

Background

- Infections are a leading cause of morbidity and mortality for chronic dialysis patients
- Adults on dialysis are more than **100 times** more likely to experience *Staphylococcus* bloodstream infection (BSI) compared to those not on dialysis
- In 2023, Nebraska's Healthcare-associated Infections and Antimicrobial Resistance (HAI/AR) Advisory Council established a dedicated **dialysis subcommittee**. Here we summarize the activities performed

Methods

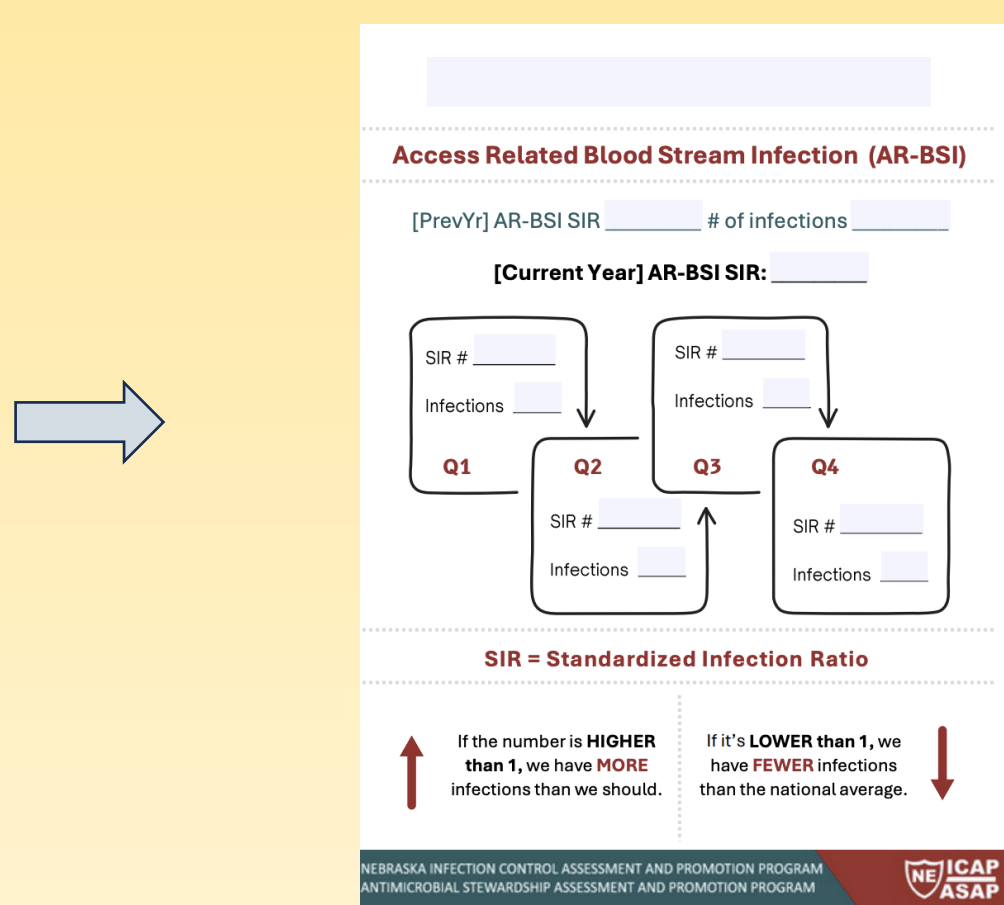
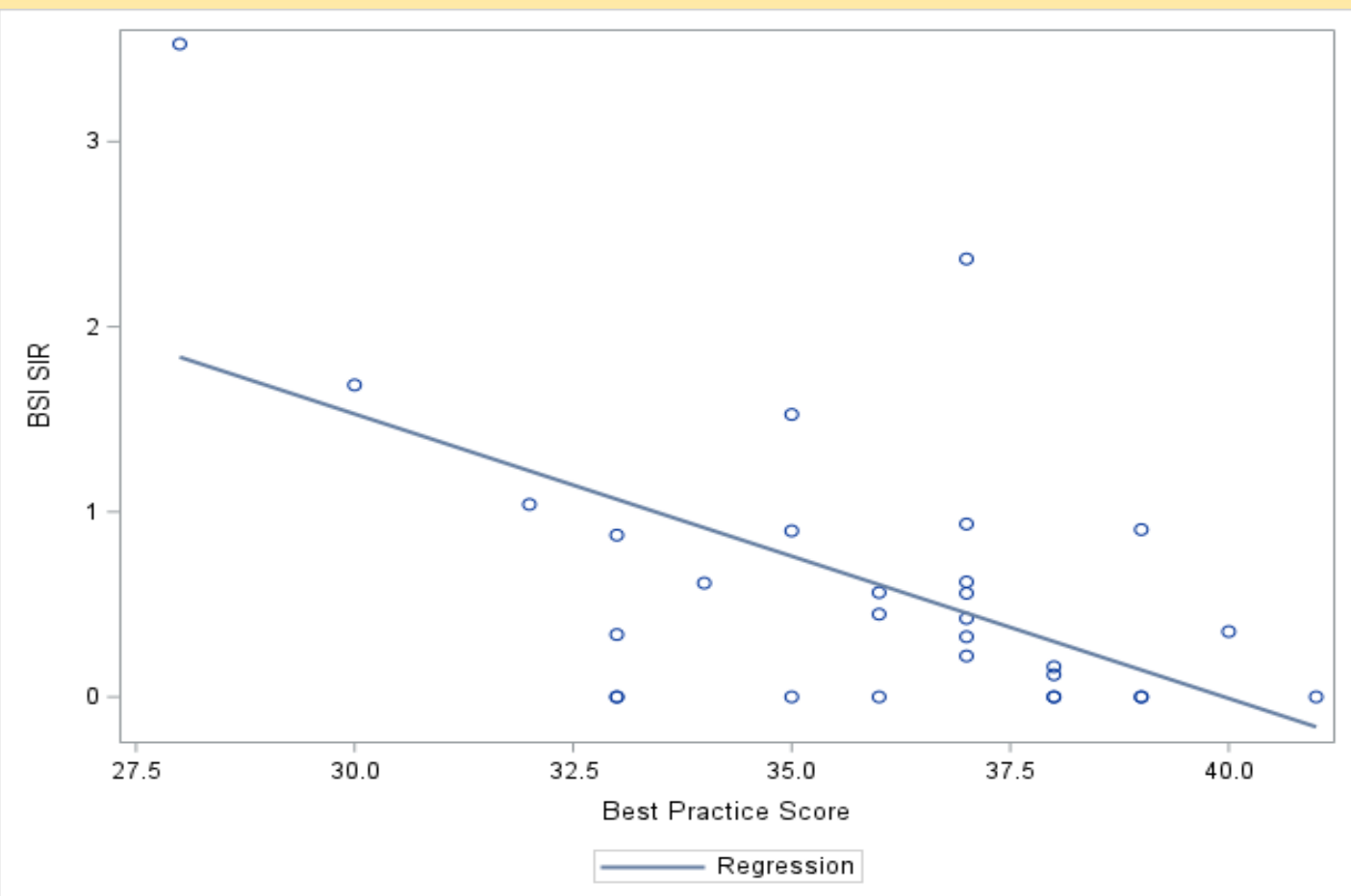
- A multidisciplinary team was convened, including:
 - Clinic managers/nurses
 - Infection preventionists (IPs)
 - Dialysis technicians
 - Infectious diseases physicians
 - Nephrologist
 - Representatives of the End-Stage Renal Disease (ESRD) Network
- Data sources:
 - National Healthcare Safety Network (NHSN) Annual Outpatient Dialysis Center Practices Survey
 - NHSN Dialysis Event BSI standardized infection ratio (SIR)
 - Infection Control Assessment and Response (ICAR) findings
 - Learning needs assessment (LNA)

- De-identified and aggregated data highlighting infection prevention and control (IPC) opportunities and trends were shared with the subcommittee

Results

❖ Four areas of opportunity were identified

NHSN Practice Survey from 34 reporting facilities was used to create a best practice score. We found an inverse association between this score and facilities' BSI SIR (p = 0.001). We developed a **train-the-trainer toolkit** to use BSI SIR data to drive quality improvement



Only a third of facilities share their BSI with front-line staff

ICAR data showed that only 13% of facilities had signage on respiratory hygiene in/near the waiting area. We developed **guidance for indoor air quality** and created **signage** co-branded by Project Firstline

NEBRASKA INFECTION CONTROL ASSESSMENT AND PROMOTION PROGRAM **ICAP**

Indoor Air Quality Best Practices for Dialysis During Periods of High Respiratory Viral Spread (e.g., Influenza, RSV, SARS-CoV-2)

- Verify routine maintenance of HVAC System with facility management staff.
 - Routine maintenance
 - Ensure system provides minimum outdoor air ventilation requirements.
 - Increase introduction of outdoor air beyond code-minimum
 - Turn HVAC fan to 'ON' instead of 'auto'
- Use CO2 monitors to evaluate room air quality. Readings below 800 ppm indicate adequate air quality.
- Utilize Air Purifiers, Air Sanitizers, HEPA Machines to filter and clean the air in the room as a supplement to your HVAC system as needed.
 - Maintain equipment, change filters, and verify performance according to instructions from manufacturers at least monthly.
 - Visually inspect intake for debris and clean as necessary.
 - Placement of machines:
 - Make sure machines are placed to keep walkways clear and unobstructed, ensuring that air intake and discharge are not blocked.
 - The optimal placement is nearest to the source of highest area of potential contamination or transmission.
 - If a limited number of machines are available, then prioritize placement in the stations where patients are ill.
 - Selection of machines: Most portable air cleaners are rated according to their clean air delivery rate (CADR). The higher the CADR, the larger the area it can serve. Larger areas may need more than one machine.
 - How to calculate the size of a room: Measure the room and calculate the volume: length x width x height. Most rooms have 8-foot ceilings. (You can also find a metal tape measure, and measure the height, and then the length and width. 1'x1' x 10' x 8' = 1.25 cubic feet.
 - In-room air cleaner guidance for reducing covid-19 in air in your space or room.pdf (ashraf.org)
 - Other methods of filtration: There are more options to improve indoor air quality that require installation by professionals.
 - UVGI (Upper-Room Ultraviolet Germicidal Irradiation): UV kills or inactivates microorganisms.
 - Bipolar Ionization: technology that can be used in HVAC systems or portable air cleaners to generate positively and negatively charged particles to remove viruses.
 - Bring in as much outdoor air as possible through the HVAC system.
 - Consult facility engineers before doing anything that may change airflow dynamics.
 - The opening of windows and use of fans may be recommended for schools, homes, and office buildings, but is not recommended for healthcare facilities due to the increase in risk of spreading infectious particles.

RESPIRATORY VIRUSES INFECTION CONTROL GUIDANCE DURING PERIODS OF HIGHER COMMUNITY TRANSMISSION FOR OUTPATIENT DIALYSIS FACILITIES

Each one of these interventions adds an additional layer of protection. Using them all together is the most effective way to prevent the spread of respiratory illnesses. Use appropriate interventions based on the level of suspected recent changes at time of treatment as needed.

CLEANER INDOOR AIR / VENTILATION

Good ventilation improves air quality and reduces the risk of getting sick by bringing in fresh air from outside through the air conditioning system.

CLEANING & DISINFECTING

Cleaning and disinfecting surfaces can help reduce the risk of getting sick by removing germs that may be on the surface.

HAND HYGIENE

Hand hygiene: Using hand hygiene with alcohol-based hand sanitizer (ABHS) is most effective if you use it for at least 20 seconds and when you have the most germs on your hands.

MAKING

Using a well-fitting face mask or respirator that covers the mouth and nose can help reduce the risk of getting sick by blocking germs from entering the mouth and nose.

PHYSICAL DISTANCING

Physical distancing: Keeping a distance of at least 6 feet from others who are sick or may be sick can help reduce the risk of getting sick by avoiding close contact with them.

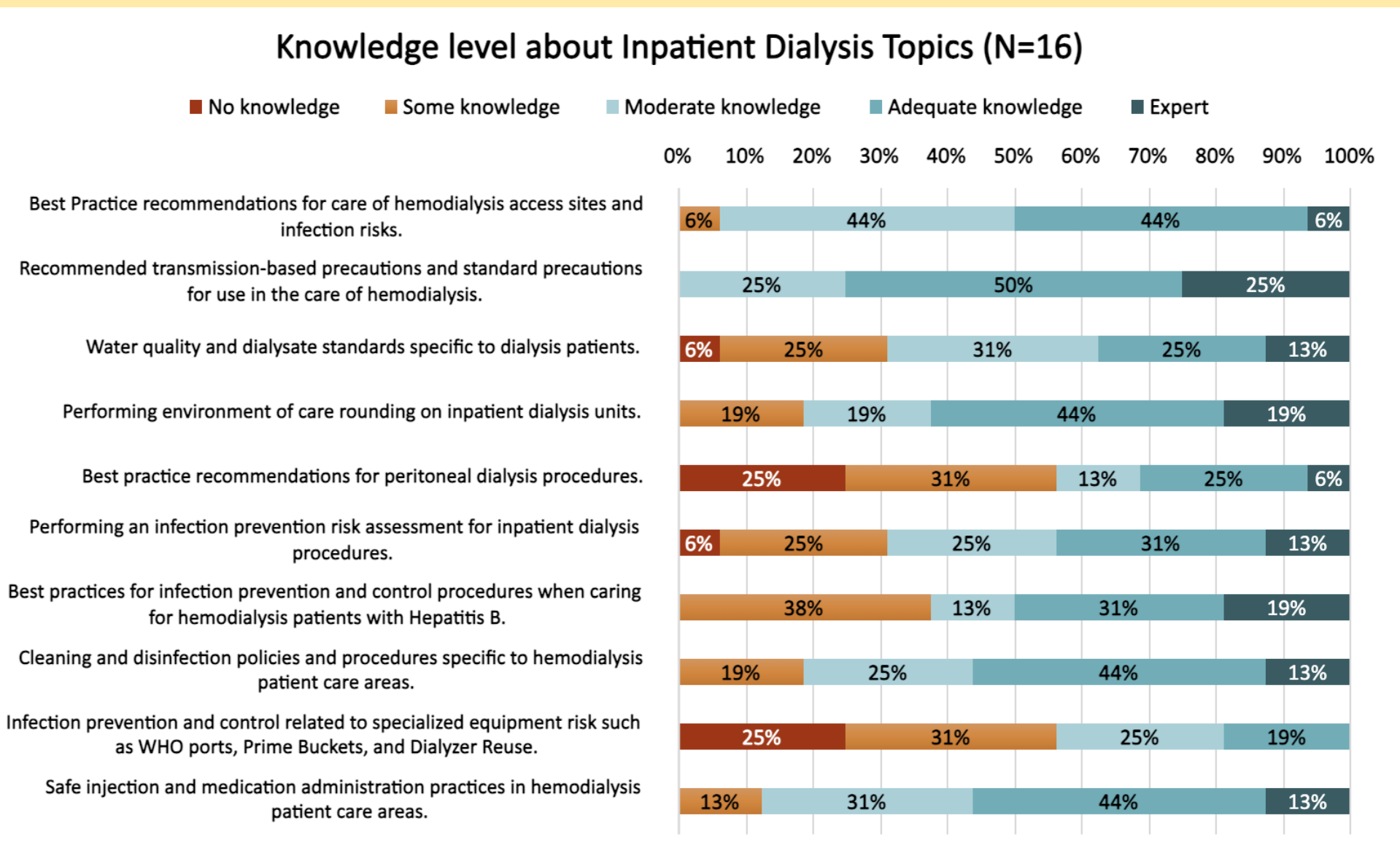
RESPIRATORY HYGIENE / COUGH ETIQUETTE

Respiratory hygiene/cough and sneeze etiquette: Covering the mouth and nose with a tissue or elbow when coughing or sneezing can help reduce the risk of getting sick by preventing germs from entering the mouth and nose.

VACCINES

Vaccines are still the best way to prevent getting sick. Getting vaccinated can help protect you and others from getting sick.

LNA among inpatient IPs showed various levels of knowledge in IPC practices and ICAR review of nine facilities showed that only 11% performed vascular access observations at least quarterly. We created a **four-part online series** on Fundamental Infection Prevention Applied to Inpatient Hemodialysis with continuing education credit available



NE **ICAP** ASAP Learning Center

ICAP/ASAP Education on Your Own Time

5 CE Available, 30 minutes Fundamental Infection Prevention Applied to Inpatient Hemodialysis

5 CE Available, 30 minutes Fundamental Infection Prevention Applied to Inpatient Hemodialysis

Fundamental Infection Prevention Applied to Inpatient Hemodialysis: Infection Prevention and Transmission-Based Precautions

Fundamental Infection Prevention Applied to Inpatient Hemodialysis: Dialysis Water

#1 of 4 in the series, this course is Best Practices in Dialysis Infection Prevention and Transmission-Based Precautions. Worth 0.5 CE Credits.

Enroll Now

2022 NHSN survey showed that only 35% of facilities commonly draw syringes away from the point-of-care area. One of our four online courses was dedicated to medication preparation and environment of care. A **webinar on injection safety** was presented and recorded with the ESRD network

esrdsource.org

What is Injection Safety

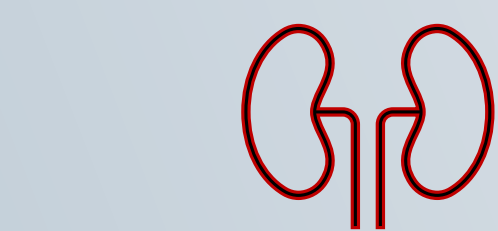
Injection safety, or safe injection practices, refers to the measures taken by health professionals to perform injections safely.

As defined by the World Health Organization (WHO), a safe injection does not harm the recipient, does not expose the provider to any avoidable risks and does not result in waste that is dangerous for the community

Sepsis Awareness & Prevention: HAI Lunch & Learn Series– Injection Safety

October 21st, 2025

ICAP



- Creation of a dialysis subcommittee of the HAI/AR Advisory Council in Nebraska helped identify areas of opportunity for dialysis IPC and facilitated targeted remediation strategies



<https://icap.nebraskamed.com/facilities/dialysis/>

Acknowledgements

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