

SHARPPS Newsletter

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

PROGRAM UPDATES

New SHARPPS Faces!

We would like to welcome Savannah Carrico as an epidemiologist and permanent member of the SHARPPS team! Many of you know Savannah as she has been with us in a temporary capacity since December 2017. Originally from Oregon, Savannah moved to North Carolina to work with us. Savannah's scope of responsibility has increased to include the majority of Healthcare Acquired Infections (HAIs) and Carbapenem Resistant Enterobacteriaceae surveillance, response, & reporting. Savannah received her Bachelor of Science in biological sciences with a minor in anthropology from Cal Poly San Luis Obispo and her MPH from Oregon State University. She has 2 fur babies, an Australian Shepherd and a cat, and enjoys ballet and exploring NC.

We would also like to welcome Megan (Meg) Sredl who recently completed a summer practicum with the NC Division of Public Health, analyzing Hepatitis C Virus and other injection drug use associated infections data. Meg is joining our team as a part-time epidemiologist and will be working on a variety of HAI projects as well as Legionella. Meg received a Bachelor of Science with a major in neuroscience and minor in public health from The College of William and Mary and a MPH with a concentration in biostatistics and epidemiology from The University of Southern California. She enjoys baking, crocheting, and watching Formula 1 racing.

Savannah can be reached at savannah.carrico@dhhs.nc.gov or 919-546-1679.

Meg can be reached at megan.sredl@dhhs.nc.gov or 919-546-1712.

Please join us in welcoming Savannah and Meg!



Savannah Carrico



Meg Sredl



INSIDE THIS ISSUE

- *Program Updates 1,2
- *Antimicrobial Stewardship 2
- *US Antibiotics Awareness Week 2,3
- *CRE Update 3,4,5
- *Enhanced Barrier Precautions 5,6
- *Annual Report 6
- *Resources 6

HEALTH EDUCATOR LISTSERV



The SHARPPS Program has engaged in multiple educational opportunities and related activities as you will see in this Newsletter! We created a health educators listserv, highlighting public health educators in all 100 NC counties. This listserv will be an additional means of further communication to ensure health education needs are met across the state. Please contact Deborah Dolan at 919-546-1649 or Deborah.dolan@dhhs.nc.gov to add a health educator in your community.

Antimicrobial stewardship

SHARPPS Stewardship activities update

The NC STewardship of Antimicrobial Resources (STAR) Partners program is well underway. We now have 11 STAR Partners, and our first Critical Access Hospital as a commitment level participant, Pender Memorial Hospital! We would love for your facility to become a STAR partner. To improve our ability to communicate with antimicrobial stewardship professionals, our SHARPPS public health educator Deborah Dolan has compiled a comprehensive email listserv of antimicrobial stewardship professionals at acute care facilities across the state. Thank you to everyone who provided contact information to make this possible. We plan to utilize this listserv to improve the visibility of the STAR Partners program as well as provide a valuable professional exchange platform where stewardship professionals can share information and ask for advice from colleagues within our state. We hope this will be a valuable tool to improving antimicrobial stewardship statewide. We are certainly open to other uses for this resource as well, such as regular statewide stewardship educational webinars, or other innovative ideas. If you have any input please do not hesitate to contact James Lewis at james.w.lewis@dhhs.nc.gov or 919-546-1641.

We have also begun working on a STAR Partners expansion into Long Term Care Facilities (LTCFs). The LTCF expansion of STAR Partners will be structured similarly to the acute care hospital program but will be based on [CDCs Core Elements of Antibiotic Stewardship for Nursing Homes](#). We hope this will provide a helpful resource to LTCFs across NC as they begin to implement stewardship programs in compliance with CMS regulations. We will provide further updates as we get closer to completion of the Initiative materials.

US ANTIBIOTIC AWARENESS WEEK: NOVEMBER 18-24!

The NC Division of Public Health's Communicable Disease Branch and the SHARPPS program are excited to share our Antibiotics Awareness Week and "Be Antibiotics Aware: Smart Use, Best Care Campaign" activities. Since 2014, NC has been an active participant in this CDC campaign with the goal of educating the citizens of NC on the proper use of antibiotics. Antibiotics are medications that destroy or slow down the growth of bacteria. Over time, bacteria often develop resistance to antibiotics. Antibiotic resistance is one of the most serious problems facing modern health care. Patients and providers can take the following steps to promote antimicrobial stewardship: 1) Prescribe antibiotics only when needed, 2) Ask your provider if antibiotics are necessary, 3) Take antibiotics exactly as prescribed by your provider, and 4) Do not save antibiotics or share antibiotics.

Community Engagement: Leading up to Antibiotics Awareness week, we will ask K-12 graders to participate in an artwork competition regarding the proper use of antibiotics. The goal of this week is to participate in national annual observance and engage stakeholders such as professional societies, advocacy groups, for-profit companies, local health departments, the general public and the media, around antibiotic stewardship in the outpatient, inpatient, and animal health settings. We will utilize our health education listserv to ask the health educators to promote the campaign and invite schools in their communities to participate. There will be a total of nine winners, three per grade level; K-5, 6-8 and 9-12. Winners will be announced and presented with prizes during a reception held on **Friday, November 15**. Please consider spreading the message and invite to your local schools as well! Contact Deborah Dolan at 919-546-1649 or Deborah.dolan@dhhs.nc.gov for additional information.

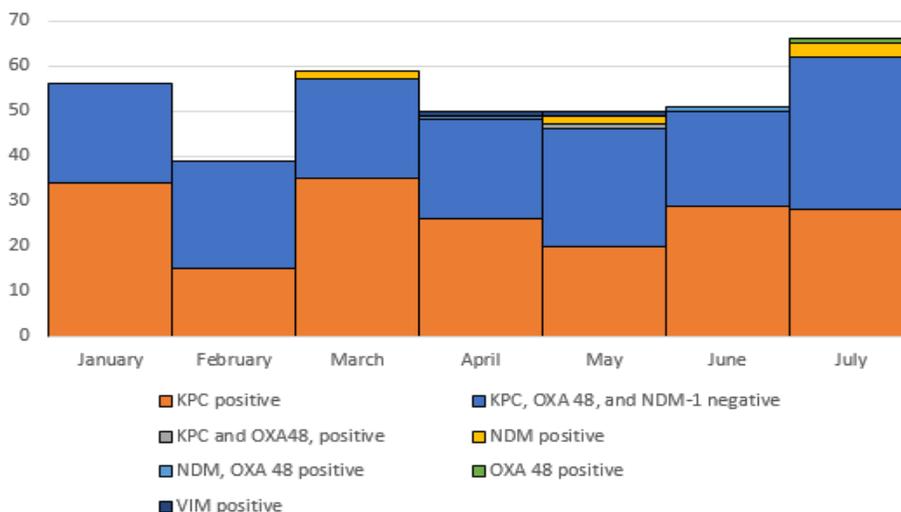


CARBAPENEM RESISTANT ENTEROBACTERIACEAE (CRE) UPDATE

In conjunction with local health department communicable disease nurses, we have developed a systematic response to Carbapenemase Producing CRE (CP CRE) cases. We utilize the CDC's three tiered containment strategy (<https://www.cdc.gov/hai/containment/guidelines.html>) to guide our responses which include infection prevention measures, screening and surveillance, with Tier 1 being most aggressive and Tier 3 least aggressive response. *Klebsiella pneumoniae* carbapenemase (KPC) is a carbapenemase that is endemic in North Carolina and is considered a Tier 3 organism. Non-KPC CP CRE, including imipenemase metallo-beta-lactamase (IMP), New Delhi metallo-beta-lactamase (NDM), verona integron-encoded metallo-beta-lactamase (VIM), and oxacillinase (OXA) carbapenemases, are considered Tier 2 organisms. A case of any CP CRE should be placed on appropriate precautions and, if possible, in a private room.

CP CRE IDENTIFICATION AT THE NORTH CAROLINA STATE LABORATORY OF PUBLIC HEALTH (NC SLPH)

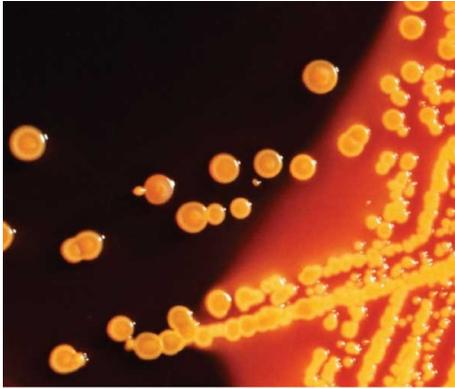
Carbapenemase Results for Isolates submitted to SLPH (n=371) from January 1, 2019 through July 31, 2019



We request that facilities and laboratories send CRE isolates to the NC SLPH. These isolates are tested for carbapenemase production by polymerase chain reaction (PCR) and modified carbapenem inactivation method (mCIM). From January 1, 2019 to July 31, 2019, 371 isolates have been tested at the NC SLPH. 200 (53%) of these isolates tested positive for KPC. This is consistent with national data which found that 47% of isolates tested in 7 US metropolitan areas are positive for KPC. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5853342/>.

In 2019, we have identified KPC, NDM-1, VIM and OXA-48. KPC makes up 94% of all carbapenemases detected. Three isolates had dual mechanisms of resistance. One isolate was positive for both KPC and OXA-48 and two isolates were positive for NDM-1 and OXA-48. These three isolates were unrelated.

CRE SURVEILLANCE



Effective October 1, 2018, CP-CRE is reportable within 24 hours in NC. Events are reported and surveillance is conducted via our electronic surveillance system, NC Electronic Disease Surveillance System (NCEDSS). During January 1, 2019 to July 31, 2019, 396 events have been identified. Each event is verified by the SHARPPS team and shared with the LHD CD staff for follow-up and response. Specific data elements of interest include risk history (e.g., history of travel), inpatient health care facility admissions (e.g., long term care), placement on appropriate precautions, and whether or not the patient has had a roommate. Once data are gathered, the SHARPPS team review and respond as appropriate.

KPC PRODUCING CRE

When a KPC producing CRE case is identified in a resident of a long-term care facility (LTCF) or long-term acute care hospital (LTACH) and the case has a roommate, screening of the roommate is recommended. The screening is coordinated as follows:

1. The local health department (LHD) communicable disease (CD) nurse will go onsite and perform an infection prevention assessment and aid in the coordination of collecting the rectal swab from the resident.
2. The swabs are then sent to the Antibiotic Resistance Laboratory Network (ARLN) regional lab in Maryland for carbapenemase mechanism testing.
3. If the roommate screens negative, the facility performs prospective surveillance for four months and alerts the local health department of any new CRE.
4. If the roommate screens positive, a point prevalence screening is performed. This means that an expanded number of individuals are screened, sometimes the hallway/ floor the resident is on or the entire facility. The number and location of residents screened will be decided in consultation with the NC DPH and the LHD CD nurse based on epidemiologic data gathered from the facility.
5. If there are new cases identified, repeat point prevalence screenings are performed until no further evidence of transmission is identified.
6. The facility then performs prospective surveillance for four months.

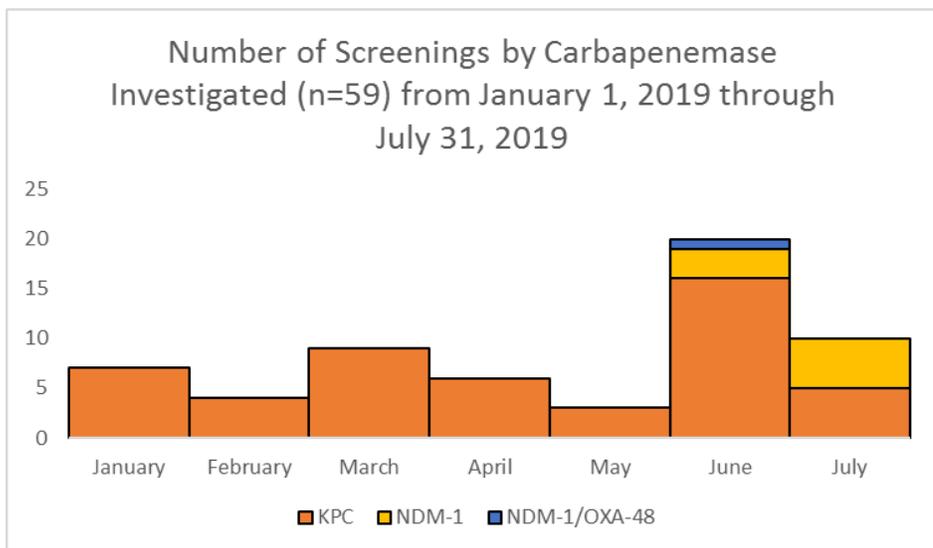
NON-KPC PRODUCING CRE

When a non KPC producing CRE case is identified in a resident of a healthcare facility (LTCF, LTACH, or acute care hospital), public health representatives and/or infection preventionists will go onsite and perform an infection prevention assessment and aid in the coordination of collecting the rectal swabs from residents.

A point prevalence screening is performed on those residents/patients that overlapped with the patient for more than 24 hours and those on the floor where the patient spent the most time. If new cases are identified, a targeted point prevalence screening will be performed based on the type of facility and relevant epidemiologic data. The facility then performs prospective surveillance for four months.

2019 CRE SCREENINGS

From January 1, 2019 to July 31, 2019, NC DPH in coordination with local health departments have performed 59 screenings in 34 facilities in 19 counties. 568 rectal swabs have been collected and tested at the ALRN laboratory in Maryland. Fourteen (24%) of the 59 screenings have identified additional cases of CP CRE.



ENHANCED BARRIER PRECAUTIONS

Given our activity around CRE, we wanted to make you aware of interim guidance that was recently released by CDC to address use of personal protective equipment and room restriction for residents of nursing homes colonized or infected with MDROs such as CRE. This guidance introduces the concept of Enhanced Barrier Precautions (EBP), which recommends gowns and glove use for certain residents during specific high-contact resident care activities. This guidance is available at

<https://www.cdc.gov/hai/containment/PPE-Nursing-Homes.html>

Interested in having SHARPPS present or exhibit at your upcoming event? Contact us at nchai@dhhs.nc.gov.

NC SHARPPS TEAM

- Savannah Carrico, MPH
Epidemiologist
- Deborah Dolan, BS
Health Educator
- James Lewis, MD, MPH
Medical Director
- Jennifer MacFarquhar, MPH, RN, CIC
Program Director
- Meg Sredl, MPH
Epidemiologist

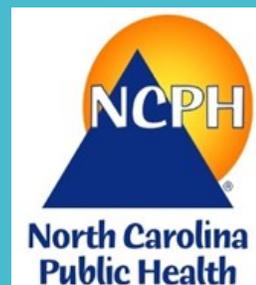
CONTACT US!

225 N. McDowell Street
Raleigh, NC 27603

Phone: 919-733-3419

Fax: 919-733-0490

E-mail: nchai@dhhs.nc.gov



This is similar to guidance the SHARPPS program has been providing under the name of “Enhanced Standard Precautions”. We previously recognized that prolonged use of Contact Precautions with room restriction for residents colonized with MDRO organisms such as CRE was not be feasible. Given the increased risk for ongoing transmission of these pathogens, we wanted to offer nursing homes an alternative to Contact Precautions that provided more specific information on when to implement barriers (gown/gloves) during care of these residents. We are very excited that CDC has officially released similar guidance on a national scale, and moving forward, we will be recommending its implementation where indicated.

ANNUAL REPORT HIGHLIGHTS

2018 Annual Report

In 2018, healthcare facilities in North Carolina reported fewer number of infections than were predicted for CAUTIs, LabID events, and SSIs, performing better than the national experience. Facilities in North Carolina reported the same number of infections as predicted for CLABSIs, performing about the same as the national experience. For the complete report, please visit our website at <https://epi.dph.ncdhhs.gov/cd/hai/figures.html>.

NEW/UPCOMING RESOURCES AND OPPORTUNITIES

Infection Prevention videos

NC SHARPPS has partnered with Statewide Program for Infection Control and Epidemiology (SPICE) to create videos on Conducting Environmental Assessments and on Basic Infection Control and Injection Safety. For more information on these tools, please follow these links:

<https://spice.unc.edu/new-videos/> and

<https://spice.unc.edu/videos-basic-infection-control-and-injection-safety/>.



APIC-NC Fall Conference

Join the North Carolina chapter of the Association for Professionals in Infection Control and Epidemiology (APIC-NC) for their Fall Education Conference to be held September 24-26 at the Embassy Suites by Hilton in Concord, NC. Register here: <https://tinyurl.com/y4lupozy>.

NCPHA Fall Conference

Join the North Carolina Public Health Association (NCPHA) for its Fall Educational Conference to be held September 25-27 at the Grandover Resort and Conference Center in Greensboro, NC. Register here:

<https://ncpha.memberclicks.net/fall-educational-conference>.