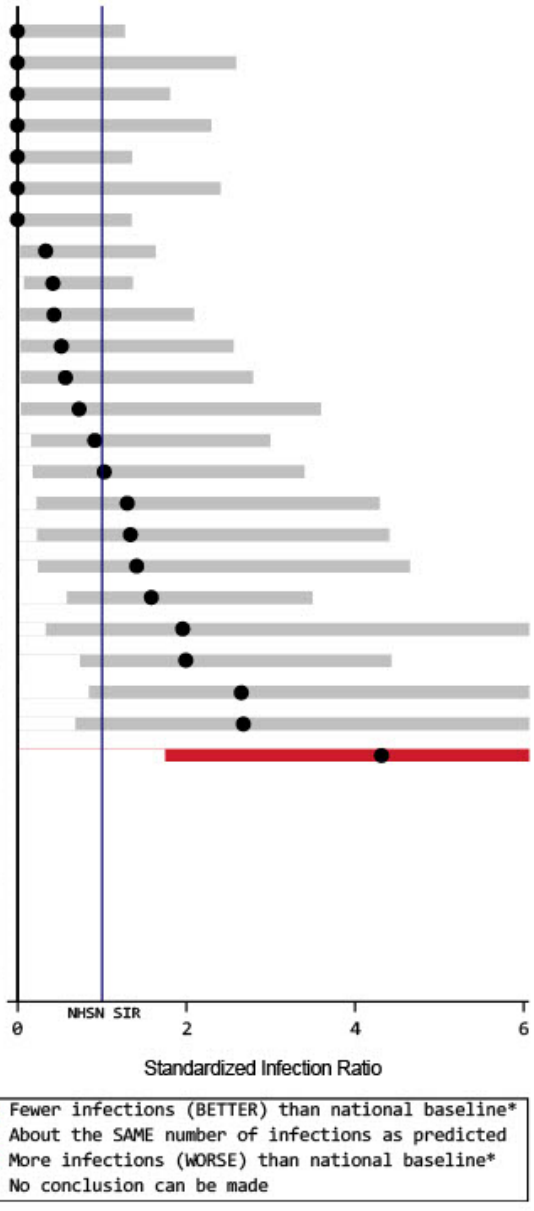
| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| ECU North Hospital | 1 | 1.6 | 23986 | 0.6 |
| Randolph Hospital Dba Randolph Health | 1 | 1.1 | 21326 | 0.9 |
| Wake Forest Baptist Health-Lexington | 1 | 1.0 | 16942 | 1.0 |
| Haywood Regional Medical Center | 2 | 1.1 | 20830 | 1.8 |
| Carteret General Hospital | 3 | 1.2 | 28872 | 2.6 |
| Columbus Regional Healthcare System | 4 | 1.5 | 22619 | 2.8 |
| Wake Forest Baptist Health-Wilkes | 4 | 1.1 | 19966 | 3.8 |
| McDowell Hospital | 0 | 0.3 | 8109 | NC |
| Cherokee Indian Hospital | 0 | 0.2 | 5991 | NC |
| Duke LifePoint-Harris Regional Hospital | 0 | 0.4 | 10123 | NC |
| Davis Regional Medical Center | 0 | 0.2 | 5728 | NC |
| Martin General Hospital | 0 | 0.1 | 3422 | NC |
| ECU Health Beaufort Hospital | 2 | 0.7 | 17812 | NC |
| Granville Medical Center | 0 | 0.3 | 9010 | NC |
| Novant Health Brunswick Medical Center | 1 | 0.9 | 24486 | NC |
| ECU Health Duplin Hospital | 2 | 0.6 | 13005 | NC |
| Central Carolina Hospital | 2 | 0.7 | 13007 | NC |
| Kings Mountain Hospital | 1 | 0.3 | 9282 | NC |
| Person Memorial Hospital | 0 | 0.1 | 3791 | NC |
| Novant Health Charlotte Orthopedic | 0 | 0.1 | 8497 | NC |
| Novant Health Medical Park Hospital | 0 | 0.1 | 3563 | NC |
| Betsy Johnson Hospital | 0 | 0.6 | 16895 | NC |
| Hugh Chatham Memorial Hospital | 0 | 0.5 | 15917 | NC |
| Atrium Health Anson | 0 | 0.0 | 1962 | NC |
| Annie Penn Hospital | 1 | 0.8 | 15018 | NC |
| North Carolina Specialty Hospital | 0 | 0.1 | 3472 | NC |
| Wake Forest Baptist Health-Davie Medical | 0 | 0.2 | 8727 | NC |
| Johnston Health Clayton | 0 | 0.5 | 16031 | NC |
| Firsthealth Moore Regional-Hoke | 0 | 0.1 | 2400 | NC |
| Firsthealth Moore Regional-Richmond | 2 | 0.4 | 10232 | NC |
| Cape Fear Valley Hoke Hospital | 1 | 0.1 | 6433 | NC |
| Novant Health Kernersville | 0 | 0.5 | 17163 | NC |
| WakeMed North Family Health & Women's | 0 | 0.6 | 22985 | NC |
| Central Harnett Hospital | 0 | 0.4 | 8569 | NC |
| Novant Health Clemmons Medical Center | 0 | 0.2 | 8618 | NC |
| Novant Health Mint Hill Medical Center | 0 | 0.6 | 13883 | NC |
| Rex Holly Springs Hospital | 0 | 0.3 | 8839 | NC |




Data reported as of July 7, 2022.
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

**Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with 100 to 199 Beds**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| WakeMed Cary Hospital | 0 | 2.4 | 62994 | 0.0 |
| Pardee Hospital | 0 | 1.2 | 33781 | 0.0 |
| Maria Parham Medical Center | 0 | 1.7 | 18285 | 0.0 |
| Northern Regional Hospital | 0 | 1.3 | 21772 | 0.0 |
| Johnston Health | 0 | 2.2 | 45737 | 0.0 |
| Atrium Health Lincoln | 0 | 1.2 | 21691 | 0.0 |
| UNC Health Blue Ridge | 0 | 2.2 | 33658 | 0.0 |
| Wesley Long Hospital | 1 | 3.0 | 47081 | 0.3 |
| Atrium Health Mercy | 2 | 4.8 | 64191 | 0.4 |
| Nash Health Care Systems | 1 | 2.4 | 50863 | 0.4 |
| Scotland Memorial Hospital | 1 | 1.9 | 31874 | 0.5 |
| ARHS-Watauga Medical Center | 1 | 1.8 | 23421 | 0.6 |
| ECU Health Roanoke-Chowan Hospital | 1 | 1.4 | 23925 | 0.7 |
| Novant Health Huntersville | 2 | 2.2 | 45617 | 0.9 |
| Iredell Memorial Hospital | 2 | 1.9 | 41596 | 1.0 |
| Atrium Health University City | 2 | 1.5 | 40463 | 1.3 |
| Sentara Albemarle Medical Center | 2 | 1.5 | 20610 | 1.3 |
| Caldwell Memorial Hospital | 2 | 1.4 | 24162 | 1.4 |
| Atrium Health Union | 5 | 3.2 | 47039 | 1.6 |
| Wilson Medical Center | 2 | 1.0 | 24988 | 2.0 |
| Frye Regional Medical Center | 5 | 2.5 | 37265 | 2.0 |
| Lenoir Memorial Hospital | 4 | 1.5 | 27811 | 2.6 |
| Atrium Health Stanly | 3 | 1.1 | 16982 | 2.7 |
| Onslow Memorial Hospital | 6 | 1.4 | 31841 | 4.3 |
| Rutherford Regional Medical Center | 0 | 0.5 | 10887 | NC |
| Advent Health Hendersonville | 0 | 0.6 | 13229 | NC |
| ECU Health Edgecombe Hospital | 0 | 0.9 | 13273 | NC |
| Novant Health Thomasville Medical Center | 1 | 0.9 | 18274 | NC |
| Sampson Regional Medical Center | 1 | 0.5 | 10571 | NC |
| Lake Norman Regional Medical Center | 2 | 0.5 | 15647 | NC |
| UNC Rockingham Health | 1 | 0.6 | 10508 | NC |

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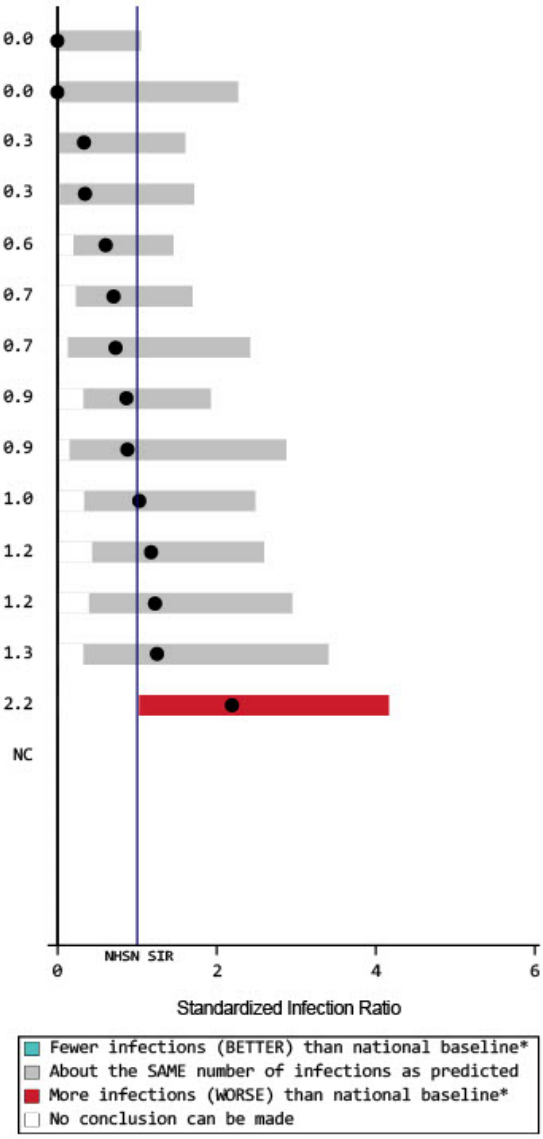
PD = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

**Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with 200 to 399 Beds**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| Alamance Regional Medical Center | 0 | 2.9 | 50317 | 0.0 |
| Broughton Hospital | 0 | 1.3 | 67285 | 0.0 |
| Wayne Memorial Hospital | 1 | 3.1 | 53877 | 0.3 |
| Southeastern Regional Medical Center | 1 | 2.9 | 61056 | 0.3 |
| FirstHealth Moore Regional Hospital | 4 | 6.6 | 93585 | 0.6 |
| Duke Regional Hospital | 4 | 5.7 | 95268 | 0.7 |
| Novant Health Rowan Medical Center | 2 | 2.7 | 49224 | 0.7 |
| Atrium Health Pineville | 5 | 5.8 | 93791 | 0.9 |
| Novant Health Matthews Medical Center | 2 | 2.3 | 54319 | 0.9 |
| CarolinaEast Medical Center | 4 | 3.9 | 65843 | 1.0 |
| High Point Regional Health System | 5 | 4.3 | 67685 | 1.2 |
| Duke Raleigh Hospital | 4 | 3.3 | 64981 | 1.2 |
| Catawba Valley Medical Center | 3 | 2.4 | 58555 | 1.3 |
| Atrium Health Cleveland | 8 | 3.7 | 55469 | 2.2 |
| Cherry Hospital | 0 | 0.9 | 56987 | NC |

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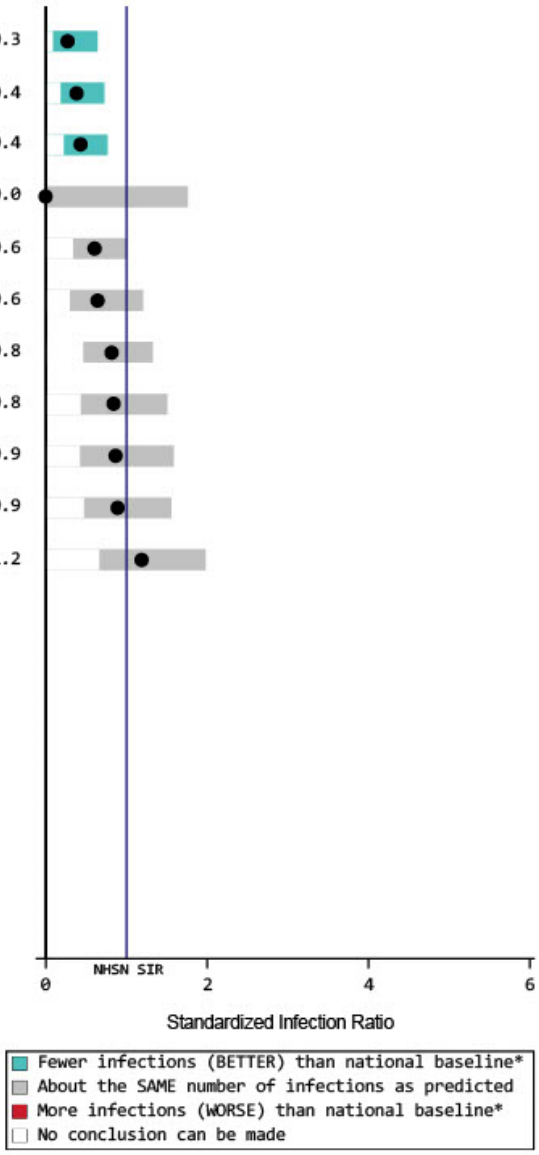
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

**Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with 400 or More Beds**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| Moses Cone Hospital | 4 | 15.1 | 163706 | 0.3 |
| Mission Hospital | 8 | 21.0 | 231745 | 0.4 |
| Novant Health Forsyth Medical Center | 10 | 23.3 | 214427 | 0.4 |
| Central Regional Hospital | 0 | 1.7 | 99871 | 0.0 |
| New Hanover Regional Medical Center | 13 | 21.5 | 197744 | 0.6 |
| Atrium Health Cabarrus | 8 | 12.6 | 149552 | 0.6 |
| WakeMed | 14 | 17.3 | 188141 | 0.8 |
| Rex Healthcare | 10 | 11.9 | 169347 | 0.8 |
| Gaston Memorial Hospital | 9 | 10.4 | 132903 | 0.9 |
| Novant Health Presbyterian Medical | 11 | 12.3 | 166192 | 0.9 |
| Cape Fear Valley Health System | 13 | 11.0 | 174082 | 1.2 |

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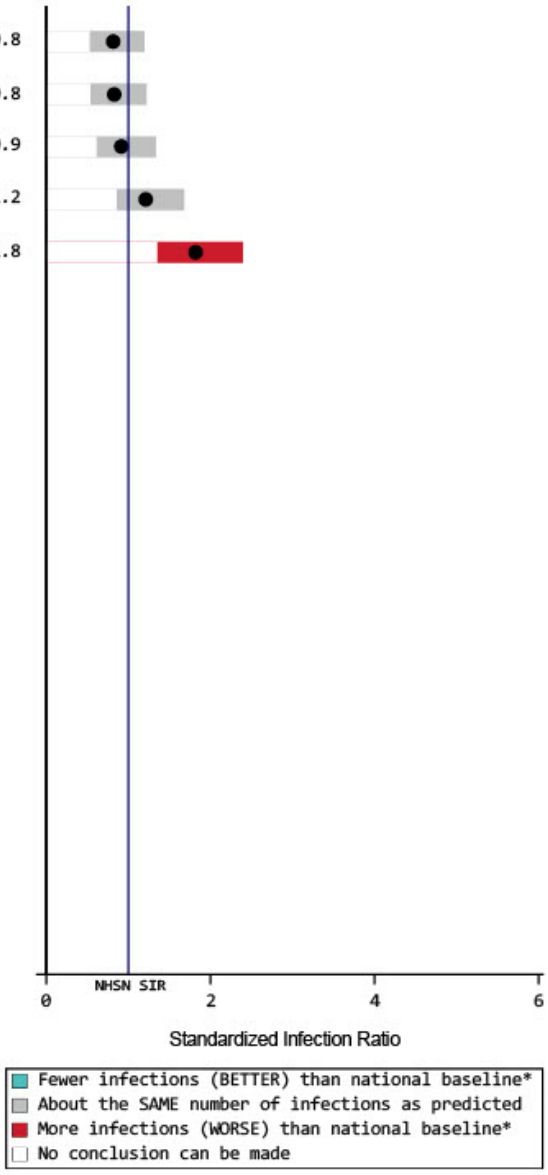
*Significantly different than 2015 national baseline

**Methicillin-Resistant Staphylococcus aureus (MRSA) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with Primary Medical School Affiliation**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| ECU Health Medical Center | 23 | 28.4 | 260917 | 0.8 |
| Atrium Health Carolinas Medical Center | 23 | 27.9 | 341106 | 0.8 |
| UNC Health | 25 | 27.3 | 270682 | 0.9 |
| Duke University Hospital | 34 | 28.0 | 335094 | 1.2 |
| Wake Forest University Baptist Medical | 47 | 25.9 | 237591 | 1.8 |

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PD = # Central Line Days
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N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

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

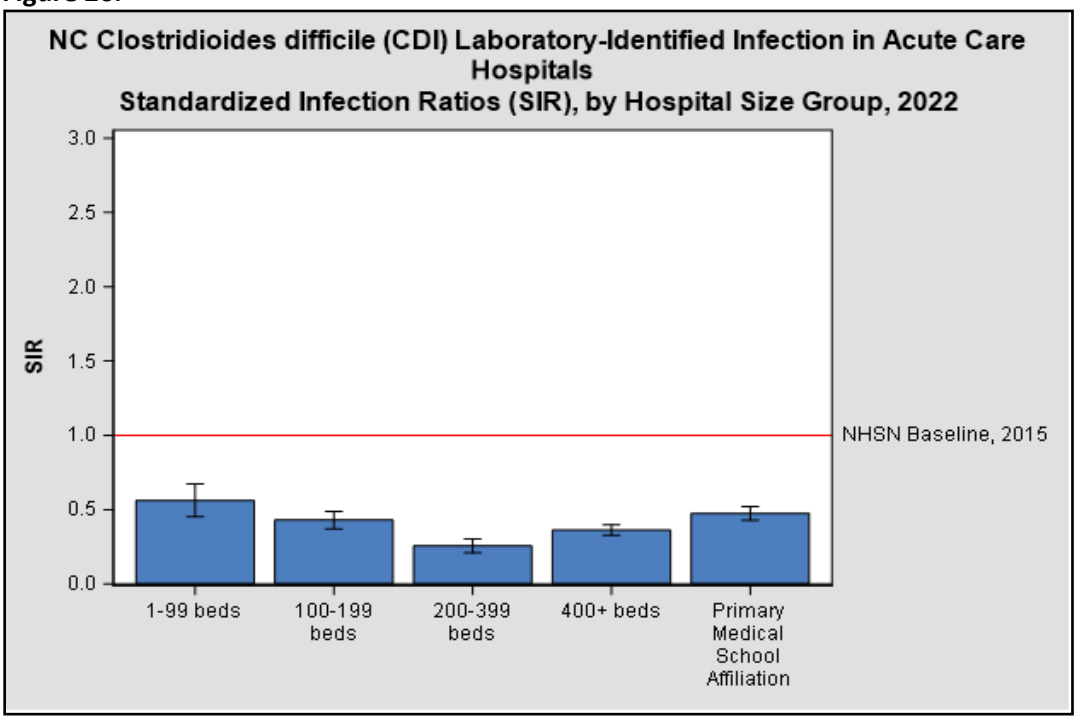
**North Carolina 2022 CDI LabID Highlights**

- In 2022, North Carolina hospitals reported 1,235 CDI LabID events, compared to the 3,090.2 CDI LabID events which were predicted. This was better than the 2015 national experience.

**Table 7. NC *Clostridioides difficile* Laboratory-Identified Events, 2022**

| Year | # Observed Infections | # Predicted Infections | How Does North Carolina compare to the National Experience? |
|---|---|---|---|
| **2022** | **1,235** | **3,090.2** | **BETTER: Fewer infections than were predicted (better than the national experience)** |

**Figure 26.**



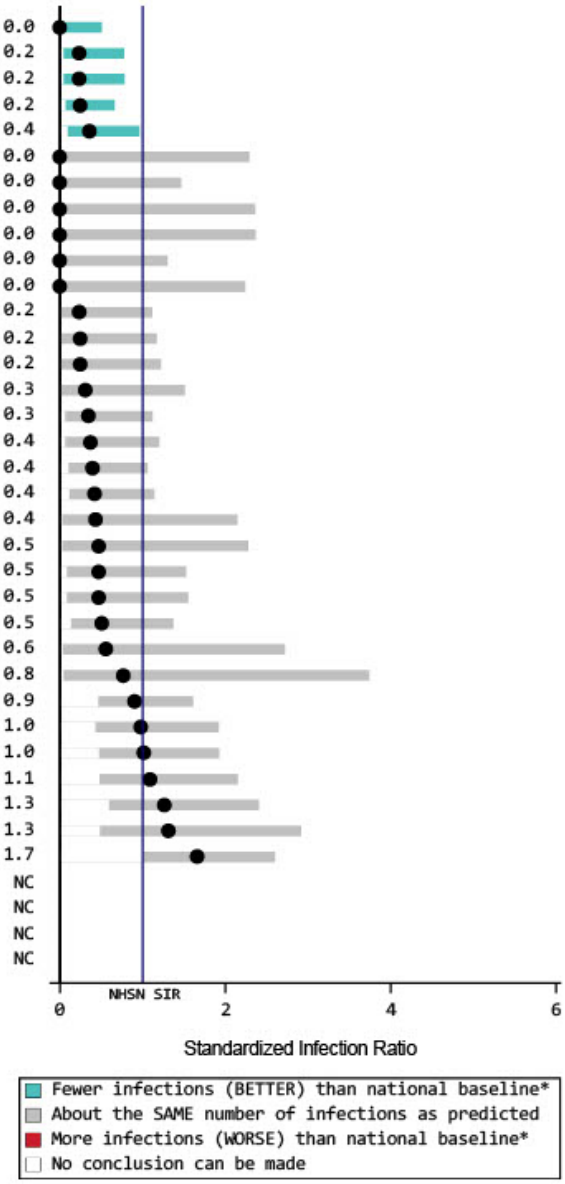

**Interpreting Figure 26:**

- All hospital size groups experienced fewer CDI LabID events than predicted, performing BETTER than the 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, 2022**
**Hospital Group: Hospitals with less than 100 Beds**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| Novant Health Mint Hill Medical Center | 0 | 5.9 | 12829 | 0.0 |
| Haywood Regional Medical Center | 2 | 8.5 | 20447 | 0.2 |
| Randolph Hospital Dba Randolph Health | 2 | 8.5 | 21213 | 0.2 |
| Novant Health Brunswick Medical Center | 3 | 12.4 | 23440 | 0.2 |
| Carteret General Hospital | 3 | 8.5 | 27268 | 0.4 |
| Cherokee Indian Hospital | 0 | 1.3 | 5991 | 0.0 |
| Davis Regional Medical Center | 0 | 2.0 | 5307 | 0.0 |
| Person Memorial Hospital | 0 | 1.3 | 3791 | 0.0 |
| Cape Fear Valley Hoke Hospital | 0 | 1.3 | 6433 | 0.0 |
| Novant Health Clemmons Medical Center | 0 | 2.3 | 8618 | 0.0 |
| Novant Health New Hanover Orthopedic Hos | 0 | 1.3 | 7110 | 0.0 |
| ECU Health Duplin Hospital | 1 | 4.4 | 12081 | 0.2 |
| WakeMed North Family Health & Women's | 1 | 4.2 | 18471 | 0.2 |
| Firsthealth Moore Regional-Richmond | 1 | 4.0 | 10232 | 0.2 |
| Kings Mountain Hospital | 1 | 3.3 | 9282 | 0.3 |
| Novant Health Kernersville | 2 | 5.9 | 17163 | 0.3 |
| Central Carolina Hospital | 2 | 5.5 | 12511 | 0.4 |
| ECU Health Beaufort Hospital | 3 | 7.7 | 17337 | 0.4 |
| Annie Penn Hospital | 3 | 7.2 | 15018 | 0.4 |
| Rex Holly Springs Hospital | 1 | 2.3 | 8439 | 0.4 |
| McDowell Hospital | 1 | 2.2 | 7513 | 0.5 |
| Granville Medical Center | 2 | 4.3 | 8689 | 0.5 |
| Johnston Health Clayton | 2 | 4.3 | 14133 | 0.5 |
| Duke LifePoint-Harris Regional Hospital | 3 | 6.0 | 10123 | 0.5 |
| Wake Forest Baptist Health-Davie Medical | 1 | 1.8 | 8727 | 0.6 |
| Novant Health Charlotte Orthopedic | 1 | 1.3 | 8497 | 0.8 |
| Columbus Regional Healthcare System | 10 | 11.1 | 22058 | 0.9 |
| ECU North Hospital | 7 | 7.2 | 23280 | 1.0 |
| Betsy Johnson Hospital | 8 | 7.9 | 15709 | 1.0 |
| Wake Forest Baptist Health-Lexington | 7 | 6.4 | 16942 | 1.1 |
| Wake Forest Baptist Health-Wilkes | 8 | 6.3 | 19410 | 1.3 |
| Central Harnett Hospital | 5 | 3.8 | 8569 | 1.3 |
| Hugh Chatham Memorial Hospital | 17 | 10.3 | 15099 | 1.7 |
| Martin General Hospital | 0 | 0.8 | 3422 | NC |
| Novant Health Medical Park Hospital | 1 | 0.8 | 3563 | NC |
| Atrium Health Anson | 0 | 0.5 | 1962 | NC |
| North Carolina Specialty Hospital | 0 | 0.8 | 3472 | NC |




Data reported as of July 7, 2022.
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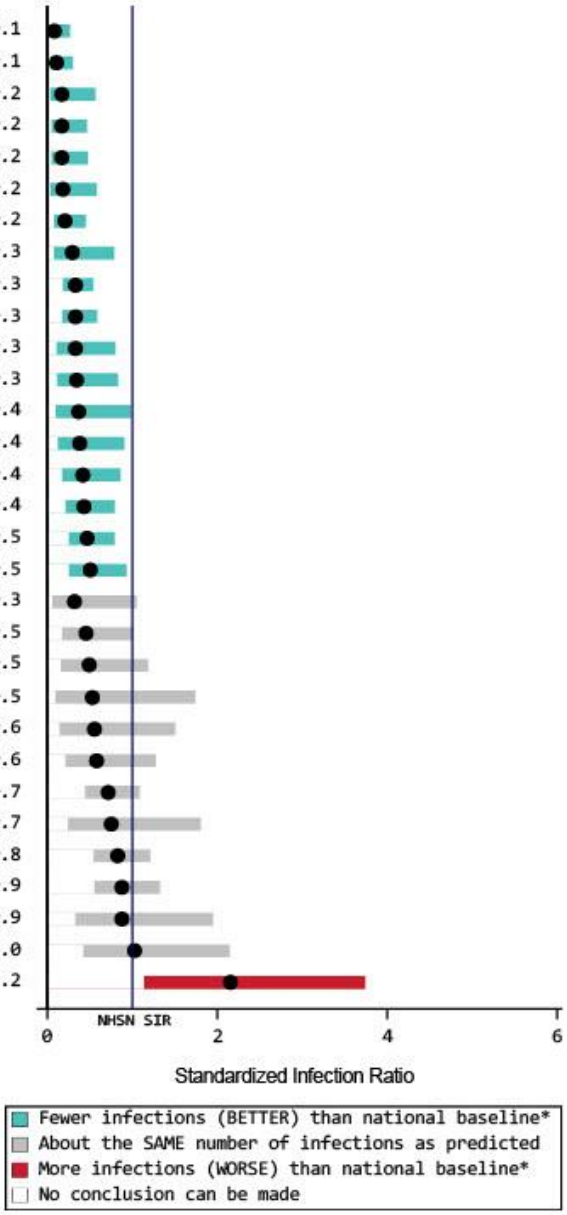
PD = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

**Clostridioides difficile infection (CDI) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with 100 to 199 Beds**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| WakeMed Cary Hospital | 2 | 25.0 | 55418 | 0.1 |
| Wesley Long Hospital | 3 | 27.2 | 47081 | 0.1 |
| Atrium Health Lincoln | 2 | 11.8 | 20936 | 0.2 |
| Onslow Memorial Hospital | 3 | 17.6 | 28474 | 0.2 |
| Sentara Albemarle Medical Center | 3 | 17.2 | 19867 | 0.2 |
| ARHS-Watauga Medical Center | 2 | 11.4 | 22622 | 0.2 |
| Novant Health Huntersville | 5 | 24.7 | 39908 | 0.2 |
| Novant Health Thomasville Medical Center | 3 | 10.4 | 17027 | 0.3 |
| Atrium Health Mercy | 13 | 40.0 | 64191 | 0.3 |
| Nash Health Care Systems | 10 | 30.4 | 47354 | 0.3 |
| Scotland Memorial Hospital | 4 | 12.1 | 29476 | 0.3 |
| Pardee Hospital | 4 | 11.6 | 33781 | 0.3 |
| Atrium Health Stanly | 3 | 8.3 | 16503 | 0.4 |
| Caldwell Memorial Hospital | 4 | 10.7 | 24162 | 0.4 |
| Northern Regional Hospital | 6 | 14.6 | 21245 | 0.4 |
| Frye Regional Medical Center | 9 | 20.9 | 36630 | 0.4 |
| Atrium Health Union | 12 | 25.9 | 44514 | 0.5 |
| Atrium Health University City | 9 | 17.7 | 34695 | 0.5 |
| Maria Parham Medical Center | 2 | 6.3 | 17608 | 0.3 |
| Lenoir Memorial Hospital | 5 | 10.9 | 27159 | 0.5 |
| Lake Norman Regional Medical Center | 4 | 8.2 | 14200 | 0.5 |
| ECU Health Edgecombe Hospital | 2 | 3.8 | 12327 | 0.5 |
| Rutherford Regional Medical Center | 3 | 5.4 | 10464 | 0.6 |
| ECU Health Roanoke-Chowan Hospital | 5 | 8.7 | 23280 | 0.6 |
| Iredell Memorial Hospital | 19 | 26.8 | 40385 | 0.7 |
| Advent Health Hendersonville | 4 | 5.4 | 11962 | 0.7 |
| Johnston Health | 24 | 29.1 | 43855 | 0.8 |
| UNC Health Blue Ridge | 20 | 22.9 | 31139 | 0.9 |
| Wilson Medical Center | 5 | 5.7 | 23712 | 0.9 |
| Sampson Regional Medical Center | 6 | 5.8 | 9823 | 1.0 |
| UNC Rockingham Health | 11 | 5.1 | 9778 | 2.2 |

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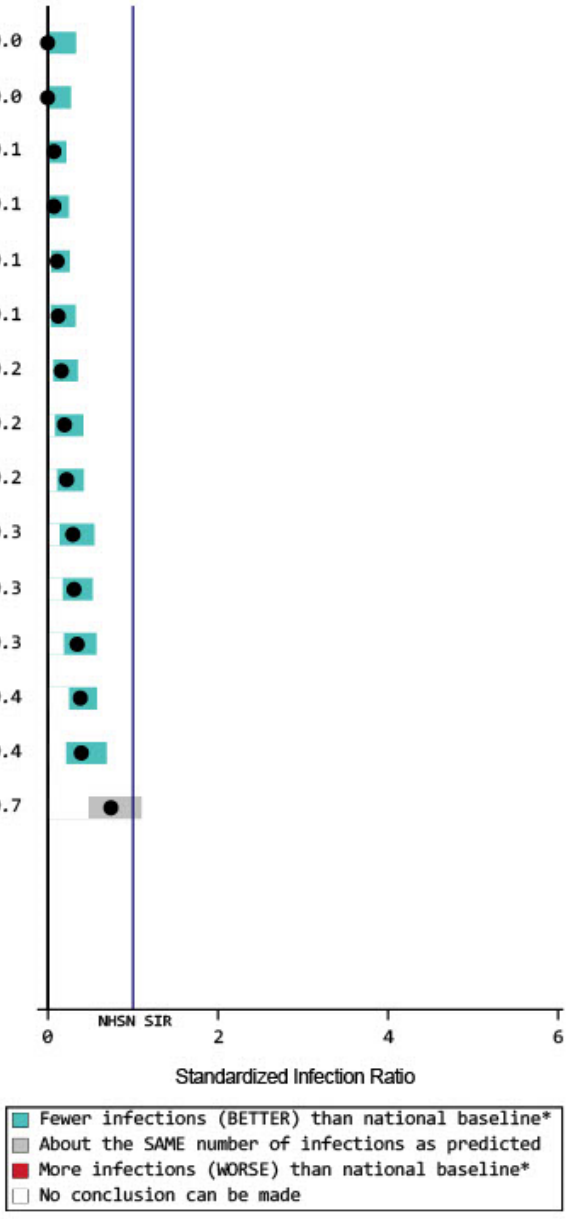
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

**Clostridioides difficile infection (CDI) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with 200 to 399 Beds**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| Cherry Hospital | 0 | 9.1 | 56987 | 0.0 |
| Broughton Hospital | 0 | 11.2 | 67285 | 0.0 |
| Novant Health Rowan Medical Center | 2 | 30.5 | 47605 | 0.1 |
| Catawba Valley Medical Center | 2 | 27.0 | 55986 | 0.1 |
| Duke Regional Hospital | 4 | 38.0 | 85781 | 0.1 |
| Alamance Regional Medical Center | 3 | 25.0 | 46271 | 0.1 |
| Novant Health Matthews Medical Center | 5 | 31.8 | 47842 | 0.2 |
| Atrium Health Cleveland | 6 | 30.3 | 52329 | 0.2 |
| Southeastern Regional Medical Center | 8 | 36.1 | 57988 | 0.2 |
| Duke Raleigh Hospital | 8 | 27.8 | 64981 | 0.3 |
| FirstHealth Moore Regional Hospital | 12 | 39.0 | 86849 | 0.3 |
| CarolinaEast Medical Center | 12 | 35.8 | 60810 | 0.3 |
| Atrium Health Pineville | 21 | 54.8 | 86766 | 0.4 |
| High Point Regional Health System | 11 | 27.8 | 65244 | 0.4 |
| Wayne Memorial Hospital | 22 | 29.8 | 51600 | 0.7 |

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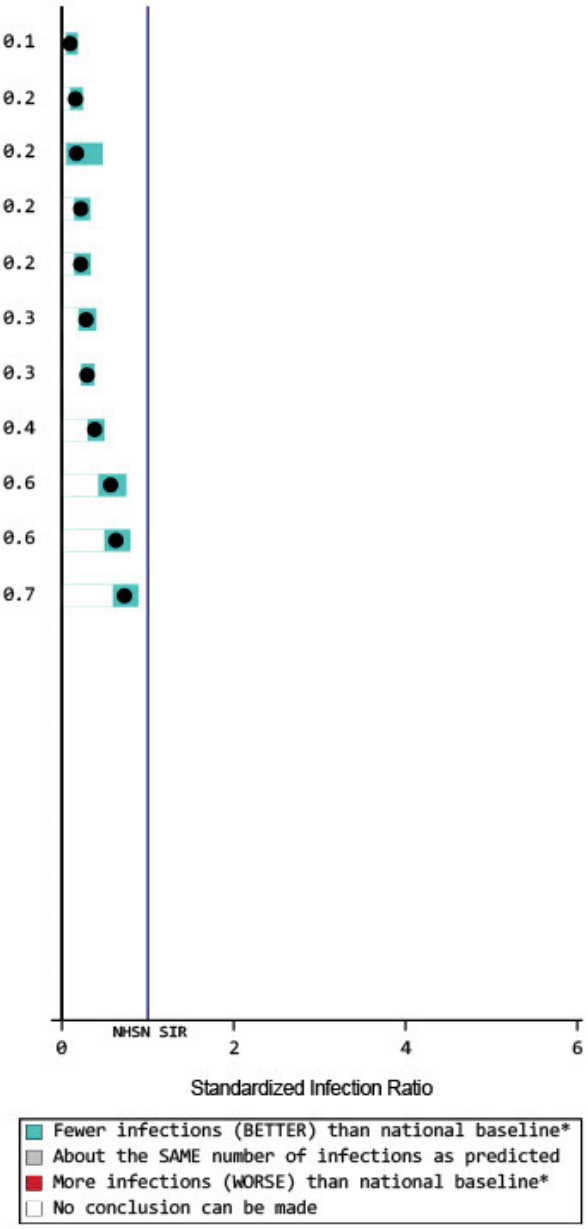
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

**Clostridioides difficile infection (CDI) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with 400 or More Beds**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| Moses Cone Hospital | 8 | 83.1 | 138065 | 0.1 |
| Gaston Memorial Hospital | 16 | 105 | 128366 | 0.2 |
| Central Regional Hospital | 3 | 17.3 | 99871 | 0.2 |
| Atrium Health Cabarrus | 20 | 91.8 | 139372 | 0.2 |
| WakeMed | 20 | 90.3 | 163183 | 0.2 |
| Novant Health Presbyterian Medical | 27 | 97.0 | 135141 | 0.3 |
| Novant Health Forsyth Medical Center | 52 | 178 | 198265 | 0.3 |
| Mission Hospital | 60 | 156 | 217474 | 0.4 |
| Cape Fear Valley Health System | 46 | 81.3 | 155224 | 0.6 |
| Rex Healthcare | 65 | 104 | 153923 | 0.6 |
| New Hanover Regional Medical Center | 93 | 128 | 185307 | 0.7 |




Data reported as of July 7, 2022.
OBS = # infections observed
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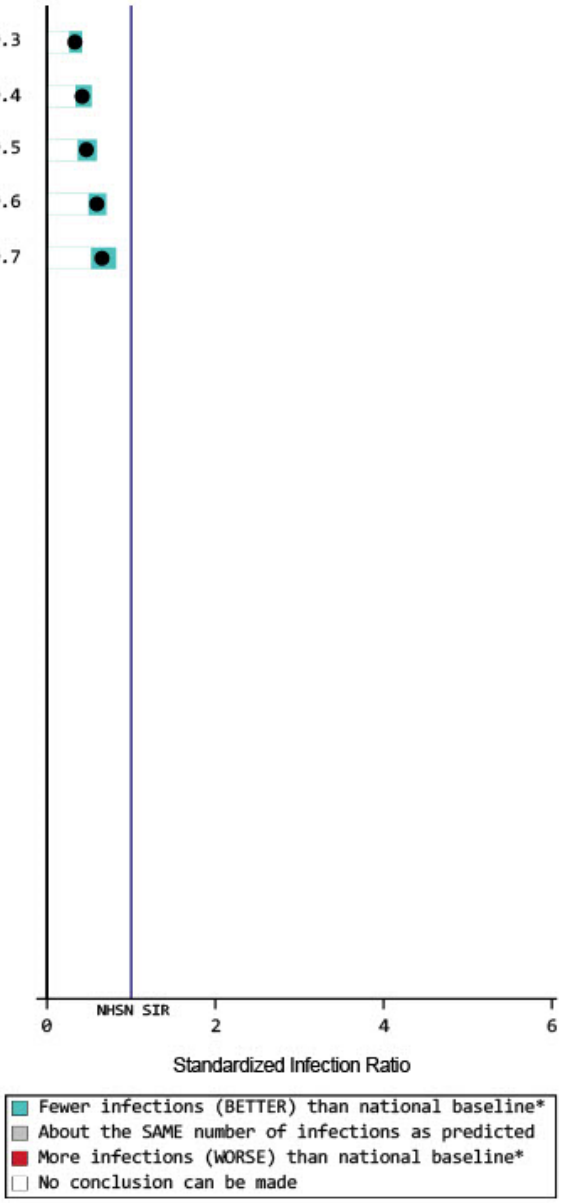
PD = # Central Line Days
SIR = Standardized infection ratio (OBS/PRED # of infections)
NA = Data not shown for hospitals with <50 central line days
N = <50 central line days reported
NC = SIR not calculated for hospitals with <1 predicted infection
*Significantly different than 2015 national baseline

**Clostridioides difficile infection (CDI) LabID Events**
**Standardized Infection Ratios: January 1 – December 31, 2022**
**Hospital Group: Hospitals with Primary Medical School Affiliation**

| HOSPITAL | OBS | PRED | PD | SIR |
|---|---|---|---|---|
| Atrium Health Carolinas Medical Center | 73 | 221 | 290576 | 0.3 |
| Duke University Hospital | 74 | 175 | 309433 | 0.4 |
| ECU Health Medical Center | 64 | 138 | 243333 | 0.5 |
| UNC Health | 120 | 204 | 243860 | 0.6 |
| Wake Forest University Baptist Medical | 73 | 112 | 208053 | 0.7 |

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SIR = Standardized infection ratio (OBS/PRED # of infections)
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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 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.

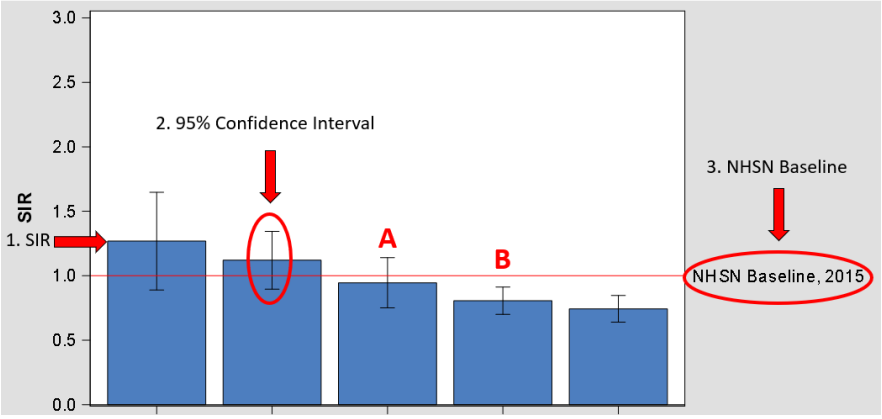
- **Predicted Infections (or Predicted Events):** This is a calculated value that reflects the number of infections (or events, for LabID measures) that we have "predicted" to occur in each hospital state, based on the national experience.

- **"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 national experience)**
  **Indicates that North Carolina had about the same number of infections as were predicted (same as the national experience)**
  **Indicates that North Carolina had more infections than were predicted (worse than the national experience)**

# 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 time period presented.

**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:**

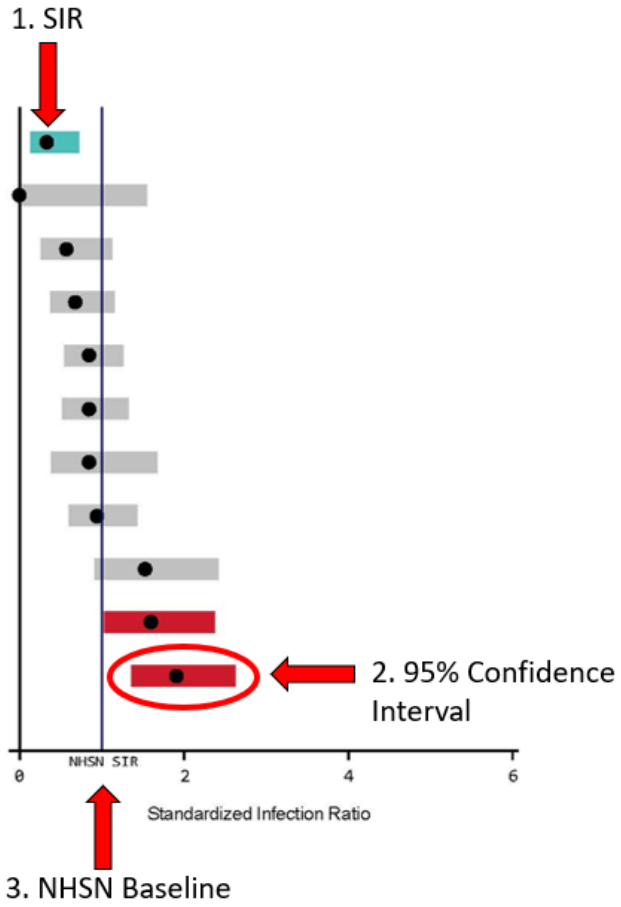
- If the value of 1.0 is included between the lower and upper limit, there is NO significant difference between the number of observed and predicted infections. For example, the bar marked A above is not significantly better than the national experience because the 95% confidence interval crosses the 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 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 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 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 by 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 time 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 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 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 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:<br>*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.<br>*Graduate* – Hospital used by the medical school for graduate training programs only (i.e., residency and/or fellowships).<br>*Limited* – Hospital used in the medical school's teaching program to a limited extent.<br>*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 Healthcare Association |
| NC SPICE | North Carolina Statewide Program for Infection Control and Epidemiology |
| NHSN | National Healthcare Safety Network |
| NICU | Neonatal intensive (critical) care unit |
| SIR | Standardized infection ratio |
| SSI | Surgical site infection |

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

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N.C. Division of Public Health

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Duke University Department of Medicine

Erica Wilson, MD, MPH
Head, Medical Consultation Unit
N.C. Division of Public Health

TBD
Division of Health Services Regulation (DHSR)

**Appendix D. Healthcare Facility Groupings, 2022 National Healthcare 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 |
| | MARTIN GENERAL HOSPITAL | 12 |
| | DLP - SWAIN COMMUNITY HOSPITAL | 15 |
| | CAROLINAS HEALTHCARE SYSTEM ANSON | 15 |
| | CHEROKEE INDIAN HOSPITAL | 18 |
| | PERSON MEMORIAL HOSPITAL | 18 |
| | THE OUTER BANKS HOSPITAL | 21 |
| | DOSHER MEMORIAL HOSPITAL | 23 |
| | HIGHLANDS CASHIERS HOSPITAL | 24 |
| | BLUE RIDGE REGIONAL HOSPITAL | 25 |
| | ST LUKES HOSPITAL | 25 |
| | MURPHY MEDICAL CENTER | 25 |
| | ECU HEALTH CHOWAN HOSPITAL | 25 |
| | NORTH CAROLINA SPECIALTY HOSPITAL | 26 |
| | NOVANT HEALTH MEDICAL PARK HOSPITAL | 33 |
| | ANGEL MEDICAL CENTER | 35 |
| | NOVANT HEALTH CLEMMONS MEDICAL CENTER | 36 |
| | WAKE FOREST BAPTIST HEALTH-DAVIE MEDICAL CENTER | 38 |
| | TRANSYLVANIA REGIONAL HOSPITAL | 40 |
| | NOVANT HEALTH CHARLOTTE ORTHOPEDIC HOSPITAL | 40 |
| | MCDOWELL HOSPITAL | 42 |
| | PENDER MEMORIAL HOSPITAL | 43 |
| | CENTRAL HARNETT HOSPITAL | 44 |
| | CAPE FEAR VALLEY HOKE HOSPITAL | 49 |
| | JOHNSTON HEALTH CLAYTON | 50 |
| | NOVANT HEALTH MINT HILL MEDICAL CENTER | 50 |
| | REX HOLLY SPRINGS HOSPITAL | 50 |
| | DLP - HARRIS REGIONAL HOSPITAL | 53 |
| | ANNIE PENN HOSPITAL | 53 |
| | NOVANT HEALTH NEW HANOVER ORTHOPEDIC HOSPITAL | 55 |
| | WAKE FOREST BAPTIST HEALTH WILKES MEDICAL CENTER | 60 |
| | WAKEMED NORTH FAMILY HEALTH & WOMEN'S HOSPITAL | 61 |
| | GRANVILLE MEDICAL CENTER | 62 |
| | NOVANT HEALTH KERNERSVILLE MEDICAL CENTER | 63 |
| | WAKE FOREST BAPTIST HEALTH-LEXINGTON MEDICAL CENTER | 65 |
| | KINGS MOUNTAIN HOSPITAL | 67 |
| | 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 |
| | BETSY JOHNSON HOSPITAL | 87 |

| | | |
|---|---|---|
| | **NOVANT HEALTH BRUNSWICK MEDICAL CENTER** | **88** |
| | **ECU HEALTH DUPLIN HOSPITAL** | **89** |
| | **CENTRAL CAROLINA HOSPITAL** | **89** |
| | **DAVIS REGIONAL MEDICAL CENTER** | **93** |
| | **HAYWOOD REGIONAL MEDICAL CENTER** | **96** |
| | **ECU HEALTH NORTH HOSPITAL** | **96** |
| **100-199 Beds** | **NORTHERN REGIONAL HOSPITAL** | **100** |
| | **ATRIUM HEALTH LINCOLN** | **101** |
| | **ADVENT HEALTH HENDERSONVILLE** | **103** |
| | **ATRIUM HEALTH UNIVERSITY CITY** | **104** |
| | **SCOTLAND MEMORIAL HOSPITAL** | **104** |
| | **UNC ROCKINGHAM HEALTH** | **108** |
| | **ATRIUM HEALTH STANLY** | **109** |
| | **ECU HEALTH ROANOKE-CHOWAN HOSPITAL** | **114** |
| | **SENTARA ALBEMARLE MEDICAL CENTER** | **115** |
| | **SAMPSON REGIONAL MEDICAL CENTER** | **116** |
| | **ARHS-WATAUGA MEDICAL CENTER** | **117** |
| | **ECU HEALTH EDGECOMBE HOSPITAL** | **117** |
| | **LAKE NORMAN REGIONAL MEDICAL CENTER** | **123** |
| | **WILSON MEDICAL CENTER** | **123** |
| | **MARIA PARHAM MEDICAL CENTER** | **124** |
| | **RUTHERFORD REGIONAL MEDICAL CENTER** | **125** |
| | **UNC HEALTH BLUE RIDGE** | **133** |
| | **CALDWELL MEMORIAL HOSPITAL** | **136** |
| | **CAROLINAS MEDICAL CENTER - UNION** | **142** |
| | **PARDEE HOSPITAL** | **143** |
| | **NOVANT HEALTH THOMASVILLE MEDICAL CENTER** | **146** |
| | **JOHNSTON HEALTH** | **149** |
| | **WESLEY LONG HOSPITAL** | **150** |
| | **ONSLOW MEMORIAL HOSPITAL** | **162** |
| | **NASH HEALTH CARE SYSTEMS** | **176** |
| | **LENOIR MEMORIAL HOSPITAL, INC** | **182** |
| | **FRYE REGIONAL MEDICAL CENTER** | **190** |
| | **NOVANT HEALTH HUNTERSVILLE MEDICAL CENTER** | **191** |
| | **WAKEMED CARY HOSPITAL** | **195** |
| | **CAROLINAS MEDICAL CENTER- MERCY** | **196** |
| | **IREDELL MEMORIAL HOSPITAL** | **199** |
| **200-399 Beds** | **NOVANT HEALTH MATTHEWS MEDICAL CENTER** | **200** |
| | **SOUTHEASTERN REGIONAL MEDICAL CENTER** | **218** |
| | **DUKE RALEIGH HOSPITAL** | **225** |
| | **ALAMANCE REGIONAL MEDICAL CENTER** | **238** |
| | **CAROLINAS HEALTHCARE SYSTEM CLEVELAND** | **241** |
| | **NOVANT HEALTH ROWAN MEDICAL CENTER** | **247** |
| | **WAYNE MEMORIAL HOSPITAL** | **249** |
| | **CATAWBA VALLEY MEDICAL CENTER** | **253** |
| | **CHERRY HOSPITAL** | **259** |
| | **BROUGHTON HOSPITAL** | **265** |

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| | **CAROLINAS MEDICAL CENTER- PINEVILLE** | **278** |
| | **HIGH POINT REGIONAL HEALTH SYSTEM** | **299** |
| | **CAROLINAEAST MEDICAL CENTER** | **350** |
| | **FIRSTHEALTH MOORE REGIONAL HOSPITAL** | **362** |
| | **DUKE REGIONAL HOSPITAL** | **369** |
| **400+ Beds** | **CENTRAL REGIONAL HOSPITAL** | **405** |
| | **GASTON MEMORIAL HOSPITAL** | **435** |
| | **MOSES CONE HOSPITAL** | **517** |
| | **ATRIUM HEALTH CABARRUS** | **521** |
| | **WAKEMED** | **537** |
| | **REX HEALTHCARE** | **545** |
| | **NEW HANOVER REGIONAL MEDICAL CENTER** | **697** |
| | **NOVANT HEALTH PRESBYTERIAN MEDICAL CENTER** | **729** |
| | **CAPE FEAR VALLEY HEALTH SYSTEM** | **775** |
| | **MISSION HOSPITAL** | **815** |
| | **NOVANT HEALTH FORSYTH MEDICAL CENTER** | **855** |
| | **CAROLINAS MEDICAL CENTER** | **868** |
| **Primary Medical School Affiliation** | **WAKE FOREST UNIVERSITY BAPTIST MEDICAL CENTER** | **881** |
| | **UNC HEALTH CARE** | **1001** |
| | **ECU HEALTH MEDICAL CENTER** | **1039** |
| | **DUKE UNIVERSITY HOSPITAL** | **1048** |