NC Division of Public Health,
Communicable Disease Branch

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SHARPPS Newsletter

Surveillance for Healthcare-Associated and Resistant Pathogens Patient Safety (SHARPPS) Program

NC RANKED 6TH IN PATIENT SAFETY

The Spring 2017 Leapfrog Hospital Safety Grade ranks North Carolina 6th in the nation for patient safety. This ranking is based on the number of hospitals with an 'A' rating compared to the total number of hospitals operating within the state. North Carolina had 78 total hospitals scored and 43 (55.1%) of them received an 'A' rating.

To grade hospitals on patient safety, the Leapfrog Hospital Safety Grade uses national performance measures from CDC, the Centers for Medicare & Medicaid Services (CMS), the Agency for Healthcare Research and Quality, American Hospital Association's Annual Survey and Health Information Technology Supplement, and the Leapfrog Hospital Survey. Based on the performance measures, each hospital is assigned a letter grade to represent their efforts in preventing errors, injuries, accidents, and infections when caring for patients. CDC provides guidance on preventing HAIs and improving patient safety in hospital and other healthcare settings.

ANTIMICROBIAL RESISTANCE/ANTIMICROBIAL STEWARDSHIP (AMR/AS) INITIATIVE-STAR PARTNERS

In keeping with the critical need to optimize antibiotic use across the state and nationwide, the NC SHARPPS program plans to implement a comprehensive program called the Star Partners initiative. This initiative includes activities related to antimicrobial resistance surveillance and antibiotic stewardship. It is currently planned to be implemented in phases. Phase 1 engages acute care hospitals; phase 2 engages long term care facilities and nursing homes; phase 3 engages outpatient practices. The initiative aims to encourage healthcare facilities to promote stewardship activities within their facilities as well as mentor facilities that are newer to antimicrobial stewardship. Participating facilities will be recognized on the NC Division of Public Health (NC DPH) website, in NC SHARPPS newsletters and in NC DPH Twitter feeds. An antimicrobial resistance and stewardship (AMR/AS) subcommittee was established this year with multidisciplinary experts and representatives from partner organizations. The initial AMR/AS subcommittee call, held on February 24th 2017, reviewed the framework for the Star Partners initiative. The NC SHARPPS program plans to pilot this initiative later this year.

NC SHARPPS AND STATE LABORATORY OF PUBLIC HEALTH (SLPH) REPRESENTATIVES ATTEND 2017 ELC HAI/AR GRANTEES MEETING

The 2017 Epidemiology and Laboratory Capacity (ELC) Healthcare-associated Infections and Antibiotic Resistance (HAI/AR) Grantees Meeting was held March 1-3, in Atlanta, GA. The ELC grant provides the funding for the NC SHARPPS program. This annual meeting provides information and updates to state HAI programs regarding disease response, containment and prevention. Representatives from the NC SHARPPS program and the NC State Laboratory of Public Health (SLPH) attended sessions related to the response and containment of novel and targeted multi-drug resistant organisms (MDROs), prevention of transmission of *Clostridium difficile* infections (CDI) and other MDROs across healthcare settings, antimicrobial stewardship activities, and the prevention of device-associated infections.

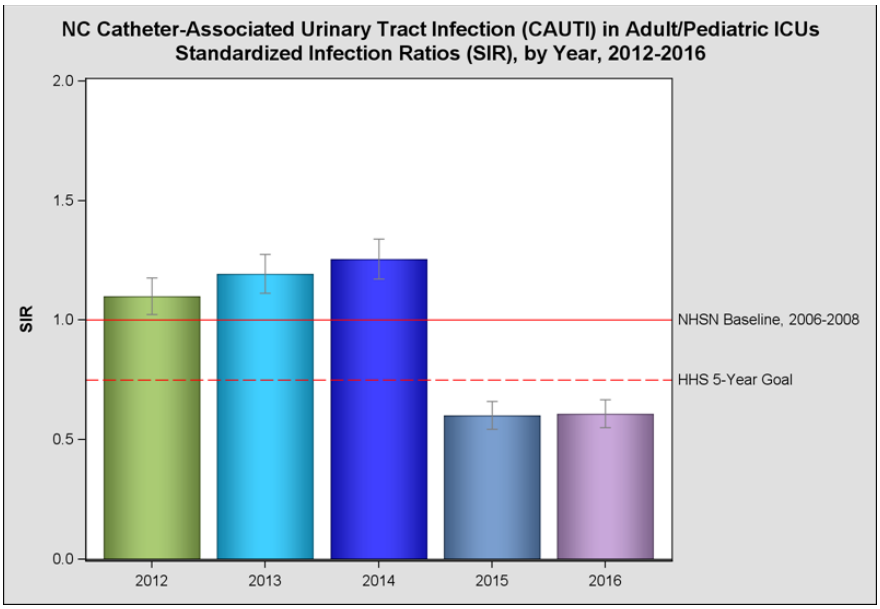
IN THIS ISSUE

2016 HAI REPORT

The year-end report from the NC SHARPPS program will be released later this month. This report provides state-level data from North Carolina short-term acute care hospitals on central line associated bloodstream infections (CLABSI), catheter associated urinary tract infections (CAUTI), surgical site infections (SSI), Methicillin-resistant *Staphylococcus aureus* laboratory-identified events (MRSA LabID), and laboratory-identified *Clostridium difficile* (*LabID CDI*). The report also includes an overview of program activities and accomplishments.

Report highlights:

- CLABSI
  - -Since 2012, both adult/pediatric locations and NICU locations in NC hospitals have reported fewer infections than predicted, performing better than the 2006-2008 national experience.
  - -Despite this, there is a two year upward trend in reported CLABSI cases in NC ICU locations. NC DPH is performing additional analysis and outreach to better understand this increase coordinating with partners to prioritize CLABSI prevention.
- CAUTI
  - -In 2016, North Carolina hospitals reported 660 CAUTI infections, compared to the 1,207 infections that were predicted, performing better than the 2009 national experience.
  - -This was the lowest number of CAUTIs observed since North Carolina hospitals began reporting in 2012.



- SSI following Abdominal Hysterectomy
  - -In 2016, North Carolina reported 57 surgical site infections after inpatient abdominal hysterectomies performed on adults ≥ 18 years in North Carolina acute care hospitals, compared to the 97 infections predicted.
  - -In 2016, the burden of observed SSIs following abdominal hysterectomies is at a five year low.
  - -After a two year increase in 2013 and 2014, North Carolina hospitals met the health and human services (HHS) five year goal to reduce SSIs by 25% from the 2006-2008 baseline experience in 2015 and 2016.
- SSI following Colon Surgery
  - -Among inpatient colon surgeries performed on adults ≥ 18 years, North Carolina hospitals reported 306 infections, compared to the 342 infections which were predicted; this was the same as the 2006-2008 national experience.
  - -North Carolina did not meet the HHS five year goal to reduce SSIs by 25% from the 2006-2008 baseline experience.
- MRSA LabID
  - -In 2016, North Carolina hospitals reported 305 MRSA LabID events, compared to the 332 MRSA LabID events which were predicted. This was the same as the 2010-2011 national experience.
- LabID CDI
  - -In 2016, North Carolina hospitals reported 2981 CDI LabID events, compared to the 3,589 CDI LabID events which were predicted. This was better than the 2010-2011 national experience.
  - -The number of reported CDI events in NC is similar to the number reported in previous years.

CDC CONTINUES TO MONITOR EMERGING RESISTANCE IN *CANDIDA AURIS*

C. auris culture

Candida auris (*C. auris*) is a fungus that can cause invasive infections that are often healthcare-associated. Initial analysis of isolates from three continents collected during 2012–2015 indicate 60% mortality among cases. Furthermore, 93% of isolates were resistant to fluconazole, and 41% were resistant to 2 or more antifungal classes.

As of April 25, 2017, CDC has worked with states to identify 61 cases of *C. auris* infection in six states.

C. auris can be difficult to detect. Therefore, facilities may suspect *C. auris* if:

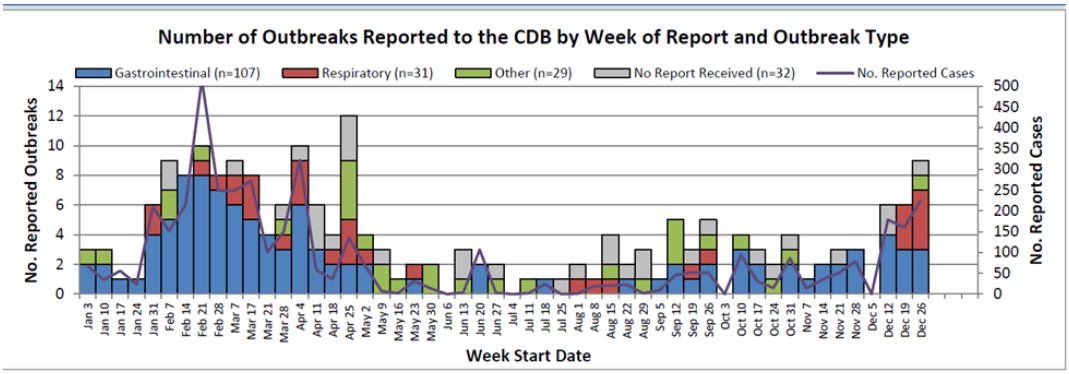
- An isolate is identified as *Candida haemulonii, Candida famata, Candida sake,* or *Rhodotorula glutinis*
- An isolate is identified as Candida and unable to be further speciated
- They are experiencing an increase of unidentified Candida species infections in a patient care unit

Interim recommendations for U.S. healthcare facilities and specific laboratory guidance can be found here: https://www.cdc.gov/fungal/diseases/candidiasis/recommendations.html. Of note, CDC now recommends use of an Environmental Protection Agency (EPA)-registered hospital-grade disinfectant effective against Clostridium difficile spores for daily and terminal cleaning and disinfection for rooms of patients with *C. auris.*

The NC SHARPPS program continues to request that any facility suspecting a patient may have an infection caused by *C. auris* and laboratories identifying or suspecting *C. auris* notify the program at nchai@dhhs.nc.gov or call the 24/7 epidemiologist on call at 919-733-3419.

2016 OUTBREAK SUMMARY

A total of 199 outbreaks were reported to the NC DPH's Communicable Disease Branch from January 1 - December 31, 2016. In 2016, the NC SHARPPS program assisted or consulted in 119 outbreaks in healthcare settings. Outbreak reports were received for 167 (84%) of these outbreaks. Of those with reports received, 4,302 outbreak-associated cases were identified in the 167 outbreaks: 3,655 (85%) from gastrointestinal illness (GI), 440 (10%) from respiratory illness, and 207 (5%) from other types. An average of 34 cases were identified in each GI outbreak (range 3-202), 14 cases in each respiratory outbreak (range 1-89), and 7 cases (range 2-18) in other types. This report and others may be found here.



INFECTION CONTROL ASSESSMENT AND RESPONSE (ICAR) UPDATE

Infection Control Assessment and Response (ICAR) work continues across North Carolina, assessing infection control gaps in various healthcare settings. The NC Division of Public Health (NC DPH) has partnered with the North Carolina Statewide Program for Infection Control and Epidemiology (NC SPICE) to provide onsite assistance for acute care hospitals (ACH), long term care facilities (LTCF), outpatient (OP) facilities, and dialysis centers. The program is on track to meet or exceed its established goals. To date, the program has assessed 32 ACHs (goal exceeded by 2), 90 LTCFs (goal exceeded by 10), and 52 OP facilities (goal of 85). Additionally, as a subgroup of the outpatient facilities, many local health departments have taken advantage of these free assessments. NC DPH and NC SPICE have met with representatives of the Region 6 End Stage Renal Disease (ESRD) Network to gauge the best way to conduct ICAR assessments in dialysis centers across the state. NC DPH and NC SPICE set educational priorities based on gaps identified during ICAR assessment. Two educational programs are being developed; these include an antibiotic stewardship webinar scheduled for May 17th (12 PM – 1 PM), and a live classroom session addressing identified gaps in infection control. The classroom session is slated for release Fall 2017; stay tuned for more information!

STATE EPIDEMIOLOGIST AND UNC-CH PROFESSOR TALK NC RULE .0206 COMPLIANCE IN NEW VIDEO

In 1992, North Carolina administrative code 15A NCAC 19A.0206 (.0206) was established to prevent the spread of bloodborne pathogens in healthcare settings. The law requires every freestanding healthcare organization that performs invasive procedures to have a written infection control policy. This includes hospitals, dental offices, clinics, urgent care centers, nursing homes, emergency medical service agencies—any health care setting that performs procedures that puncture the skin (such as an injection or blood draw) or enter a patient's tissues, cavities, or organs. The law also requires every healthcare organization to have a designated employee in charge of infection control activities at that facility and requires this employee to attend a state-approved infection control course.

The law was updated in 2010 following a hepatitis C outbreak among patients of a North Carolina cardiology clinic. The North Carolina Division of Public Health (NC DPH) investigated the outbreak and determined the cause to be unsafe injection practices in use by employees at the cardiology clinic. Employees reused multidose saline vials for multiple patients; the clinic was also not in compliance with 0206. Ultimately, over 1,000 patients were notified of the potential exposure, and 5 patients were identified as being infected with hepatitis C due to unsafe injection practices. This outbreak served as the driving force to update .0206 to increase the focus on safe injection practices, enhancing safety for all patients in all healthcare settings.

Although the law has been in existence since 1992, it is estimated that only 50% of 4,000 outpatient doctors' offices in North Carolina have someone on-site that has completed the required infection control training. The North Carolina Statewide Program for Infection Control and Epidemiology (NC SPICE) offers a state-approved infection control training that covers outpatient, dental, home health, and hospice settings.
Recently, Dr. Zack Moore, State Epidemiologist, and Dr. David Weber, Infectious Diseases Consultant for NC SPICE, discussed the importance of.0206 in a video with Dr. Allen Mask, WRAL medical reporter. View the video to learn more about this state law.

NEW STUDY SHOWS DENTISTS PRESCRIBE WITHIN GUIDELINES, STILL ROOM FOR IMPROVEMENT

Across the country, dentists prescribed 24.5 million antibiotic prescriptions in 2013, which equates to 10% of all antibiotic prescriptions in the outpatient setting.

A recent CDC study published in the Journal of the American Dental Association (JADA) revealed information about antibiotic prescribing practices among general dentists in the U.S. The study found that although dentists usually prescribe within recommended guidelines, they sometimes prescribe antibiotics not indicated for dental conditions, such as fluoroquinolones and others used to treat urinary tract infections.

Optimal antibiotic prescribing by all healthcare providers, including dentists, is critical to combat antibiotic resistant infections and save lives. CDC's Safe Healthcare Blog recently posted tips to support responsible antibiotic prescribing practices in dentistry. Additional information on improving antibiotic prescribing can be found on the Get Smart webpage.

EDUCATIONAL ACTIVITIES

The NC SHARPPS program strives to provide infection prevention education and training to healthcare providers and the general public. Here are a few educational events for healthcare providers regarding infection control:

- **Long term care facilities**: Will you be ready by November 28, 2017 when CMS implements the requirements for an antibiotic stewardship program? On May 17, 2017, NC SPICE is offering a webinar for long term care facilities to help prepare for the new CMS requirement: "Practical Advice for Implementing an Antibiotic Stewardship Program in Long Term Care." The webinar will feature Dr. Lisa Davidson, Medical Director of Carolinas HealthCare System Antimicrobial Support Network.
- **Critical Care Professionals/Nurses**: "Sepsis Standard Work: Improving Compliance with Early Recognition and Management of Perinatal Sepsis" webinar will be hosted by CDC on May 17, 2017 at 11AM EST. Continuing education is available.
- **Physicians**: An Injection Safety webinar presented by Dr. Zack Moore, State Epidemiologist, has been archived and made available by Duke University Health System Department of Clinical Education and Professional Development. Continuing education is available for physicians.
- **Physicians**: CDC and Medscape are providing a six month series on infection control. The registration is free and continuing education is available.

11 FACILITIES PARTICIPATE IN CDC-RECOMMENDED EXTERNAL VALIDATION OF NHSN DATA

CDC's National Healthcare Safety Network (NHSN) is the nation's most widely used healthcare-associated infection (HAI) tracking system. Validation of NHSN data is critical to ensure completeness and accuracy of HAI reporting and identifies opportunities for improvement in classification and reporting of HAIs. In Fall 2016, the NC SHARPPS program began an external validation of catheter-associated urinary tract infection (CAUTI) data reported through NHSN to assess performance characteristics and identify common reasons for misreporting. Four trained validators visited 11 randomly-selected facilities throughout the state from January to March 2017.

Overall, participating facilities performed well with classifying CAUTIs – specificity was 98%, and sensitivity was 92%. More false positives were identified than false negatives (positive predictive value was 85% compared to 99% negative predictive value) . When reporting errors were identified, the most common issues were misidentifying a positive urine culture that was present on admission (POA) as a CAUTI and issues related to medical record documentation (i.e., documentation of Foley insertion/removal, documentation of symptoms, documentation of patient location).

Several facilities reported using reports from their financial department to document and report patient days. It is important to remember that any time electronic data collection is used to report events or denominator information into NHSN, NHSN requires that the electronic method be validated for accuracy. Guidance for validation can be found in the 2016 Patient Safety Data Quality Guidance and Toolkit for Reporting Facilities. Additionally, if there are missing device days or patient days, one should refer to NHSN-issued guidance related to imputing values for missing data.

It should be verified that anyone performing daily counts is using appropriate definitions/methods and has received formal training. Formal training for counters by NHSN or an NHSN-trained IP is recommended by NHSN due to technical aspects of definitions (e.g., central line, permanent line, temporary line) and methods (e.g., when to count lines, how many to count). Training resources are available from https://www.cdc.gov/nhsn/acute-care-hospital/index.html and https://www.cdc.gov/nhsn/training/index.html.

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