

Infection Prevention Updates for Acute Care & Outpatient Settings

May 8, 2024

NEBRASKA

Good Life. Great Mission.

DEPT. OF HEALTH AND HUMAN SERVICES



NEBRASKA INFECTION CONTROL ASSESSMENT AND PROMOTION PROGRAM

Presenters & Panelists & Moderator

Presenters today:

Kate Tyner, RN, BSN, CIC

ltynern@nebraskamed.com

Juan Teran Plasencia, MD

jteranplasencia@unmc.edu

Panelists today:

Sarah Stream, MPH, CDA, FADAA

sstream@nebraskamed.com

Chris Cashatt, RN, BSN, CIC

ccashatt@nebraskamed.com

Josette McConville, BSN, RN, CIC

jmccconville@nebraskamed.com

Jenna Preusker, Pharm.D., BCPS, BCIDP

jepreusker@nebraskamed.com

Moderator today:

Margaret Deacy

mdeacy@nebraskamed.com

Questions & Answer Session

- Please use the Q&A box in the webinar platform to type a question to be read aloud.
 - If your question is not answered during the webinar, please call (402) 552-2881 Monday – Friday 8:00 am – 4:00 pm CST to speak with one of our Infection Preventionists or e-mail your question to nebraskaicap@nebraskamed.com

Slides & Webinar Recordings Available

- During this webinar, slides are available on the [NE ICAP Acute Care webpage](#)
- Visit the [NE ICAP Past Webinars and Slides webpage](#)
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Past Webinars and Slides

[Acute Care and Outpatient Setting Webinars](#)

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Nebraska Medicine is approved as a provider of nursing continuing professional development by the Midwest Multistate Division, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

In order to obtain either contact hour, you must be present for the entire live webinar and complete the post webinar survey

No conflicts of interest were identified for any member of the planning committee, presenters or panelists of the program content

This CE is hosted by Nebraska Medicine and UNMC along with Nebraska ICAP and Nebraska DHHS

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The accredited provider has mitigated and is disclosing identified relevant financial relationships for the following faculty, planners, and others in control of content prior to assuming their roles:

The faculty have nothing to disclose:

Kate Tyner, RN, BSN, CIC

Juan Teran Plasencia, MD

The planning committee members have nothing to disclose:

Jody Scebold, EdD, MSN, RN, CIC

Rebecca Martinez, BSN, BA, RN, CIC

Margaret Deacy

Josette McConville, BSN, RN, CIC

Chris Cashatt, RN, BSN, CIC

Jenna Preusker, Pharm.D., BCPS

Lacey Pavlovsky, MSN, RN, CIC, LTC-CIP

Sarah Stream, MPH, CDA, FADAA

Respiratory Season Update

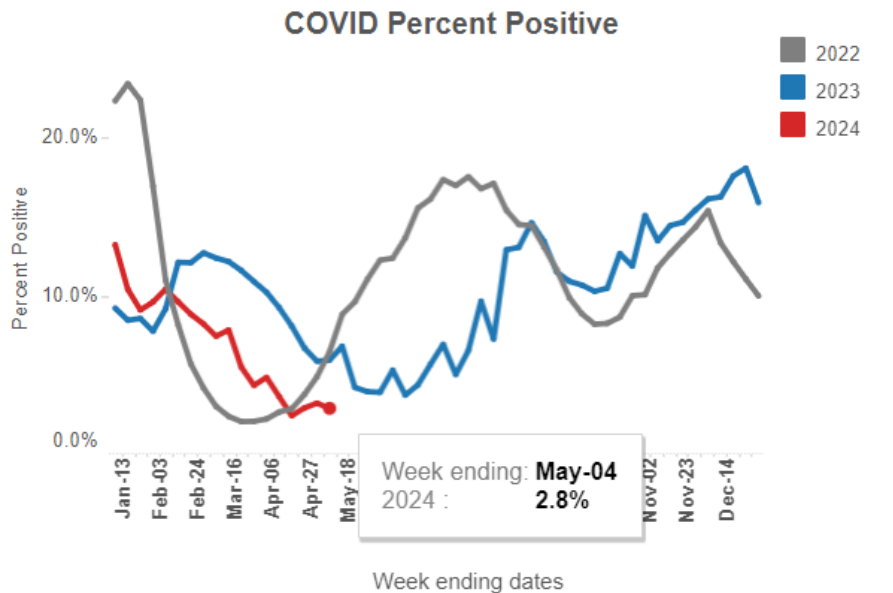
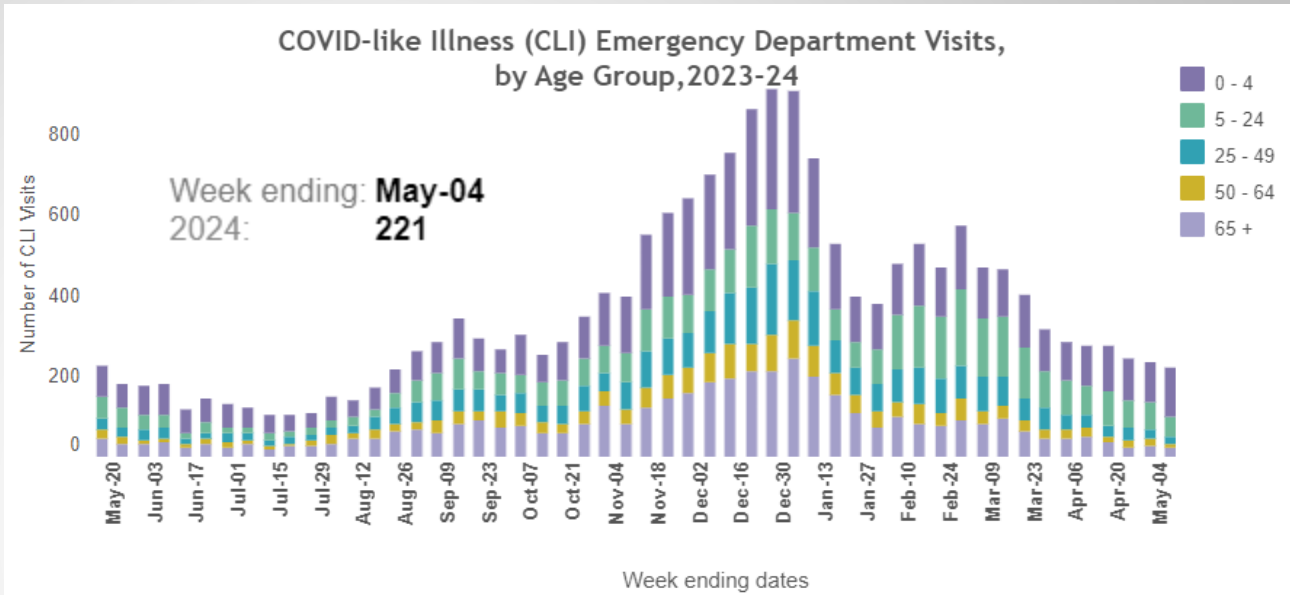
Juan Teran, MD
Medical Director, NE ICAP



Key points

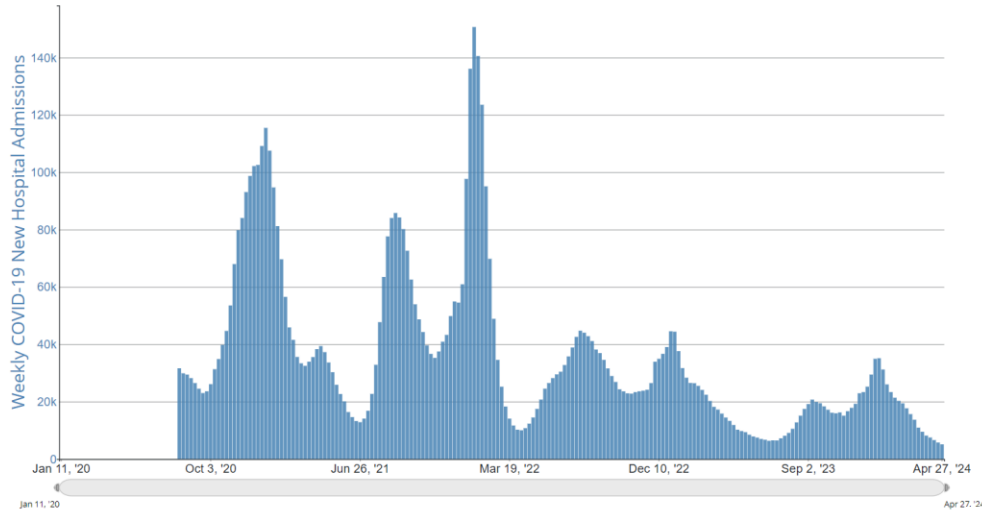
- Covid continues to decrease
- RSV is low
- Flu cases now decreasing

NE DHHS COVID Data



COVID Rate of Hospitalizations US

COVID-19 New Hospital Admissions, by Week, in The United States, Reported to CDC



United States

Weekly COVID-19 New Hospital Admissions: 5,098

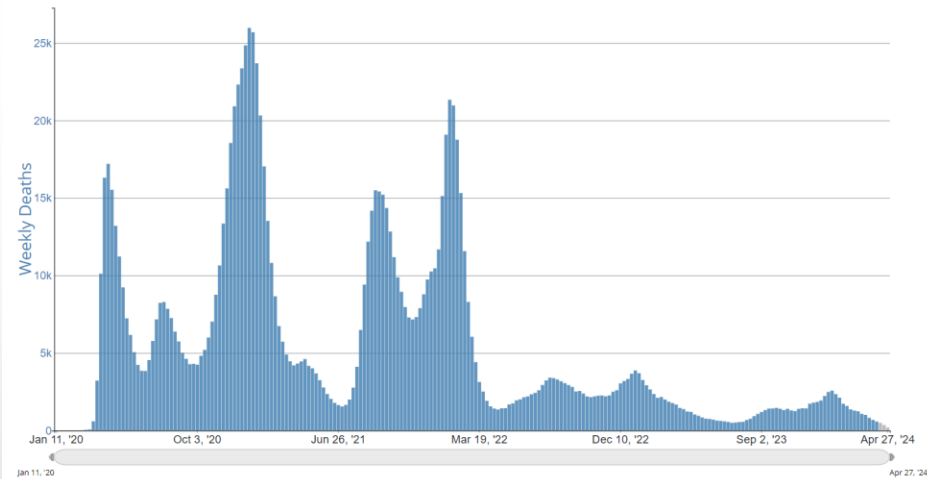
Date: April 27, 2024

United States

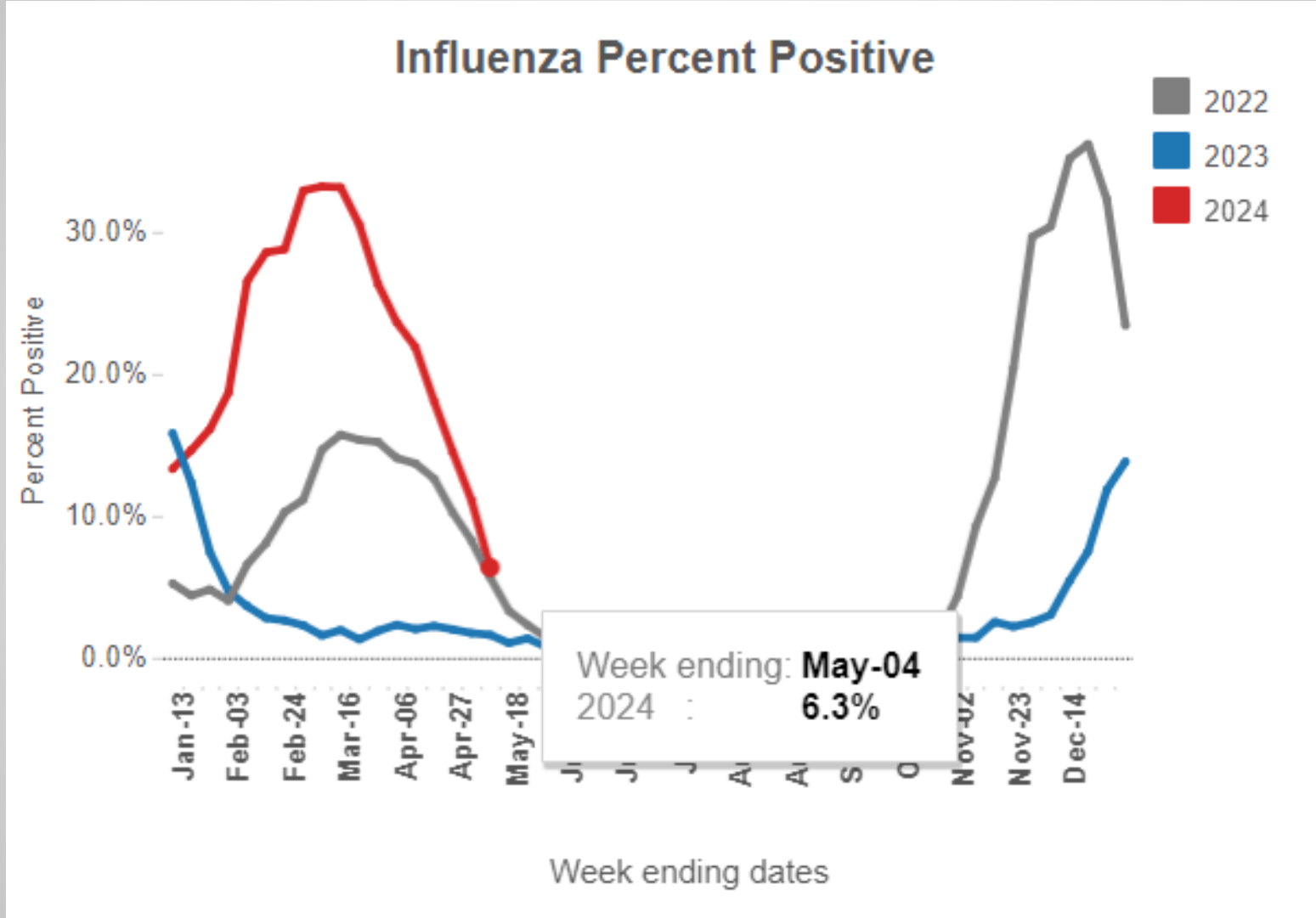
Weekly Deaths: 184

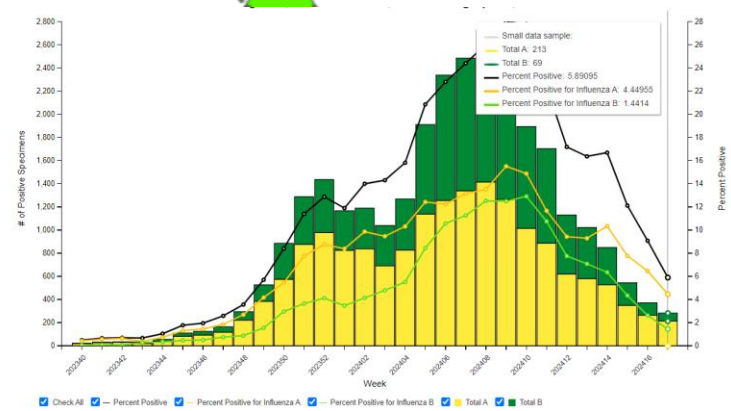
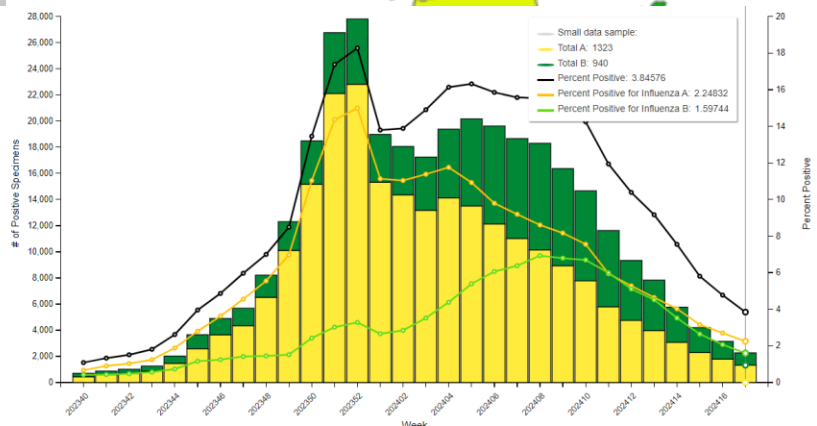
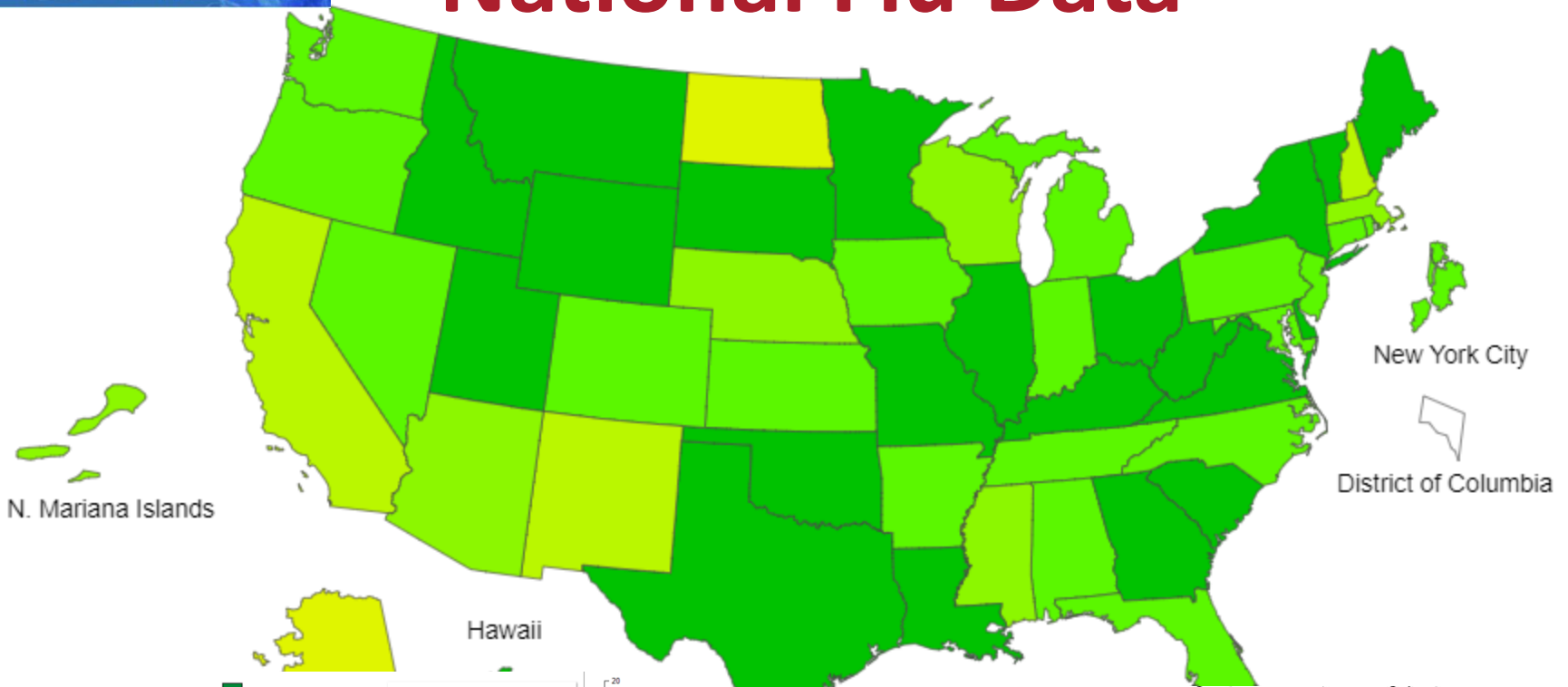
Date: April 27, 2024

Provisional COVID-19 Deaths, by Week, in The United States, Reported to CDC



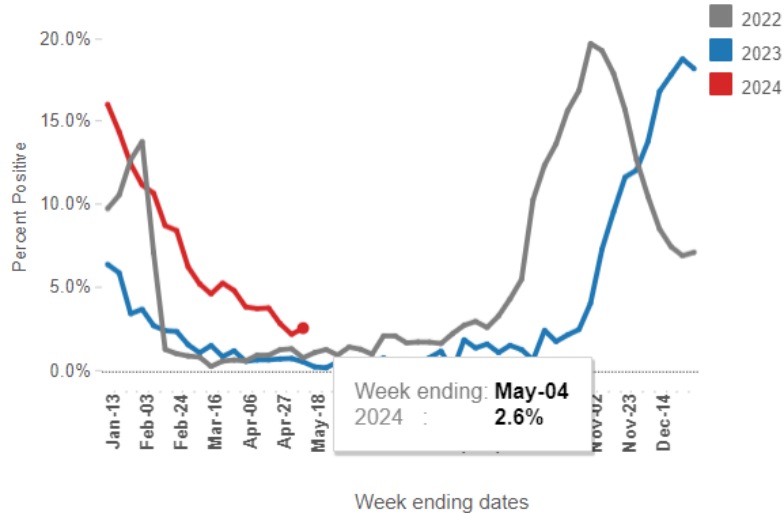
Influenza NE DHHS report



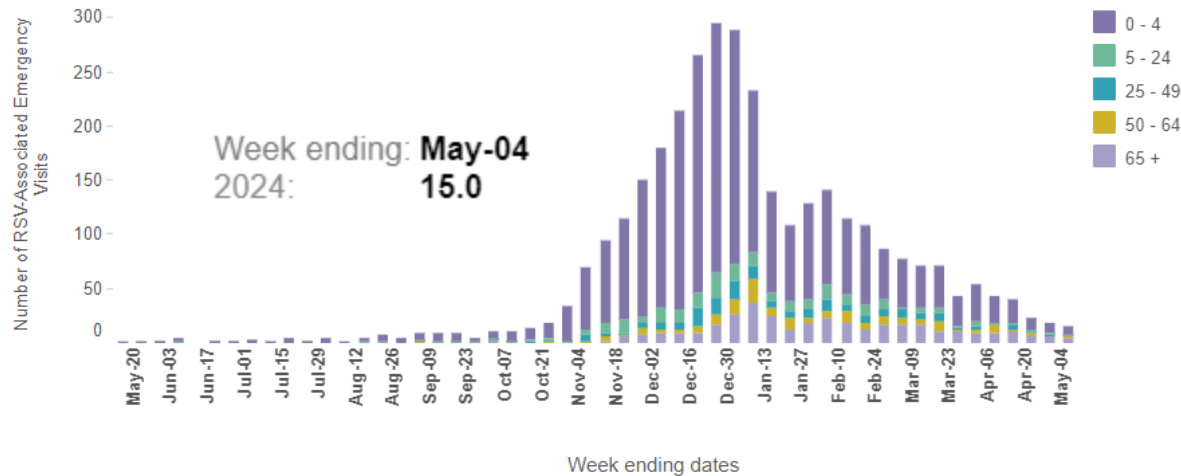


RSV ER Visits By Age Group

RSV Percent Positive



RSV-Associated Emergency Department Visits, by Age Group, 2023-24



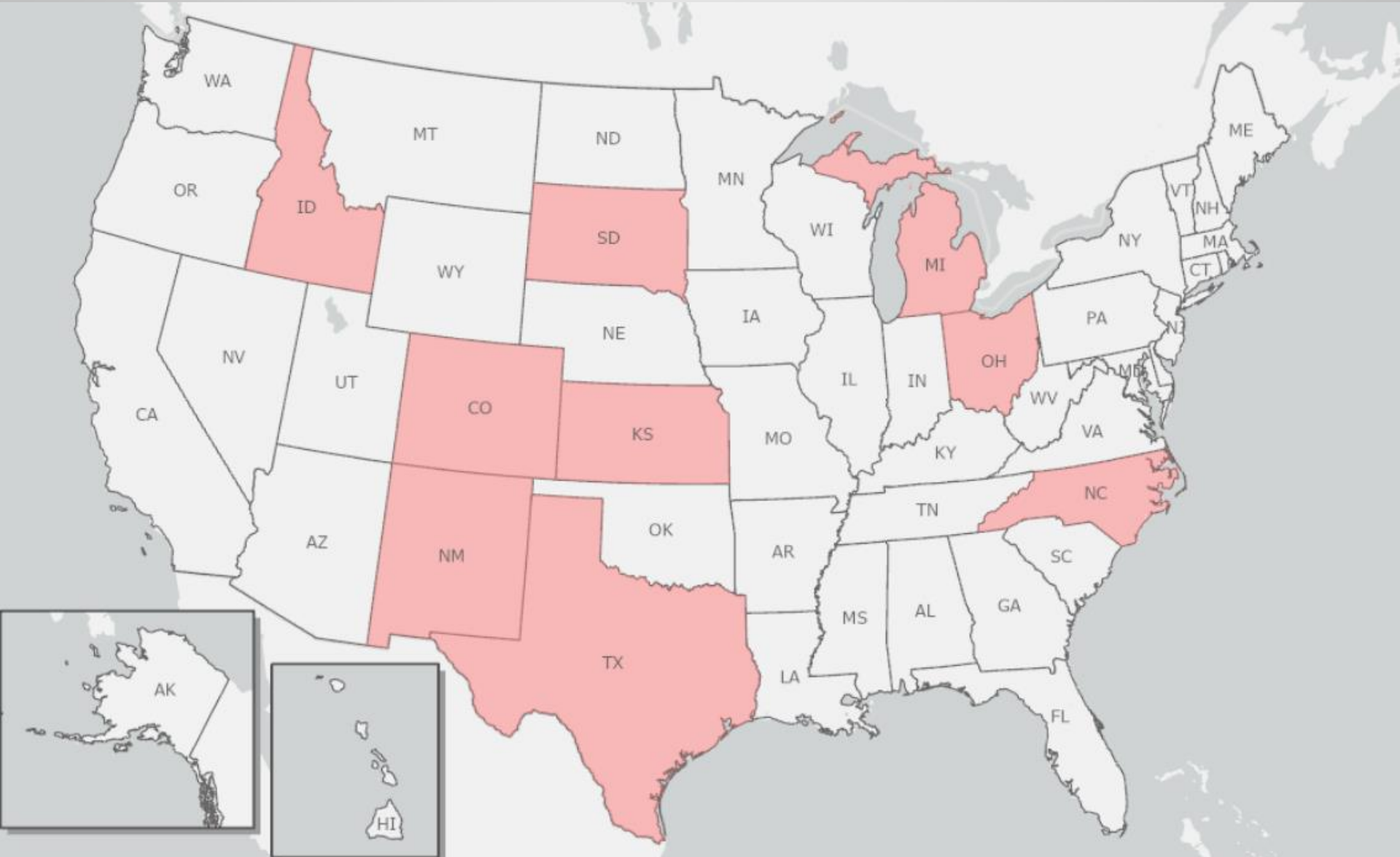
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HPAI H5N1



Dental Unit Water Lines in the perioperative setting: Why does it matter?

Kate Tyner, BSN, RN, CIC

With content support from Sarah Stream MPH, CDIPC, CDA, FADAA
& Jody Scebold EdD, MSN, RN, CIC

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NEBRASKA INFECTION CONTROL ASSESSMENT AND PROMOTION PROGRAM

Outline

Discuss outbreaks related to dental unit waterlines and the CDC Health Alert.

Explain the basic steps for an effective dental unit waterline policy and procedures.

Identify resources and recommendations surrounding dental unit waterline safety.

The Outbreaks

Georgia, 2014- 2016

Mycobacterium abscessus

Lawsuit: Dental clinic used contaminated water during procedures, infected dozens of children

—
The lawsuit states several of the children suffered from physical trauma and emotional pain related to the procedures, some of which may not have been necessary.

KCEN 6+ Central Texas

<https://www.kcentv.com/article/news/lawsuit-dental-clinic-used-contaminated-water-during-procedures-infected-dozens-of-children/500-526991124>

1,386 Pulpotomies
from 1/1/14-
1/1/16

ID Physician
Connected Cases

23 Patients
Confirmed or
Probable
Infections

3-11 years old

Incubation Period
was 18-164 Days

All patients
required
hospitalization (1-
17 days)

17 Patients
Required Surgical
Excision

10 Patients
Required IV
Antibiotics

Non-tuberculosis
*Mycobacterium
abscessus*

All 7 Operatories
Tested Over Limit
of 500 CFU

M. abscessus was
cultured from all
water samples

All Patient and
Water Samples
Genetically
Identical

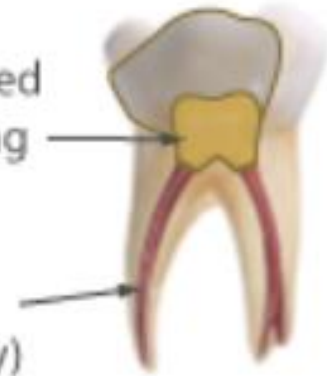
What's a pulpotomy?

puhl·paa·tuh·mee

This is a dental procedure in which the pulp in the crown of a tooth is removed in order to save the tooth from infection or decay. Pulp is found in both the roots and the crown of a tooth and is the soft tissue that is comprised of nerves and blood vessels.

Chamber pulp removed and replaced with medicated filling

Canal pulp stays alive (hopefully)



California, 2016

Invasive *Mycobacterium abscessus* Outbreak at a Pediatric Dental Clinic

Jasjit Singh,¹ Kathleen O'Donnell,² Delma J. Nieves,¹ Felice C. Adler-Shohet,^{1,9} Antonio C. Arrieta,¹ Negar Ashouri,¹ Gurpreet Ahuja,^{3,4} Michele Cheung,² W. Nathan Holmes,⁵ Kevin Huoh,^{3,4} Lisa Tran,⁶ M. Tuan Tran,¹ Nguyen Pham,^{3,4} and Matthew Zahn²

■ Nonculture (+) Cases
 ■ Culture (+) *M. abscessus*
 ■ Culture (+) *M. chelonae*
 ■ AFB (+) unable to type

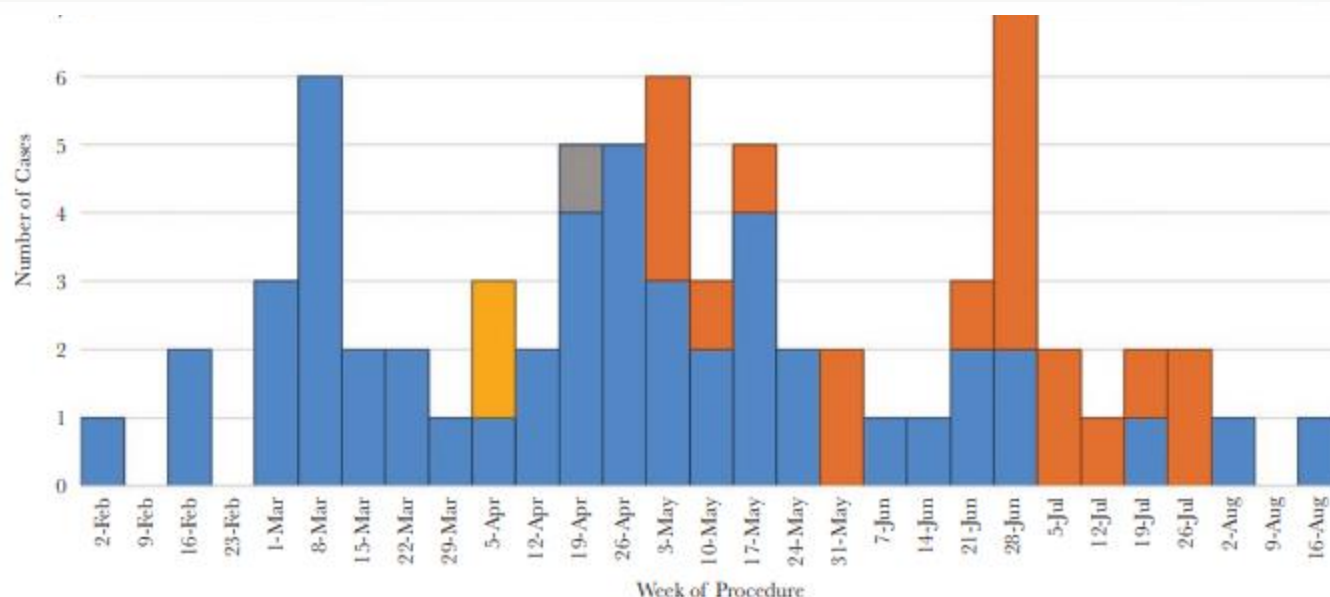


Figure 1. Epidemic curve for dental-clinic associated nontuberculous mycobacterial infections according to month of pulpotomy procedure, February–August 2016. Abbreviation: AFB, acid-fast bacilli.

1,082 Pulpotomies
from 1/1/16-9/6/16

ID Physician
Connected Cases

71 Patients
Confirmed or
Probable Infections

4-7.5 Years Old

Median Symptom
Onset: 85 days
(1-409 Days)

Pain/ Swelling in 79%
of Cases

70 Patients Required
Hospitalization
(Average of 8.5 Days)

71 Patients Required
Surgery, Extractions
and Debridement

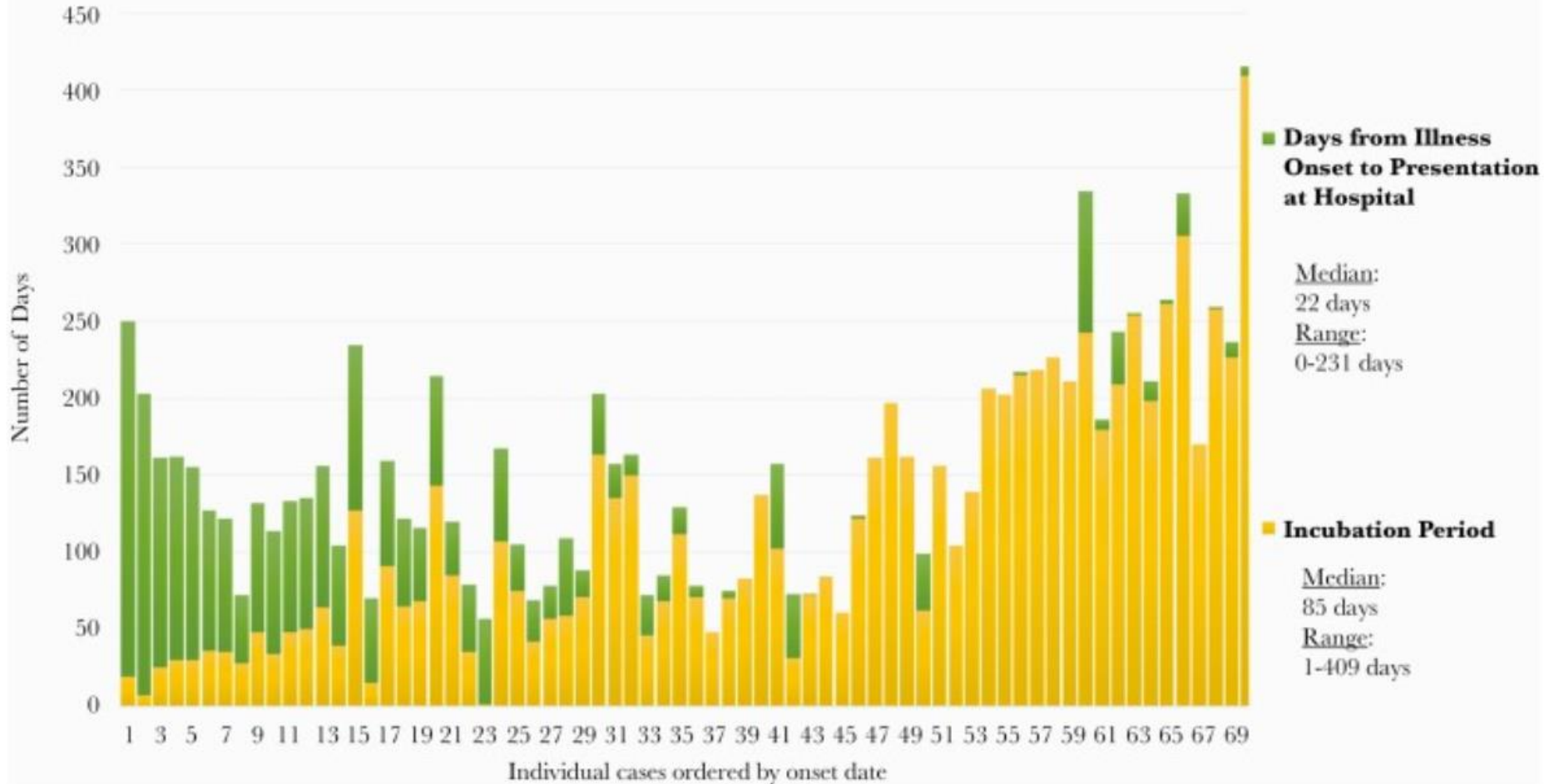
32 Patients Required
IV Antibiotics

19 Patients Patients
had Asymptomatic
Pulmonary
Granulomas

Non-tuberculosis
Mycobacterium
abscessus

Waterlines Tested at
600-16,000 CFUs

Individual Case Progression Pulpotomy Procedure to Hospital Admission



Outbreaks of Nontuberculous *Mycobacteria* Infections Highlight Importance of Maintaining and Monitoring Dental Waterlines



Distributed via the CDC Health Alert Network
October 31, 2022, 1:00 PM ET
CDCHAN-00478

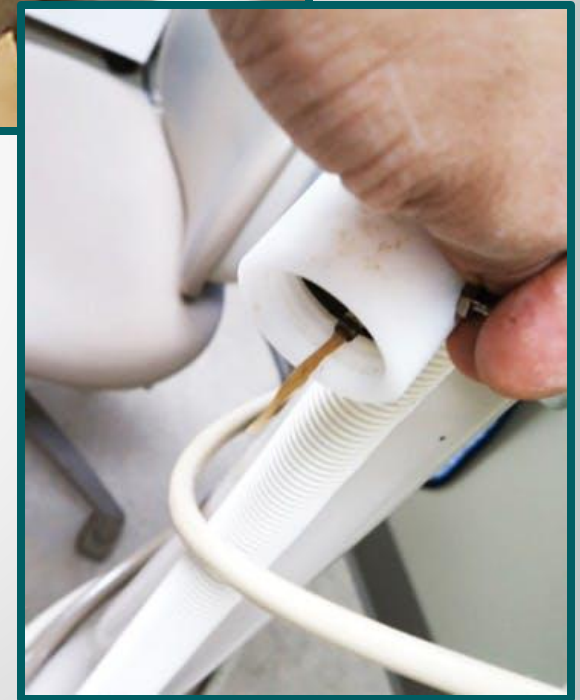
Link at <https://emergency.cdc.gov/han/2022/han00478.asp>

The Mechanics

What is a dental unit?



- Air/ Water Syringe
- Handpiece Coupler
- Vacuum Lines



What's in the water? Concerns over dental unit water lines challenge compliance efforts for patient safety, E Gurtizky. RDH Magazine. July 21, 2016. Accessed online 4/10/24
<https://www.rdhmag.com/infection-control/water-safety/article/16409305/whats-in-the-water-concerns-over-dental-unit-water-lines-challenge-compliance-efforts-for-patient-safety>

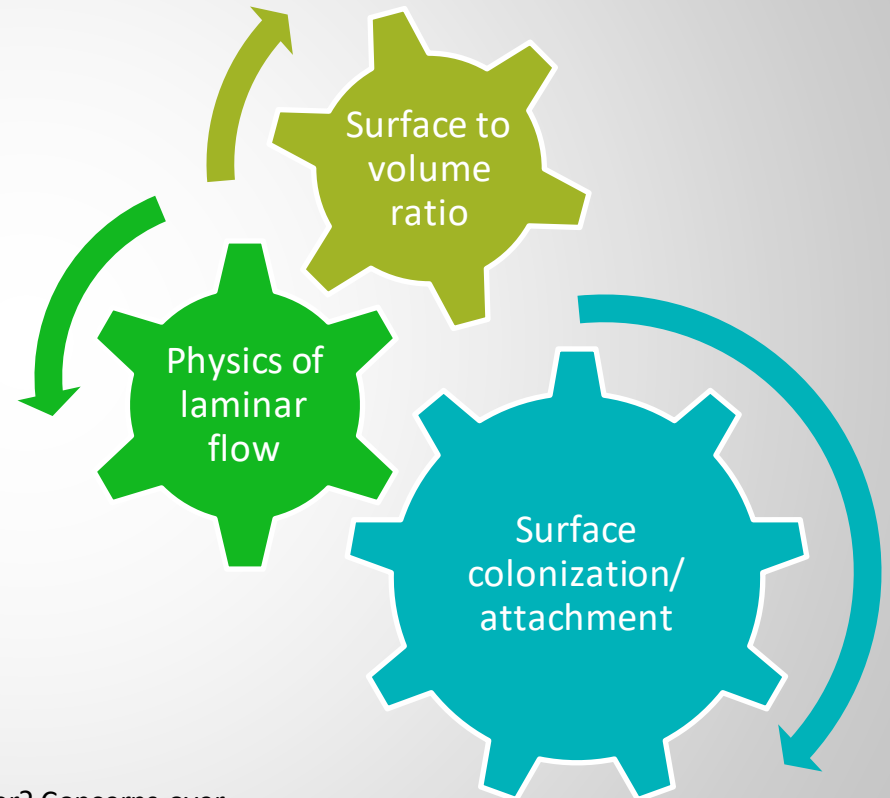
Why does this matter in the acute care setting?



Dental units are likely in use in the perioperative services area.

“The Perfect Convergence of Biology”

- Microbial counts can reach as high as 200,000 CFU/mL within five days after installation of new dental unit water line.
- Causal factors include
 - system design
 - flow rates
 - materials which promote bacterial growth and development of biofilm.



Quote attributed to Dr. Shannon Mills in article, “What's in the water? Concerns over dental unit water lines challenge compliance efforts for patient safety,” E Gurtizky. RDH Magazine. July 21, 2016. Accessed online 4/10/24 <https://www.rdhmag.com/infection-control/water-safety/article/16409305/whats-in-the-water-concerns-over-dental-unit-water-lines-challenge-compliance-efforts-for-patient-safety>

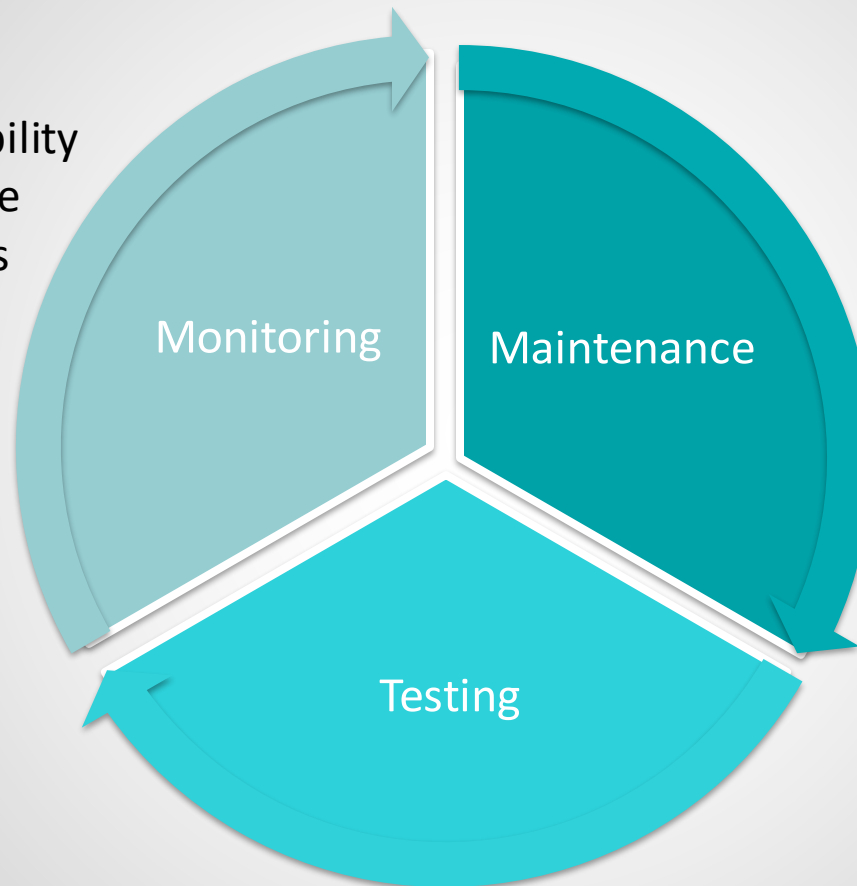
Does your facility have them?

- General anesthesia may be used for patients that cannot tolerate procedures in the typical outpatient setting
- Might include
 - General hygiene
 - Restorative dental procedures (e.g., crowns, implants, root canals)
 - Reconstructions such as mandible defects using Kirschner wires ("k –wires")

Mitigation & Action

Dental Unit Water Quality

- Assign accountability
- Define acceptable limits and actions



- Maintain water quality to <500 CFUs or lowest possible
- Follow instructions for use for all dental equipment
- Utilize practices that maintain water quality, including flushing

- Identify frequency testing is necessary
- Identify type that will be used
- Select locations or use pooled method

Do national guidelines or frameworks exist?

1. Organization for Safety, Asepsis and Prevention (OSAP)

- Dental Unit Waterlines (DUWL)

<https://www.osap.org/topics-dental-unit-waterlines-duwl>

2. CDC

- HAN: Outbreaks of Nontuberculous Mycobacteria Infections Highlight Importance of Maintaining and Monitoring Dental Waterlines

<https://emergency.cdc.gov/han/2022/han00478.asp>

- Guidelines for Infection Control in Dental Health-Care Settings — 2003

<https://www.cdc.gov/mmwr/PDF/rr/rr5217.pdf>

3. U.S. Food & Drug Administration (FDA)

- Dental Unit Waterlines

<https://www.fda.gov/medical-devices/dental-devices/dental-unit-waterlines>

Maintenance: Safe Water Use Practices

- Identify and adhere to source water specifications (e.g., filtered, sterile, etc.)
- Ensure policies are up to date, and follow the instructions for use for the dental water line units
- Ensure staff members are educated, competent, and compliant with policy
- Flush waterlines according to instructions for use (e.g., flush for 2 minutes at the start of the procedure day, flush for 30 seconds between patients)



Testing Water

- Review instructions for use (IFU) for dental units regarding waterline testing
- Identify action limits and mitigation strategies
- Identify testing processes and schedule
- Identify who is accountable and build in continuity
- Educate team members on DUWL testing

1. OSAP <https://www.osap.org/assets/docs/resources/toolkits-topics/dental-unit-water-quality-organization-for-safety-asepsis-and-prevention-white-paper-and-recommendations-2018.pdf>
2. CDC <https://www.cdc.gov/oralhealth/infectioncontrol/pdf/safe-care2.pdf>

More on testing

Testing locations

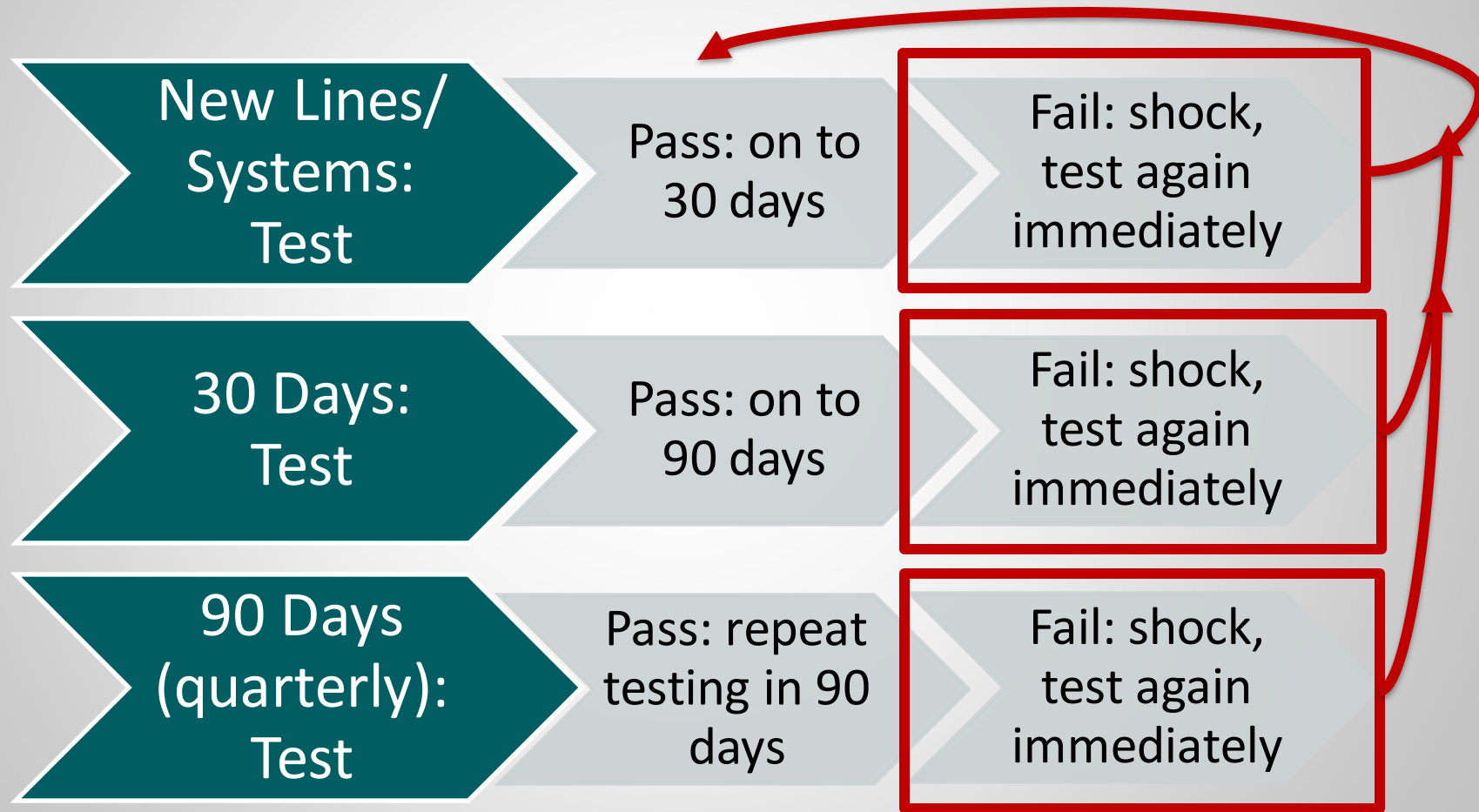
- Air/water syringes
- Handpiece hosing with water
- Ultrasonic scalers
- Any other hosing that might provide water for clinical uses

Pooling Samples

- All lines from each source bottle
- Equal amounts of water from each line



Testing Frequency



Dental Unit Waterline Maintenance, Testing and Monitoring Best Practice

This document has been developed by Nebraska ICAP to assist facilities in their dental unit waterline maintenance, testing and monitoring protocols and includes best practices as outlined by CDC, OSAP and FDA.

DUWL Maintenance:

- All staff responsible for waterline maintenance should be trained and competent on the maintenance system used by the practice
- Flush all DUWLs for 2 minutes at the beginning and end of every day and 20-30 seconds between every patient, this helps to flush any patient materials that may have gotten in the waterlines during a procedure (OSAP, 2018)
- Beware of waterlines that may not get used, but are still a part of the system
 - They are a high-risk for water to sit and biofilm to grow, contaminating the rest of the system
 - Ensure that flushing includes these unused waterlines
 - If appropriate, steps should be taken to remove waterlines from units if they are not being used
- Chemical disinfection of source water should be a part of the maintenance program for DUWLs
 - Practices should use an FDA approved product to disinfect source water and improve water quality (CDC, 2022)
 - Filter disinfectant: A water filter attaches directly to the DUWL input line and filters the water through a silver or iodide compound to act as a disinfectant
 - Pros: A filter can provide long term disinfection of source water, easy to install, very little maintenance
 - Cons: High initial set up cost
 - Tablet disinfectant: A chemical disinfectant tablet is added to the dental
 - Ne ICAP: Dental Unit Waterline Toolkit
- Chemical :
 - Sh
 - de
 - Th
 - ma
 - An
 - DU
 - col
 - alg
 - Regular shocking of DUWLs should take place based on the manufacturer's IFUs of the dental unit, chemical disinfectant, and shock chemical

Resources at
<https://icap.nebraskamed.com/facilities/dental/facility-resources/>

Making it work in acute care

Incorporation in master planning

- Ensure dental unit waterlines are included in facility waterborne pathogen mitigation plans
- Identify communication pathways for normal and abnormal results
- Ensure equipment purchases are reviewed for maintenance needs and risks
- Once identified, ensure equipment and records are included in environment of care rounds
- Dental units should be included in the orientation plans/packets of specialty equipment for new employees (such as nurses, surgical technicians, and environmental services workers)

Who can the IP ask?

- Reach out to the OR manager to determine if dental procedures are performed
- If yes, then have OR staff members received hands-on education for operating the unit, as well as maintaining it
- Nebraska ICAP consultation
 - Call ICAP at 402-552-2881
 - Email Sarah at sstream@nebraskamed.com

Tools to help

Interview Tool/ Checklist to assess Dental Unit Waterline Procedures

Element for Assessment	Yes	No	Notes
Unit Use and Maintenance			
Dental unit instructions for use (IFU) are available			
Protocol for water and air discharge after each patient use in place (such as "water and air are discharged for 30 seconds after each patient")			
The maintenance procedures that are directed for anti-retraction mechanism devices on dental units has been completed according to the IFU			
Water Quality			
For all non-surgical dental procedures, does the water in use meet the CDC recommendations (i.e., ≤500 CFU/mL of heterotrophic water bacteria)			
Oral surgery procedures* use sterile saline or sterile water as the irrigant for the surgical procedure and are delivered in a way that maintains sterility (Ex: bulb syringe, not through the dental unit) *Oral surgical procedures involve the incision, excision, or reflection of tissue that exposes the normally sterile areas of the oral cavity. Examples are biopsy, periodontal surgery, apical surgery, implant surgery, and surgical extractions of teeth (removal of erupted or nonerupted tooth requiring elevation of mucoperiosteal flap, removal of bone or section of tooth, and suturing if needed).			
The quality of dental unit water is maintained with appropriate methods			
The quality of the water is monitored			

https://icap.nebraskamed.com/wp-content/uploads/sites/2/2024/05/Dental-Unit-Interview-Tool-for-inpatient-IP_5.2.24.docx

Email template/ideas for inpatient/ acute care IPs to investigate if dental units/ waterlines are a r

Hi (consider targeting the OR Manager),

My name is ---- and I am an infection preventionist here at -----.

Recently, I became aware of the risks that are associated with dental unit water lines, especially

While rare, there have been [multiple documented cases of disease transmission from dental un](#) (scaler). Dental units have unique characteristics that make them prone to biofilm formation. As causing microorganisms found in untreated dental unit water can include *Legionella*, *Pseudomo*

For this reason, I am reaching out to ascertain if our facility has dental units. I've included exampl
It is most likely that these units are used during dental procedures which include general dental I
and reconstructions.

Examples of dental units:



Does our facility utilize this equipment or provide OR access to dentists or oral surgeons for

If yes, then I would like to meet with you to understand more about the use and maintenanc

Thank you,

<https://icap.nebraskamed.com/wp-content/uploads/sites/2/2024/05/Email-Template-for-inpatient-IPs-on-DUWL.docx>

Tools

1. Nebraska ICAP “What is a dental unit?” <https://icap.nebraskamed.com/wp-content/uploads/sites/2/2022/11/What-is-a-dental-unit.pdf>
2. Dental Unit Waterline Maintenance, Testing and Monitoring Best Practices, <https://icap.nebraskamed.com/wp-content/uploads/sites/2/2022/11/Dental-Unit-Waterline-Maintenance-Testing-and-Monitoring.pdf> Nebraska ICAP
3. ICAP DUWL Email template
4. ICAP DUWL Interview tool

Questions & Answer Session

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[Acute Care and Outpatient Setting Webinars](#)

Misc. Updates & Upcoming Educational Opportunities

Jenna Preusker, PharmD, BCPS, BCIDP
Pharmacist Program Coordinator, NE ASAP



NHSN AUR Reporting Implementation – Nebraska DHHS Hospital Funding Assistance

- Nebraska DHHS HAI/AR program currently has funding available to dedicate towards assisting hospitals with implementing NHSN Antibiotic Use and Resistance module - **timeline extended!!**
- Funding distributed by reimbursing expenses for reporting implementation
- Facilities meeting all requirements for funding may request reimbursement for related eligible expenses up to the maximum amount allowed for their facility based on licensed bed size. (\$10,000-\$20,000)

[AUR Implementation Reimbursement Requirements – Nebraska DHHS Healthcare Associated Infections \(ne.gov\)](https://www.nebraska.gov/dhhs/healthcare-associated-infections)

Any questions, please contact Jenna Preusker at jenna.preusker@nebraska.gov

2024 Nebraska Antimicrobial Stewardship Summit

Smart Antibiotic Choices, Stronger Future

Friday, May 31, 2024 | 7:30 am – 3:30 pm

Embassy Suites LaVista Hotel & Conference Center

Registration open now: [2024 Nebraska Antimicrobial Stewardship Summit: Smart Antibiotic Choices, Stronger Future](https://unmc.edu/continuing-education/2024-nebraska-antimicrobial-stewardship-summit) | Center for Continuing Education (unmc.edu)



Empowering Rural Communities

Infection Control Assessments for Rural Health Clinics



Nebraska ICAP (Infection Control Assessment and Promotion Program), offers free services designed to ensure the safety and well-being of patients and staff in a variety of healthcare settings including rural health clinics.

What we do:

Infection control practices in healthcare facilities are standard for the most part, but some change and evolve. The goal of our team is to work with healthcare facilities to create the safest healthcare environment possible by identifying gaps and implementing best practices to help prevent the spread of infection and ensure you are set up for success to handle both the daily and unforeseen infection control challenges that may arise.

Nebraska ICAP can provide the following infection control assessment services:

Environmental and Facility Assessment

We will evaluate the physical environment of the clinic, including ventilation systems, sanitation practices, and the workflow of patient care areas, all tailored to the unique challenges of rural health clinics.

Review Patient Care Practices

Ensure proper implementation of infection prevention measures during patient care activities, including wound care practices; instrument decontamination and reprocessing; and medication/vaccination storage, preparation, and administration.

Antibiotic Stewardship

We will introduce you to our [Nebraska Antimicrobial Stewardship Assessment and Promotion Program \(ASAP\)](#) team who can assist with implementing antibiotic stewardship best practices.

Emergency Preparedness

Assess your clinic's readiness to respond to infectious disease emergencies, including outbreak response planning.

Evaluate Policies and Procedures

Review your infection control policies and procedures to align with current guidelines and best practices.

Identify Staff Training Needs

Identify gaps in staff training, offer educational opportunities, and recommend targeted training and education programs based on identified needs.

Good to know:

We are not a regulatory agency. Our program is based at Nebraska Medicine and University of Nebraska Medical Center. We are funded by Nebraska DHHS through a CDC grant to offer expert guidance to Nebraska healthcare facilities during the assessment and provide ongoing support.



Let's work together to create a healthy and safe environment for everyone.

Contact us to schedule your assessment!
402.552.2881
nebraskaicap@nebraskamed.com
icap.nebraskamed.com



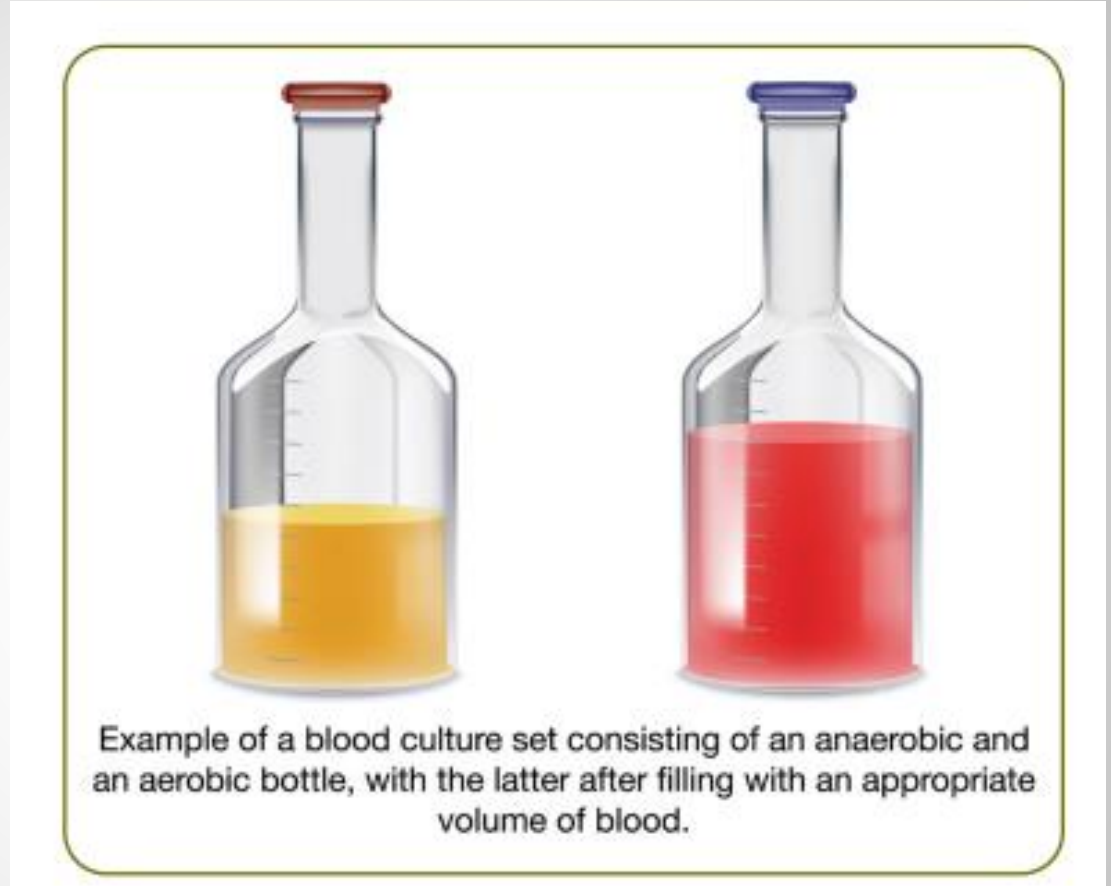
Join Us - Upcoming ICAP Webinar

- **June 12, 2024**

- 12:00 – 1:00 PM (CST)
- Best Practices for Blood Cultures

- **July 10, 2024**

- 12:00 – 1:00 PM (CST)
- TBD



[Blood Culture Contamination: An Overview for Infection Control and Antibiotic Stewardship Programs Working with the Clinical Laboratory \(cdc.gov\)](#)

ICAP Contact Information

Call 402-552-2881

Office Hours are Monday – Friday

8:00 AM - 4:00 PM Central Time

Weekends and Holidays 8:00-4:00

On-call hours are available for emergencies only

Scan the QR Code to be taken to
our [NE ICAP Contact Form](#).

You can request to be connected to an
Infection Preventionist that specializes in your area,
get added to our setting specific communication list
for webinar and training invites,
sign up for newsletters and reminders,
or request an ICAR review for your facility.



Webinar CE Process

1 Nursing Contact Hour is awarded by NE Medicine

- Nebraska Medicine is approved as a provider of nursing continuing professional development by the Midwest Multistate Division, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

CNE Nursing Contact Hours:

- ✓ Completion of survey is required.
 - The survey must be specific to the individual obtaining credit (i.e.: 2 people cannot be listed on the same survey)
 - Survey functionality is lost on mobile devices
- ✓ One certificate is issued quarterly for all webinars attended
 - Certificate comes directly from ICAP via email