Midwest Kidney Network

SUPERIOR HEALTH Quality Alliance

Back to the Basics: One Infection is Too Many

January 2026

Housekeeping

1. Keep line muted except during the Q & A at the conclusion of the presentation
2. Feel free to use the chat or Q & A feature
3. Please disable Ai notetaking applications
4. The presentation is being recorded; slides and resource links will also be available
5. Please respond to the post-webinar survey – we value your feedback!

Objectives

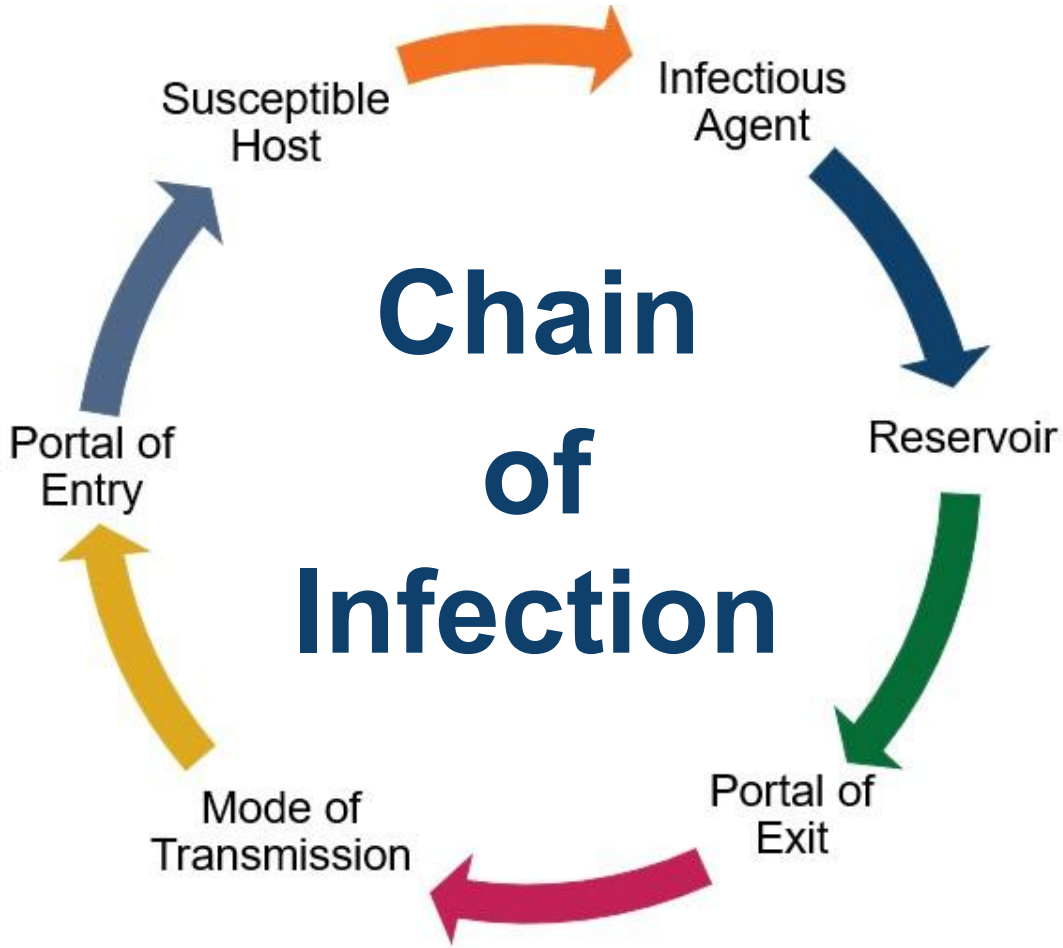
1. Understand and apply the chain of infection in the dialysis setting
2. Identify core infection prevention practices in dialysis
3. Explain strategies to improve the culture of safety in dialysis
4. Explain the impact of health care associated infections through the patient perspective

Poll

Infection Prevention in Dialysis

Denise Parr, MSN-IPC, RN, CIC, AL-CIP
MDHHS Healthcare-Associated Infection (HAI) Section
January 27, 2026

Michigan Department of Health and Human Services (MDHHS) provides opportunities, services, and programs that promote a healthy, safe and stable environment for residents to be self-sufficient.

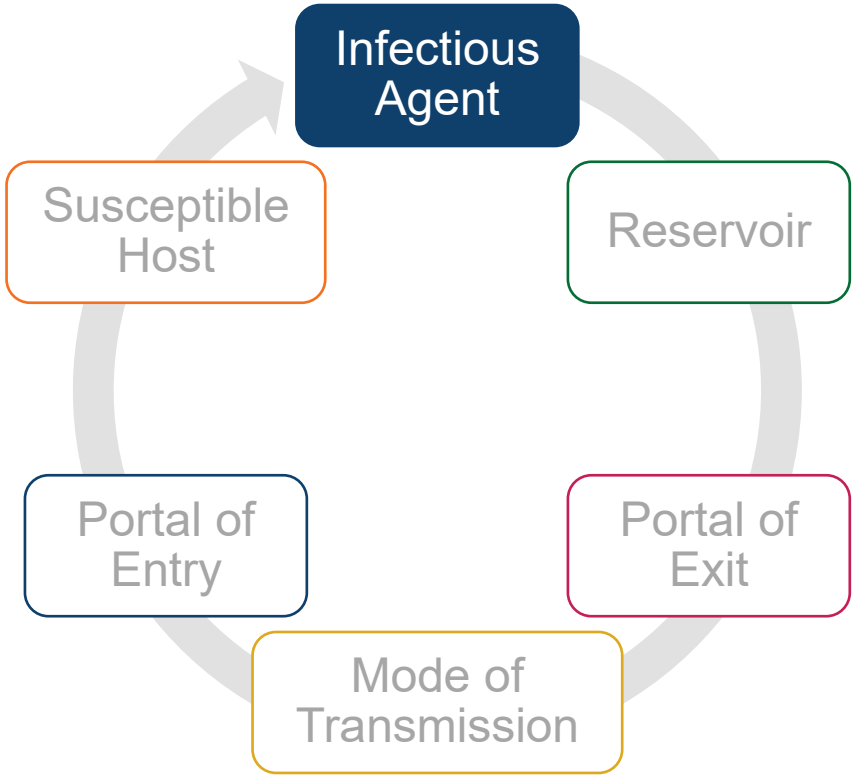


https://infectionpreventionandyou.org/protect-your-patients/break-the-chain-of-infection/

MDHHS
Michigan Department of Health & Human Services

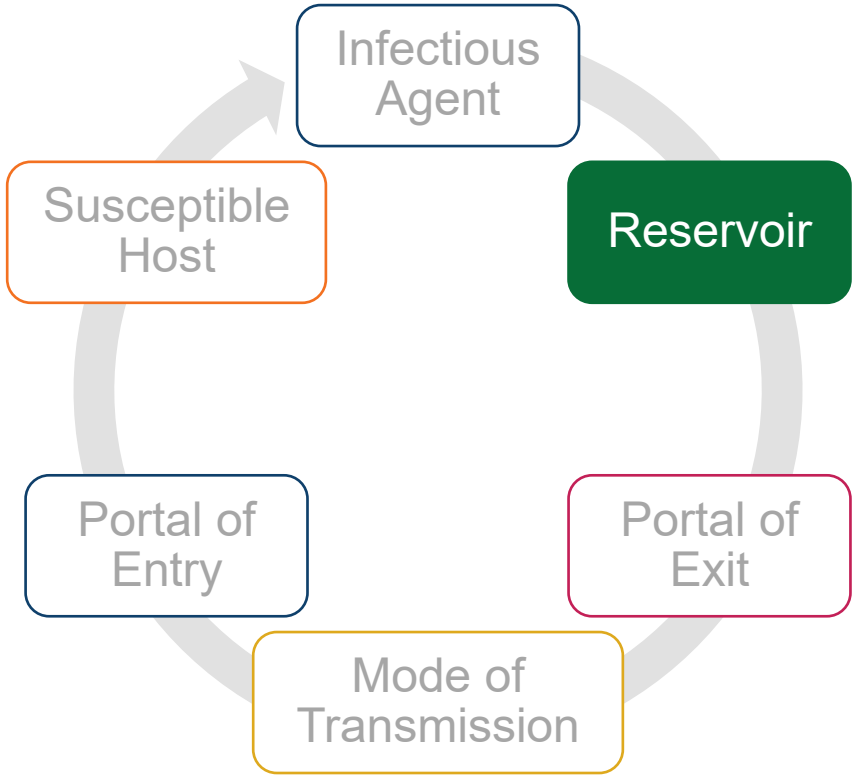
Infectious Agent

- Disease producing organism, also known as a pathogen.
- Examples include:
  - Bacteria
    - *Escherichia coli*
    - *Proteus mirabilis*
  - Viruses
    - Influenza
    - Hepatitis A, B & C
  - Fungus or Mold
    - *Candida albicans*
    - *Aspergillus species*



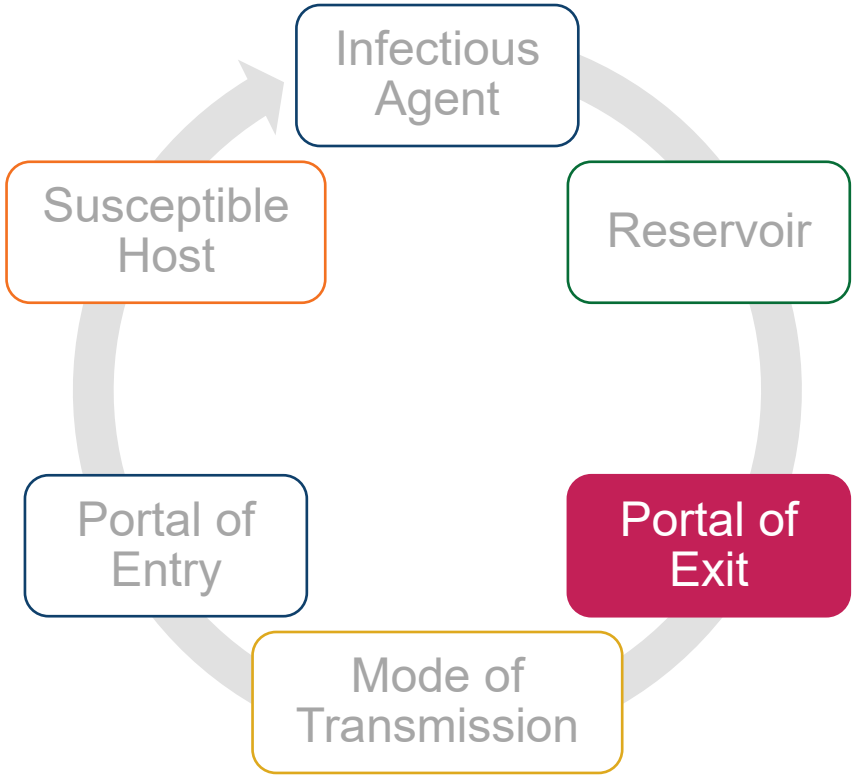
Reservoir

- Where the pathogen lives and multiplies.
- Examples include:
  - Colonized or infected person.
    - Skin flora.
    - Bloodborne.
    - Gastrointestinal tract.
    - Respiratory system.
  - Environmental reservoirs.
    - On medical equipment and supplies.
    - Facility high-touch surfaces.
    - Sink biofilm.
    - Found in water, food, and soil.
    - Includes animals and insects.



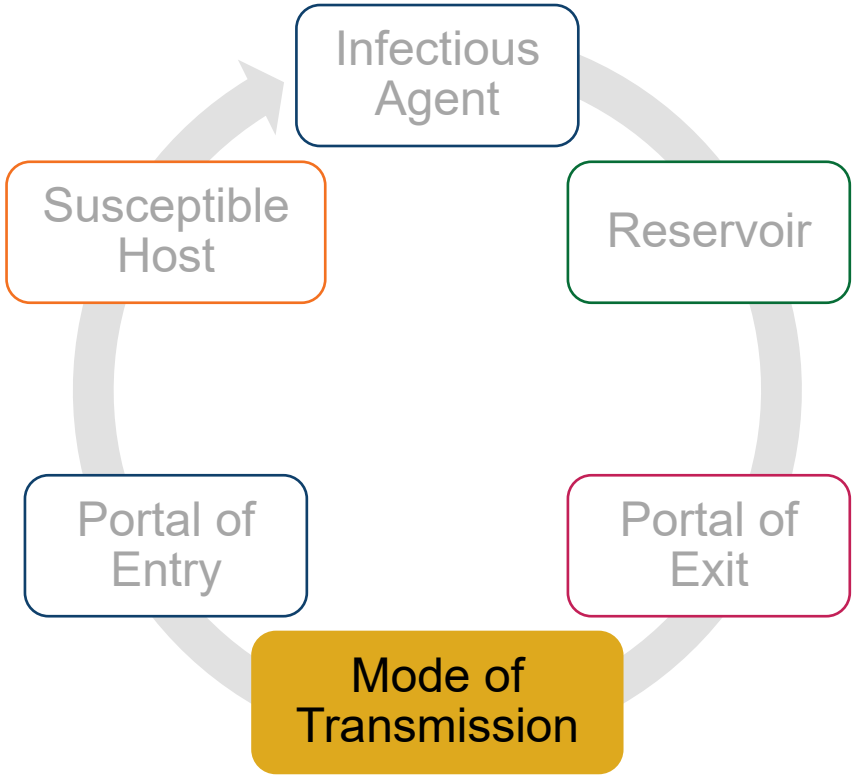
Portal of Exit

- How the pathogen exits or leaves the reservoir.
- Examples include:
  - Skin to skin transference.
    - Open wounds and sores.
  - Skin to surface transference.
    - High-touch surfaces.
    - Equipment and supplies.
  - Blood and other potentially infectious materials.
  - Spray from sneezing.
  - Droplets from coughing.



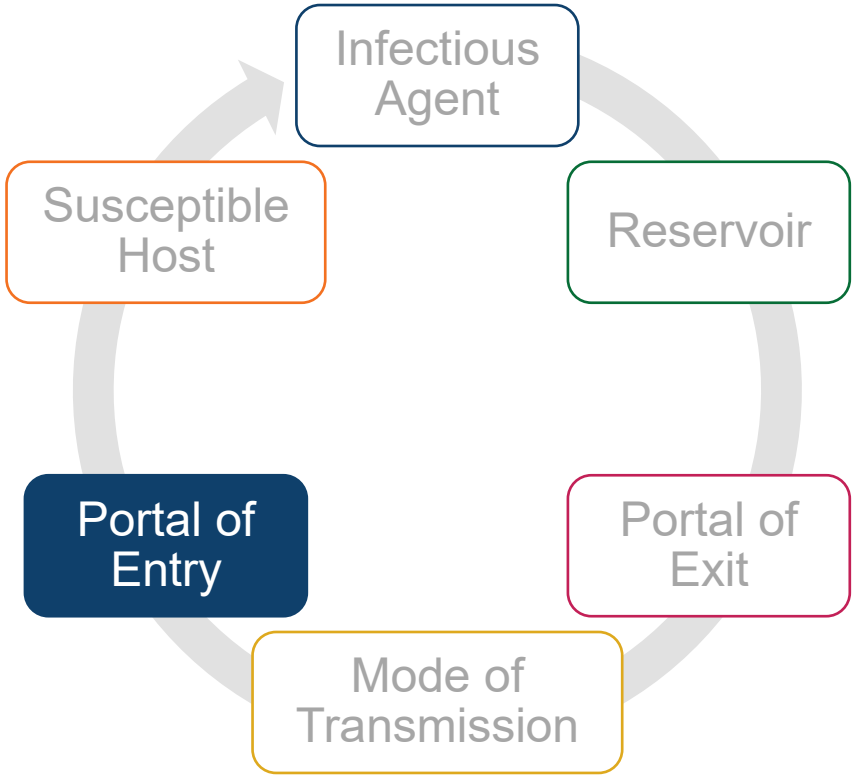
Mode of Transmission

- How the pathogen moves to a new site, surface or susceptible host.
- Examples include:
  - Direct physical contact.
    - Skin-to-skin contact.
  - Indirect contact.
    - Surfaces, equipment, and supplies contaminated by touch.
  - Ingestion of contaminated food or water.
  - Inhalation of droplets.



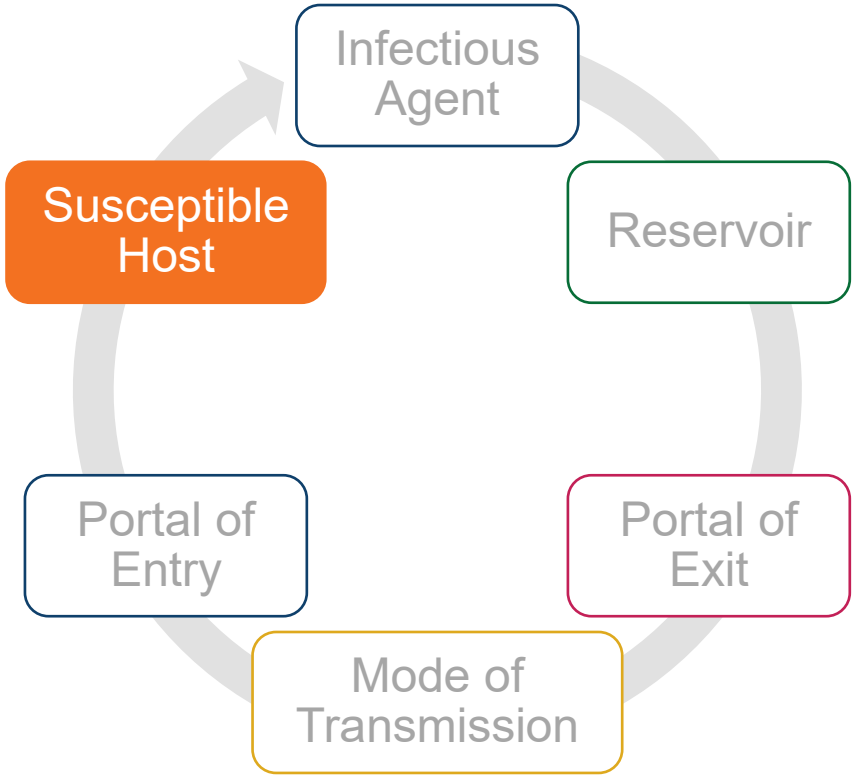
Portal of Entry

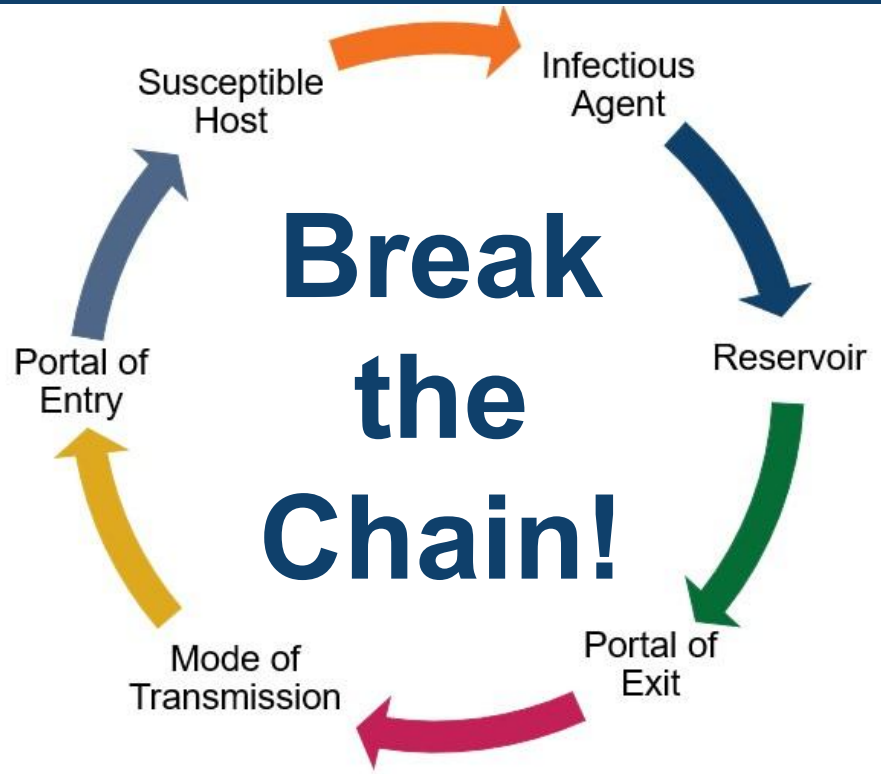
- How the pathogen can enter the body.
- Examples include:
  - Broken skin.
  - Surgical incisions.
  - Respiratory tract.
  - Mucous membranes.
  - Invasive devices.
    - Central venous catheters (CVC).
    - Urinary catheters.



Susceptible Host

- Individual, patient or healthcare personnel at risk for infection.
- Risk factors include:
  - Antibiotic exposures.
  - Impact of comorbidities.
  - Immunosuppression from medications.
  - Complex medical care.
  - Travel abroad.





Infection Prevention Strategies

https://infectionpreventionandyou.org/wp-content/uploads/2023/09/Break-the-Chain-of-Infection.pdf

MDHHS
Michigan Department of Health & Human Services

Stewardship

- Antibiotic stewardship:
  - Efforts to measure and improve antibiotic prescribing while reducing patient adverse effects.
    - Impacted by diagnostic stewardship.
- Diagnostic stewardship:
  - Efforts to ensure the right test is provided for the right patient at the right time.
    - Dialysis nurses and technicians play a vital role!
    - Tasks include:
      - ✓ Assessing for allergies and infection signs/symptoms.
      - ✓ Following aseptic technique when collecting blood cultures.
      - ✓ Promptly communicating assessments and culture results to nephrology provider.

Vaccination & Injection Safety

- Vaccination:
  - Encourage vaccination to prevent infections.
    - Condition specific.
    - Recommended annually.
- Injection Safety:
  - Date multi-dose vials per facility policy.
  - Use single-dose vials when possible.
  - Disinfect the vial septum before accessing.
  - Disinfect hub or injection port before administration.
  - Provide sharps containers to ensure prompt disposal.
  - Do not overfill sharps containers.

Photo credit: ASN/CDC Project Firstline: Injection safety for infection prevention in a dialysis setting

Hand Hygiene

- CMS 42 CFR 494.30a1i tag V113 and V114.
  - Applies to everyone.
  - Scrub all surfaces of hands and fingers.
  - Alcohol-based hand sanitizer (ABHS):
    - 60-90% alcohol content.
    - As indicated by facility policy.
  - Soap and water:
    - Visible soil on hands.
    - Before eating.
    - After using the restroom.
    - During *C. difficile* and norovirus care.

Photo credit: ASN/CDC Project Firstline: Hand hygiene for infection prevention in a dialysis setting

Hand Hygiene Vulnerabilities

- Missed opportunities observed:
  - Staff entering the unit for rounds.
  - When performing glove changes.
    - When the unit is busy.
    - When ABHS is not within reach.
  - ABHS dispenser empty or broken.
  - Before patient puts on glove to apply pressure to access site.

Personal Protective Equipment (PPE)

- CMS 42 CFR 494.30a1i tag V113, V115 and V130.
  - Standard precaution use protects from anticipated exposure.
    - Required for treatment initiation and termination.
  - Transmission-based precautions requires PPE based on transmission route.
    - Airborne precautions.
    - Contact precautions.
    - Droplet precautions.
    - Enhanced barrier precautions (Long-term care facilities).
  - Verify when PPE is reusable.
    - Disinfect per manufacturer's instructions.
    - Follow facility policy to prevent self-contamination when donning/doffing.
  - Disinfection products require PPE use.

PPE Vulnerabilities

- Missed opportunities observed:
  - Staff contaminates gloves by touching mask or face shield.
  - PPE not worn per manufacturer's instructions.
    - Gowns not tied or jacket not buttoned.
    - Eyeglasses not designed to prevent splash from multiple angles.
    - Face mask not covering nose covering nose and mouth.
  - Not wearing PPE when using disinfectant.

Photo credit: ASN/CDC Project Firstline: PPE for infection prevention in a dialysis setting

Environmental Cleaning & Disinfection

- CMS 42 CFR 494.30a1i tag V116, V122 and V130.
  - Clean before you disinfect.
  - Disinfectant is not effective if surface is not clean.
  - Work in a systematic manner.
    - Designate who is responsible for equipment or surfaces.
  - Keep equipment and supplies out of splash zone.
  - Follow disinfectant manufacturer's instructions.
  - Verify solution concentration and contact time.
  - Ensure disinfectant is effective for pathogen.
    - EPA registered disinfectant lists.

https://www.cdc.gov/project-firstline/media/pdfs/microlearn-sink-508.pdf

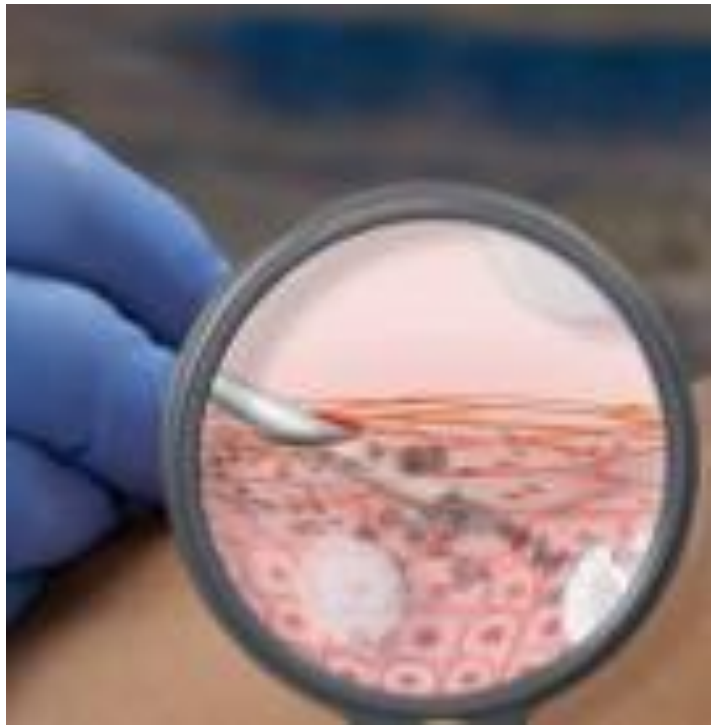
Environmental Cleaning & Disinfection Vulnerabilities

- Missed opportunities observed:
  - Not working in a systematic manner.
    - Missing bi-bag component.
    - Missing prime waste container.
    - Missing wall box.
  - Disinfectant contact time unknown.
  - Reusable items not disinfected between use.
    - Thermometer
    - Stethoscope

Photo credit: ASN/CDC Project Firstline: Cleaning and Disinfection for infection prevention in a dialysis setting

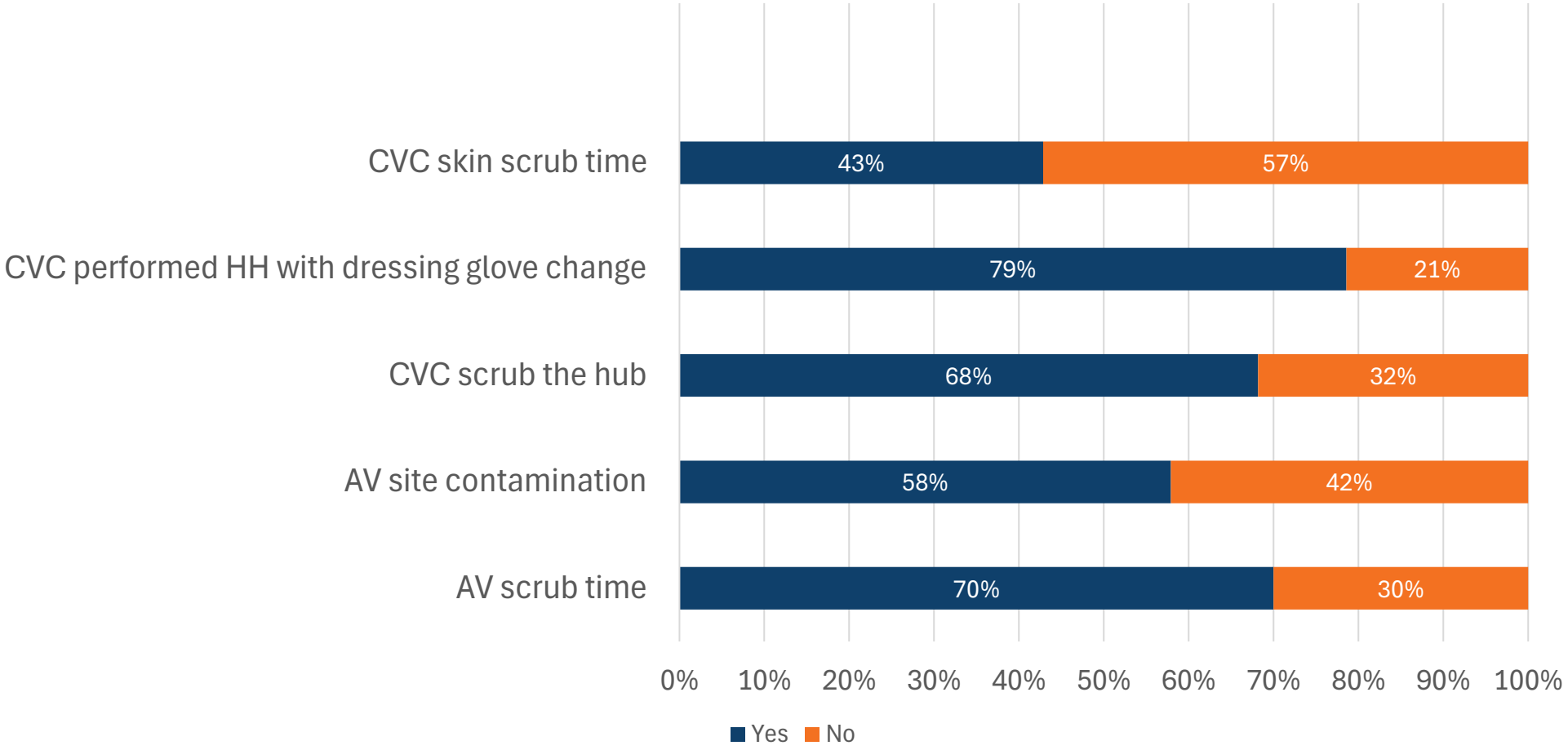
Skin Antisepsis & Scrub-the-Hub

- CMS 42 CFR 494.30a1i tag V146 and V147.
  - Follow manufacturer's instructions for use.
    - Scrub times vary.
    - Use friction to remove contaminants.
  - Do not touch skin after skin antisepsis.
    - Contaminants can be pushed into bloodstream.
  - Have clocks within staff's line of sight.



https://www.cdc.gov/project-firstline/hcp/training/infographic-skin.html

Skin Antisepsis & Scrub-the-Hub Vulnerabilities

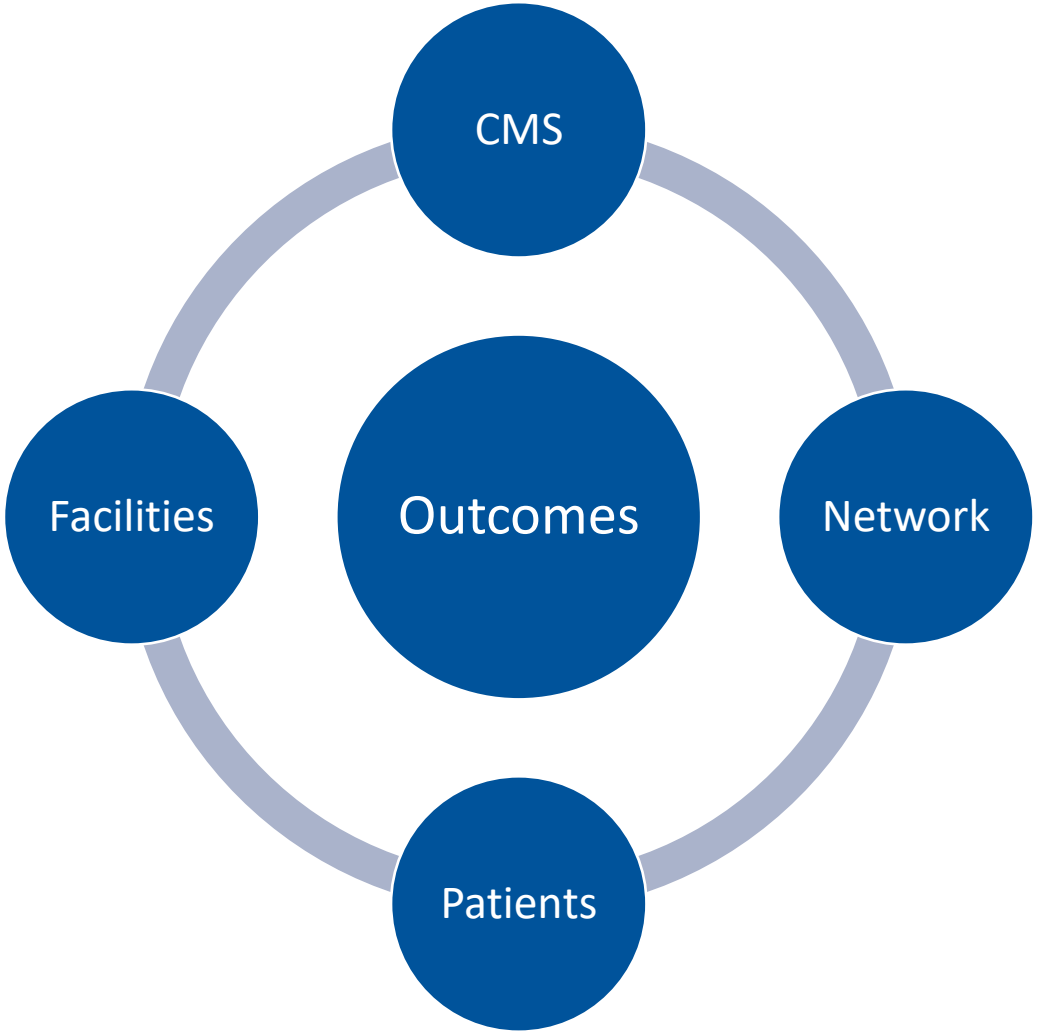


Resources

- ASN/CDC Project Firstline Dialysis Educational Modules
- CDC Best Practices for Bloodstream Infection Prevention in Dialysis Setting
- CDC Clean Hands in Healthcare Training
- CDC Dialysis Training Module
- CDC Dialysis Resources and Tools
- CDC How to Read a Disinfectant Label
- CDC Preventing Bloodstream Infections in People on Dialysis
- CDC Project Firstline Educational Materials
- CDC Transmission-Based Precautions
- CMS ESRD Surveyor Training Interpretive Guidance v1.1
- EPA Selected EPA Registered Disinfectants
- **MDHHS Inbox**: MDHHS-HAI@Michigan.gov & **MDHHS** Infection Prevention Unit

Claire Taylor-Schiller, RN
Quality Improvement Director
Midwest Kidney Network

- Midwest Kidney Network is a quality improvement organization under federal contract with CMS
- CMS provides Networks with the goals to achieve each year. Networks and facilities have expectation to partner together to achieve the outcomes
- Collaborative partnership to improve patient care

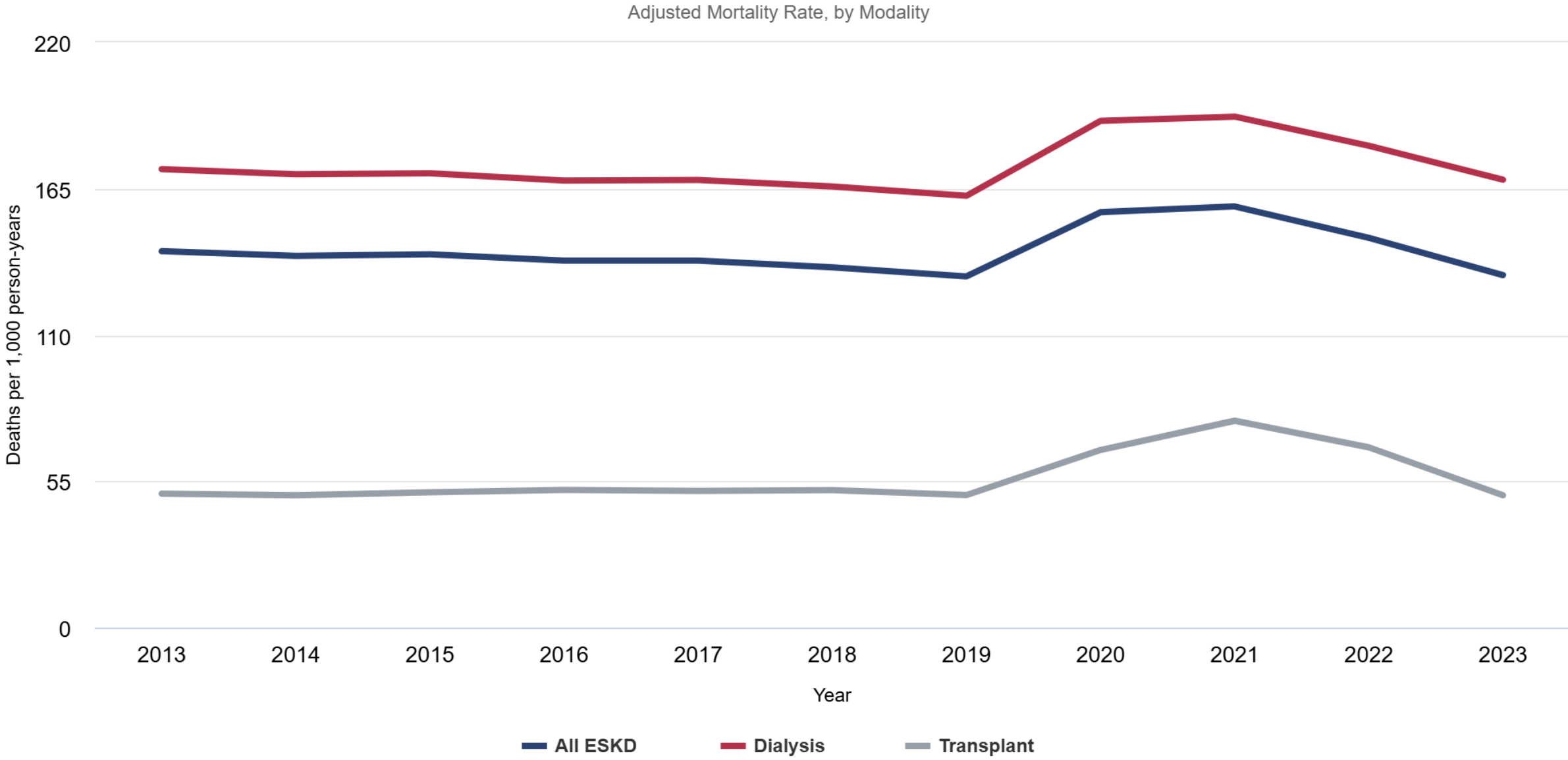


Patient Impact

- Infections are a leading cause of hospitalization and the second-leading cause of death in dialysis patients[1]
- Improvement is not about chasing numbers. **Data = people!** Improvement in data is reflective of improved quality of life for patients living with kidney disease

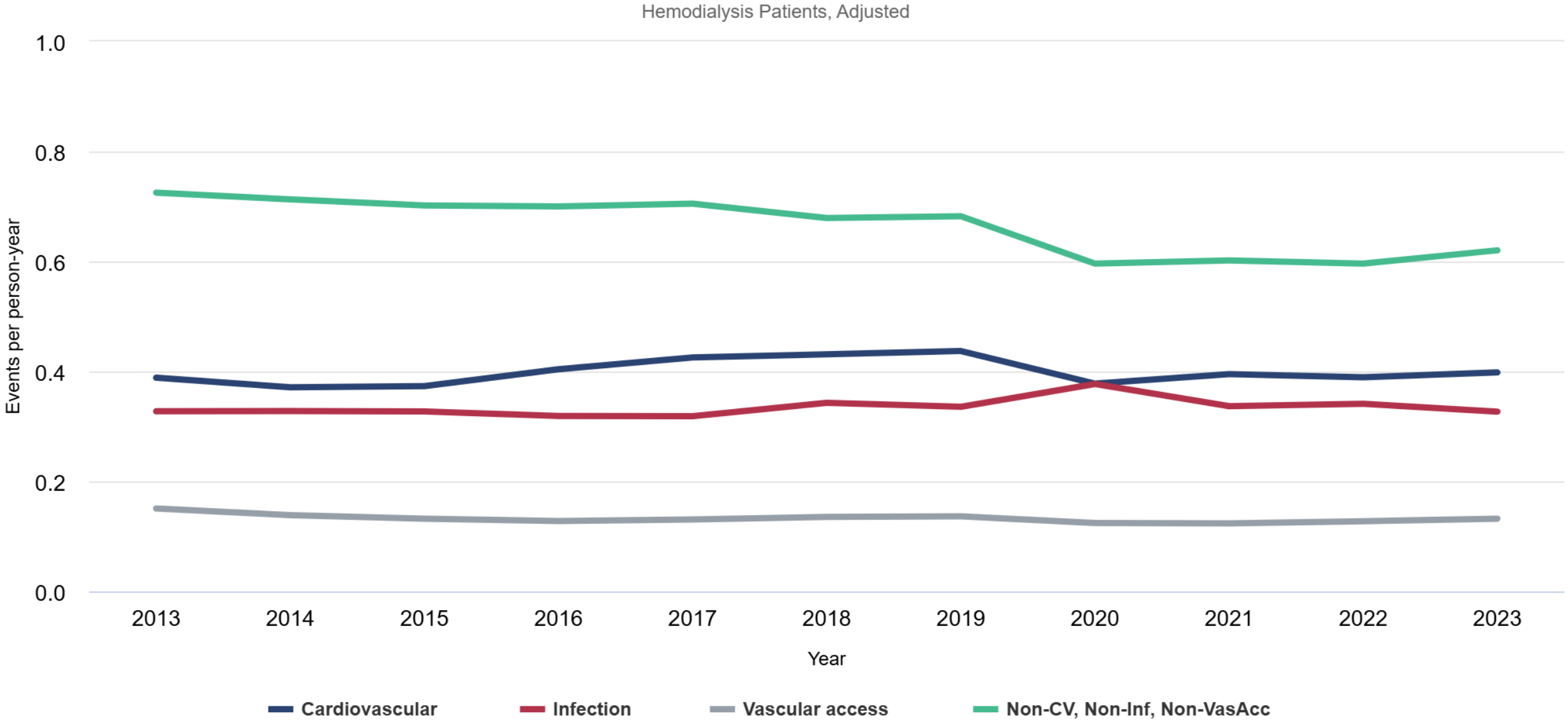
Source: Silberzweig, J. Reducing infections in outpatient hemodialysis: The impact of human factors. American Journal of Kidney Disease, 84(1), 4-5.

Figure 6.1a All-cause mortality in adults with ESKD, by treatment modality, 2013-2023



Data Source: 2025 United States Renal Data System Annual Data Report

Figure 5.4 Cause-specific hospitalization rates in adults with kidney failure insured by Medicare FFS, by treatment modality, 2013-2023



Data Source: 2025 United States Renal Data System Annual Data Report

Quality Incentive Program

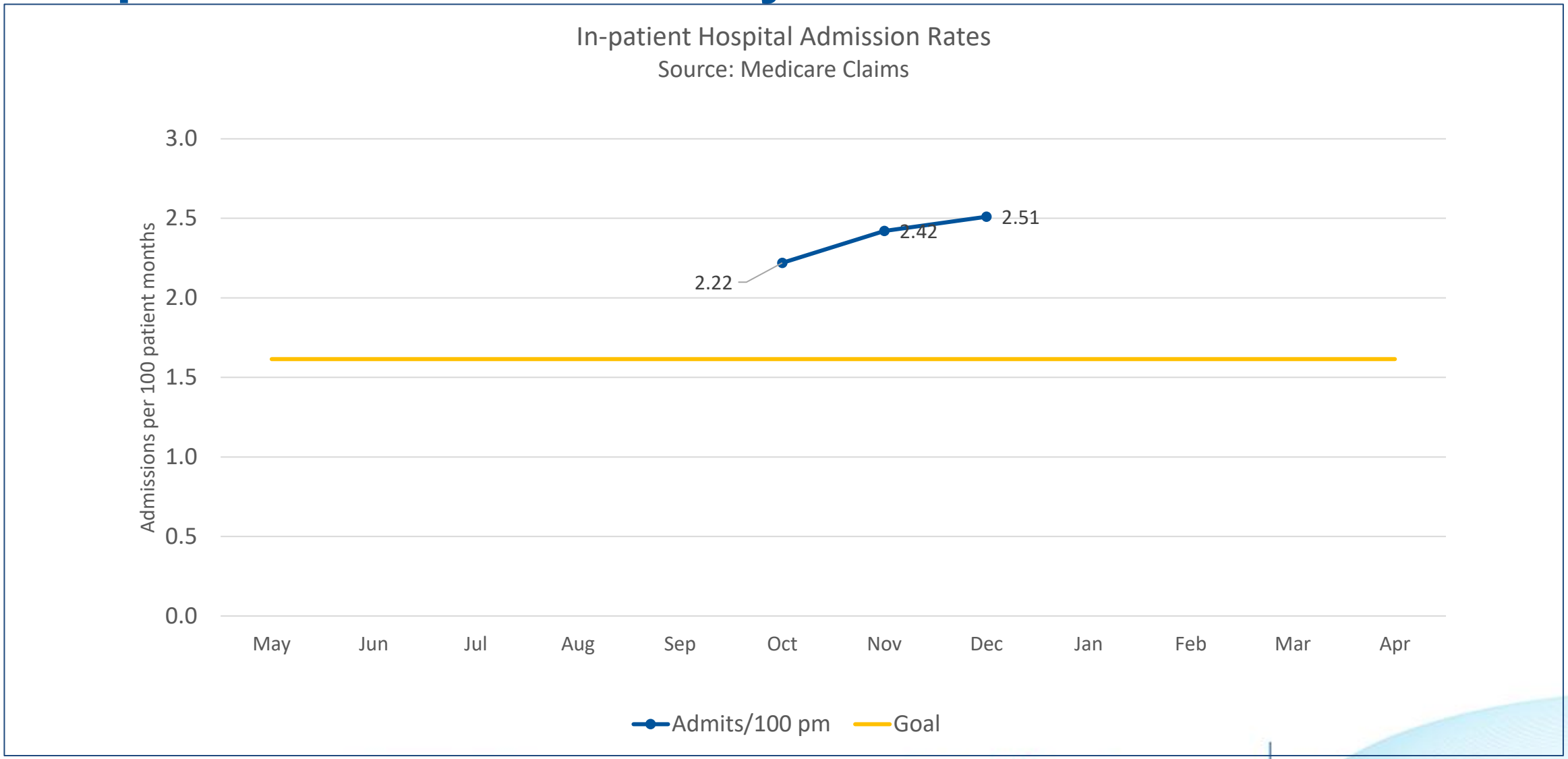
- Bloodstream infection in dialysis patients
- Standardized hospitalization rate
- Standardized readmission rate
- Reduced score in these clinical measures can impact score which can lead to payment reductions in Medicare reimbursement for dialysis treatments

Recertification Survey

- Lapses in infection control continue to be the most common citations on surveys
- Hand hygiene between glove changes
- Disinfection of the station

Network Data and Project

Inpatient Admissions: May 2025 – December 2025



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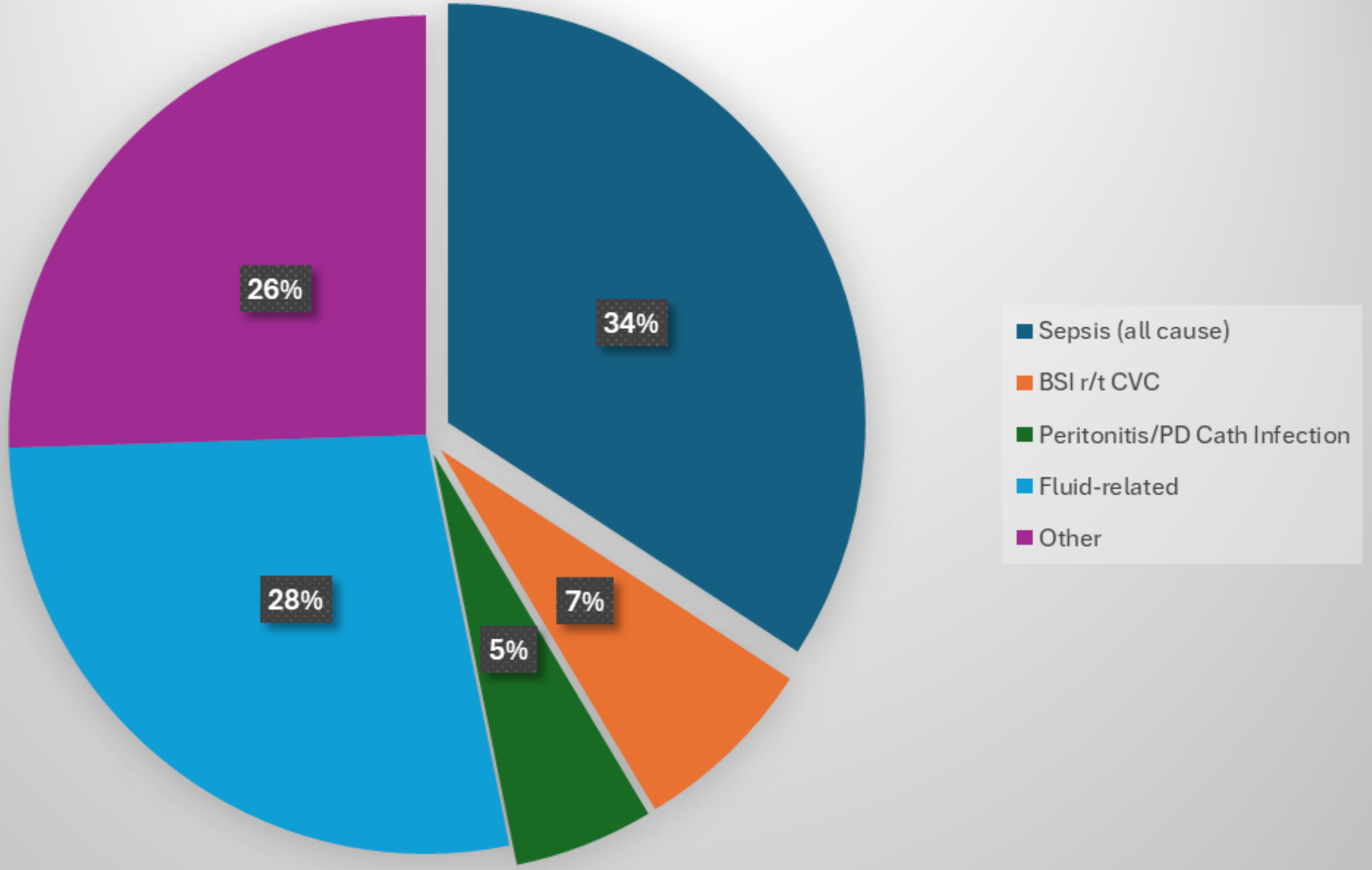
Causes of Hospitalization May 2025 - December 2025



Network Infection Prevention Improvement Project

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INFECTION PREVENTION IMPROVEMENT PROJECT: JULY – AUGUST 2025 CHECKLIST

This project runs from July 2025 through December 2025.

MONTH ONE: JULY 2025

- ❑ Schedule and attend initial coaching call
- ❑ Gather team and identify project champions
- ❑ Review NHSN data (provided by Network)
- ❑ Review August project materials below. Develop a p

MONTH TWO: AUGUST 2025

- ❑ Complete 5-10 audits in each of the following categ
  in each **category**):
  - **Catheter Connect/Disconnect**
    - Catheter Connect/Disconnect Aud
    - Catheter Connect Checklist
    - Catheter Disconnect Checklist
    - Scrub the Hub Protocol
  - **Catheter Exit Site Care**
    - Exit Site Care Audit
    - Exit Site Care Checklist
  - **AV Fistula and Graft Cannulation and Dec**
    - Fistula and Graft Cannulation/Dec
    - Cannulation Checklist
    - Decannulation Checklist
  - **Dialysis Station Routine Disinfection**
    - Station Disinfection Audit Tool
    - Station Disinfection Checklist
    - Station Disinfection Notes
    - Dialysis Station Cleaning and Disin
  - **Medication Preparation**
    - Medication Prep and Admin Audit
    - Med Prep Checklist
  - **Medication Administration**
    - Medication Prep and Admin Audit

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INFECTION PREVENTION IMPROVEMENT PROJECT: SEPTEMBER - OCTOBER 2025 CHECKLIST

This project runs from July 2025 through December 2025; this checklist guides September and October 2025.

MONTH THREE: SEPTEMBER 2025

- ❑ Select at least 3 audit categories from the 7 listed below; complete 5-10 audits from selected categories. The selected categories should be based on your highest risk categories from August audits.
- ❑ Share audit results with staff and complete focused staff education based on identified gaps.
  - ASN Project Firstline Education Modules - Assign modules for completion to all staff or select staff who will then share with all staff during a staff meeting or team huddle. Select a module not previously utilized or continue to build on education provided in August.
- ❑ Complete any activities from the August checklist not previously completed.
- ❑ Root cause analysis on any new infections this month.
- ❑ Complete patient education activity – select one topic from the list below.
- ❑ Complete monthly project check-in with the Network at the end of September. This can be completed via phone call, email, or a virtual meeting.

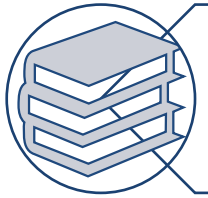
MONTH FOUR: OCTOBER 2025

- ❑ Select at least 3 audit categories from the 7 listed below; complete 5-10 audits from selected categories. The selected categories should be based on your highest risk categories from August and September audits.
- ❑ Share audit results with staff and complete focused staff education based on identified gaps.
  - ASN Project Firstline Education Modules - Assign modules for completion to all staff or select staff who will then share with all staff during a staff meeting or team huddle. Select a module not previously utilized or continue to build on education provided in August and September.
- ❑ Root cause analysis on any new infection this month.
- ❑ Complete patient education activity – select one topic from the list below.
- ❑ Complete monthly project check-in with the Network at the end of October. This can be completed via phone call, email, or a virtual meeting.

AUDIT RESOURCES

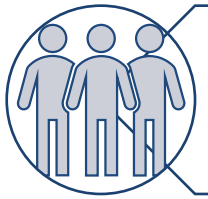
7 Audit Categories:

Audits



Staff Education

Patient Education



Team Culture of Safety

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Meaningful Audits – Not Just a Checkbox

Audits

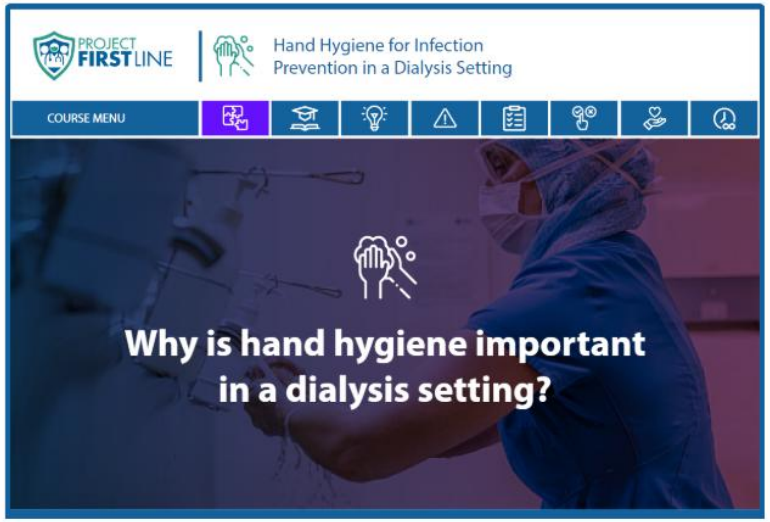
- Reframe the way we think about audits
- Vary the auditor and the staff being audited
- Vary the shifts
- Utilize audit results as a gap analysis tool
- Focused education for staff based on the gap identified on audit

Project Firstline Modules

Staff Education

Infection Prevention in Dialysis Learning Courses

These course are part of a series around infection prevention and control in dialysis settings. 0.75 CME offered by AMA.
AMA CME Accreditation Information



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Patients with Catheters

TIP 1

Catheters have a higher risk of infection. Ask your doctor about getting a fistula or graft instead.

TIP 2

Learn how to take care of the catheter at home. Do not get it wet.

TIP 3

Wash your hands often, especially before and after dialysis treatment.

TIP 4

Know the steps your healthcare providers should take when using the catheter for treatment.

TIP 5

Know the signs and symptoms of infection and what to do if you think you might have an infection.

TIP 6

Know what to do if you have any problem with the catheter.

6 TIPS to prevent Dialysis Infections

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

www.cdc.gov/ckd www.cdc.gov/dialysis/patient

Patients with Fistulas or Grafts

TIP 1

Take care of your dialysis access site at home. Avoid scratching or picking it.

TIP 2

Wash your hands often, especially before and after dialysis treatment.

TIP 3

Wash or cleanse your dialysis access site prior to treatment.

TIP 4

Know the steps your healthcare providers should take when using your dialysis

TIP 5

Know the signs and symptoms of infection and what to do if you think you

TIP 6

Know what to do if you have any problem with your dialysis access site.

6 TIPS to prevent Dialysis Infections

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Patient Education

lifeline and keeping
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times to clean
your access free
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stula or graft bandage
atheter and/or
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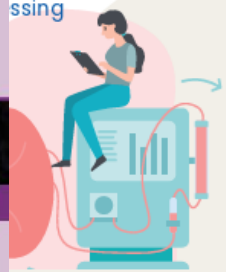


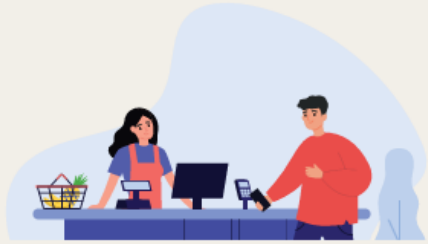
Staying active is an important part of being healthy. Germs are everywhere, including in the soil and on surfaces in the environment! Some examples of when you should clean your hands include after activities such as:

- Exercising
- Gardening
- Caring for your lawn

IN THE COMMUNITY

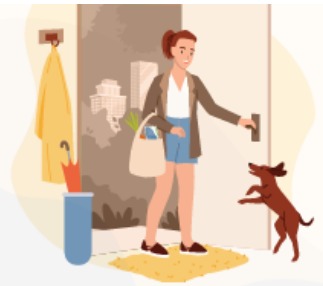
Taking part in community activities improves health and happiness. Germs are everywhere, including on surfaces in the community! Hand hygiene should be performed after activities such as:

- Visiting friends/family
- Shopping
- Attending an event such as a movie
- Eating out at restaurants



Hot Tip

Clean your hands after touching anything that someone else may have touched. For example, an ATM



IN THE HOME

You should clean your hands as soon as possible after you return home.

Also, when in our own homes we are very comfortable, but we need to remember that germs are everywhere, even here! Some examples of when to clean your hands in your home are before and/or after:

- Using the restroom
- Coughing and sneezing
- Caring for others
- Caring for pets
- Household chores such as:
  - Preparing food
  - Handling trash
  - Handling dirty laundry

Team Culture of Safety

- Transparency with rates and goals
- Empowering ALL team members to have a voice – infection prevention as a shared responsibility
- Regular team huddles – discuss metrics, new education, areas of opportunity

Best Practices Identified

Policy Champion

- Review policies regularly
- Present to staff
- Encourage team discussion

Patient Education

- Access care
- Staying healthy outside of dialysis
- Manage comorbid conditions
- Teach-back method

Collaboration with outside agencies

- ICAR
- Wound care
- Primary care
- Public Health

Results – Lessons Learned

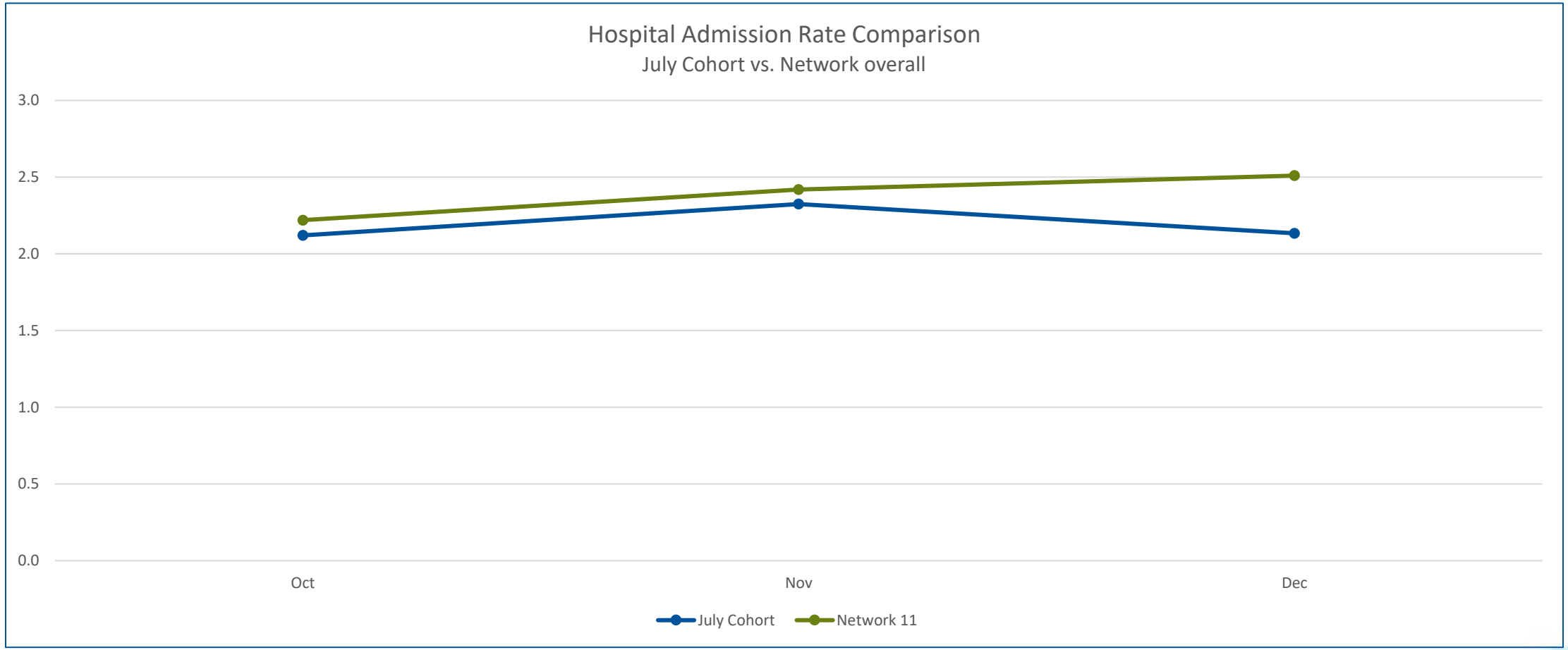
Tradition/culture of the unit vs per protocol

Identified environmental and process barriers not previously noted as risk areas

Team culture and shared accountability

Patient actions outside of the dialysis clinic

Results – Data



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Sepsis Resource – Patient Facing

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STOP AND LOOK FOR SEPSIS: TOOL FOR DIALYSIS PATIENTS

Sepsis is the body's extreme reaction to an infection. Sepsis is dangerous and can lead to death if not treated early. It is important for dialysis patients to recognize the signs of infection and sepsis, and then act quickly to get medical attention with any signs of sepsis.

Use the stoplight tool to regularly check yourself for sepsis.

	No signs of infection or sepsis. No action. Go to dialysis as scheduled.	I have warning signs of sepsis and will take action today.	I have warning signs of sepsis and will take action NOW!
Temperature 	I do not have a fever. I do not feel cold.	I have a fever between 100 and 101.4, I feel cold and cannot get warm.	I have a high fever, higher than 101.5. I feel very cold, I am shivering.
Breathing 	My breathing is normal for me.	My breathing is faster and a bit more difficult than normal.	My breathing is difficult. I am breathing hard and cannot catch my breath.
Heart 	My heart rate feels normal for me.	My heart feels like it is beating faster than normal.	My heart is racing and feels like it is beating very fast.
Energy 	My energy level is normal for me. I can do my daily activities.	I feel too tired to do some of my daily activities.	I am very tired and feel too weak to do any activities.
Thinking 	My thinking is clear.	My thinking feels slow and not right.	My thinking does not make sense, or people tell me I am not clear.
Change in Dialysis Access 	I feel well. My dialysis access looks healthy.	I do not feel well. My dialysis access is sore and does not look normal.	I feel very sick. My dialysis access is red, swollen, and sore.
What should I do?	I will go to dialysis as scheduled. No other action is needed.	**I will call my health care team and get help today.**	**I will get help NOW! I will go to the hospital or call 9-1-1**

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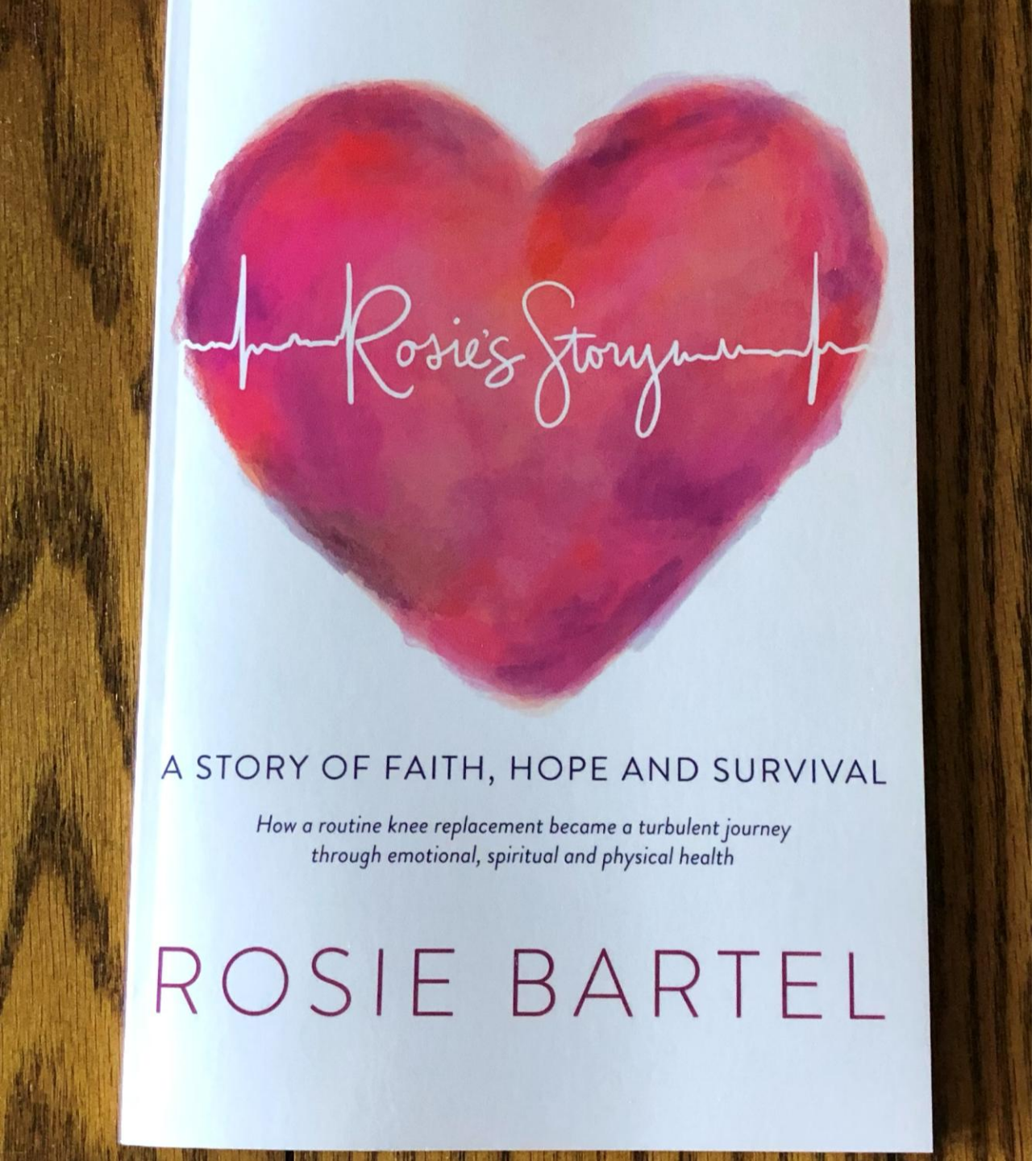
Home Modality Best Practices

- Like staff, patients may unknowingly slip into habits and cut corners
- Evaluate frequency of technique checks for home patients and care partners
- Track and trend infections, review with QI/IDT team
- After any infection, evaluate technique and utilize the teach back during any re-education
- After identification of infection, screen early for potential sepsis. Educate patients on the risk of sepsis, stressing importance of early intervention for any signs of infection

Resource List

- For coaching and/or copies of an infection prevention improvement plan, please contact claire.taylor-schiller@midwestkidneynetwork.org
- MKN Stoplight for Sepsis
- MKN Sepsis Screening Tool for Dialysis Staff
- Hand Hygiene in Dialysis
- Dialysis Station Disinfection
- MKN Teach Back Tool
- MKN Health Literacy Tool

The Patient Experience



Contact Information

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Questions?

Thank you for attending and all you do for our kidney community!

Please take a few moments to complete the post-webinar survey.
https://www.surveymonkey.com/r/7HZJJHB

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