

# Integrating Nonacute Care into State HAI Programs: Hemodialysis Clinics

**November 18, 2015**

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The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of Centers for Disease Control and Prevention.

# Outline

- **Updates - CDC**
  - ELC-ICAR
  - NHSN
  - Outbreaks
  - Prevention
- **Experience conducting dialysis clinic assessments using the ICAR tool (Activity B1) – NJ Dept. of Health**
- **Training dialysis healthcare providers – MA Dept. of Public Health**

# **ELC ICAR Activity B1 Updates**

# ELC-ICAR Updates for Hemodialysis

- **New Staff:**
  - **Nicole Gualandi** – main POC via ICAR mailbox
  - **Sally Hess**
  - **Ruth Belflower**
  - **Bola Ogundimu (LTC focus)**
- **Assessment Tool Status**
  - **Modifications based on NJ experience, other feedback**
  - **Target dates for completion:**
    - **Printable form this week**
    - **Fillable tool early December**
  - **Requests for a training on the tool**

# **Useful for ELC-ICAR Hemodialysis Planning**

**We want to hear from you:**

- If you intend to start dialysis center assessments in the next several months**
- If you are planning dialysis center assessments, but the number of centers was not quantified in your ELC application**

# **ELC-ICAR Hemodialysis Communications**

- **End-Stage Renal Disease (ESRD) Networks**
  - CDC held a call for all ESRD Networks and introduced them to the program
  - ESRD Network contacts shared with ELC Grantees
  - State HAI contacts shared with ESRD Networks
- **Other Partners**
  - New partnership with patient advocate group
  - Communications with select dialysis provider organizations planned

# Training of Assessment Team

- Expect a learning curve
- Review tools in advance
- Consider using CDC Best Practices Video
  - CDC Infection Control in Dialysis CE Course
- Open to hearing about additional needs

Facility Name: \_\_\_\_\_ Observer: \_\_\_\_\_  
Date: \_\_\_\_\_ Day: M W F Tu Th Sa Shift: 1<sup>st</sup> 2<sup>nd</sup> 3<sup>rd</sup> Start time: \_\_\_\_\_ AM / PM

**Audit Tool: Hemodialysis station routine disinfection observations**  
(Use a "✓" if action performed correctly, a "✗" if not performed/ performed incorrectly, if not observed, leave blank. All applicable actions within a row must have "✓" for the procedure to be counted as successful.)

\*This audit tool applies when there is no visible air on surfaces of the dialysis station. If visible blood or other soil is present, surfaces must be cleaned prior to disinfection.

Discipline	All supplies removed from station and waste bucket emptied	Gloves removed, hand hygiene performed	Station is empty before disinfection is initiated	New clean gloves worn	Disinfectant applied to all surfaces and waste bucket	All surfaces are wet with disinfectant	All surfaces allowed to dry	Gloves removed, hand hygiene performed	No supplies or actions brought to station until disinfection complete

Discipline: P-physician, N-nurse, T-technician, S-student, O-other  
Duration of observation period: \_\_\_\_\_ Number of procedures performed correctly = \_\_\_\_\_  
Total number of procedures observed during audit = \_\_\_\_\_

ADDITIONAL COMMENTS-OBSERVATIONS:  
\_\_\_\_\_

\*\* Ensure the patient has left the dialysis station before disinfection is initiated.

 CDC  
Making dialysis safer for patients  
& CDC Dialysis Collaborative



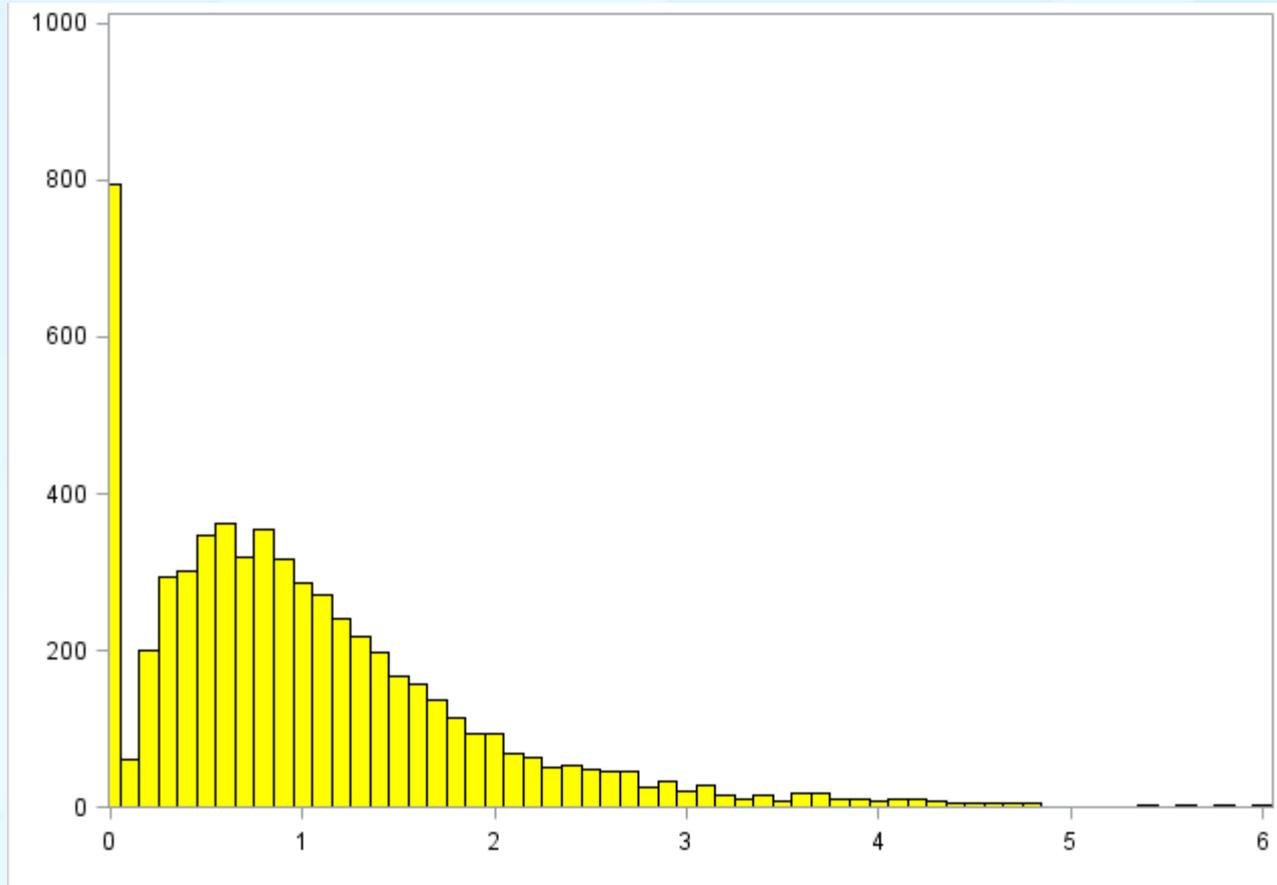
Some centers may choose to use sterile gloves.

# **NHSN Dialysis Event Updates**

# **NHSN Dialysis Event Reporting, 2014**

- **Approx. 6,000 dialysis centers reported data**
- **First year of reporting used for performance measurement by CMS**
  - **NHSN Bloodstream Infection (BSI) measure**
  - **SIRs calculated**
    - **Adjusted for vascular access type**
    - **Expected rates based on 2014 data**
  - **5,544 CMS-certified facilities reported 12-months**
- **Aiming to upload new aggregate rates as soon as possible**

# NHSN BSI Standardized Infection Ratios, 2014



**Mean SIR = 1.03, Median SIR = 0.83, [IQR: 0.4-1.4]**  
**SIR = 0 in 13% of centers**

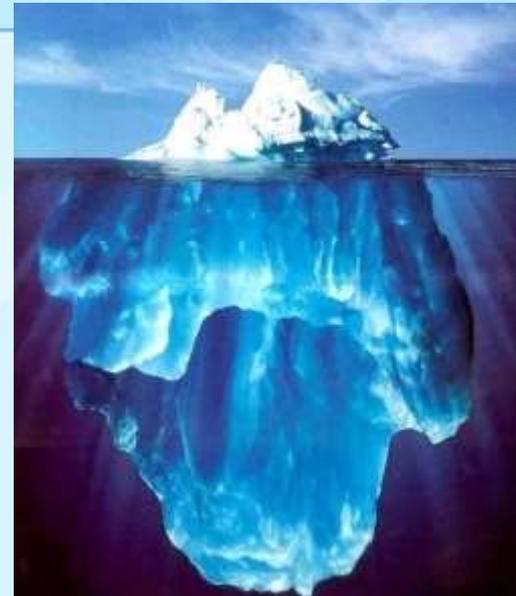
# **Data Validation & Information Communication**

- **Evidence of systematic under-reporting of BSI**
  - **Challenge: capturing BSIs within 1 calendar day after hospitalization**
  - **Poor hospital-to-dialysis center communication affects**
    - **Reliability of BSI rates**
    - **Also antimicrobial susceptibility information**
- > Interest in means of improving communication across care transitions**

# **Outbreaks: Hepatitis C Virus (HCV) Infection**

## Healthcare-related HCV Outbreaks

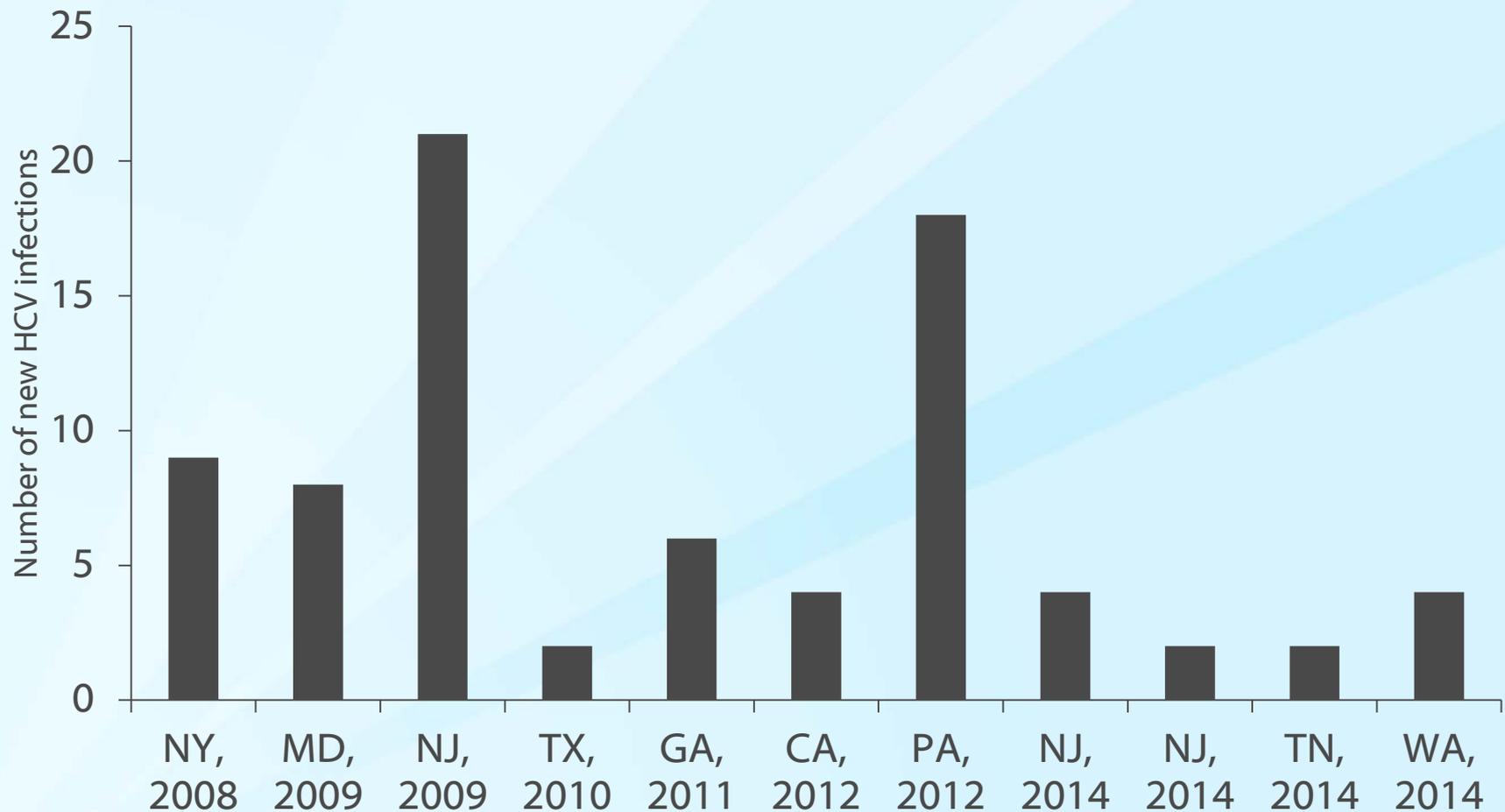
- Hemodialysis most common healthcare setting for HCV outbreaks reported to CDC
  - 50% of outbreaks 2008-2014



## HCV Outbreaks in Hemodialysis, 1998-2014

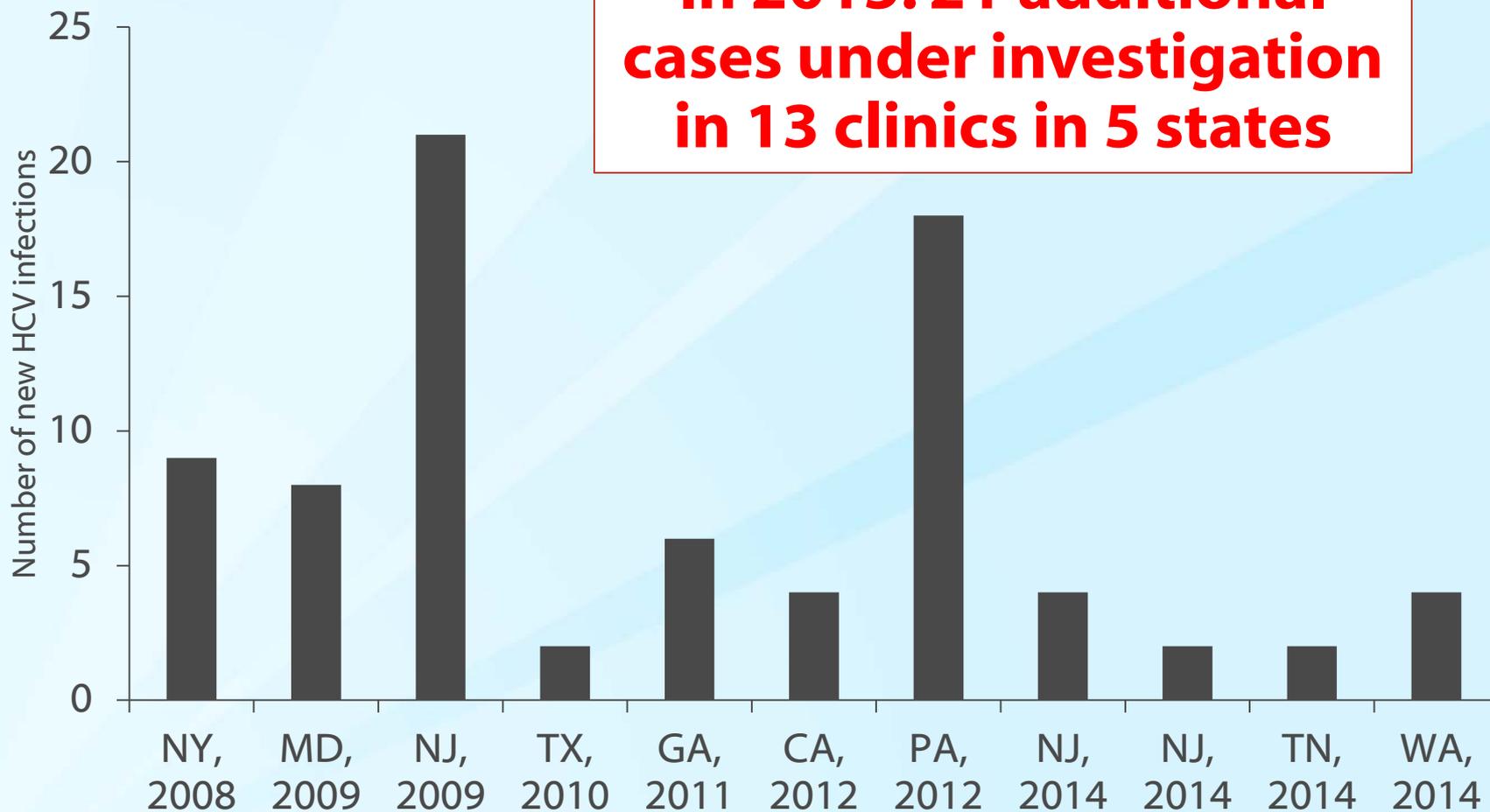
- 17 reported outbreaks, not including single transmission events, in 14 states
- Approx. 100 outbreak-related infections
- Over 2,300 patients notified for screening in 14 states

## Number of New HCV Infections by Outbreak (>1 case per dialysis center), 2008–2014



# Number of New HCV Infections by Outbreak

**In 2015: 21 additional cases under investigation in 13 clinics in 5 states**



# HCV Take-Homes

- **More HCV seroconversions being reported**
- **Single HCV seroconversion (or acute infection) in a dialysis patient should be investigated**
  - **Opportunity to assess and improve infection control to prevent additional cases**
  - **Can use CDC assessment tools**
- **Reinforce with facilities need for screening and reporting to public health viral hepatitis seroconversions**

# Prevention

# **Infection Prevention in Dialysis**

- **New tools, other available resources**
  - **Can be ordered from our website and shared with facilities**
- **CDC Dialysis Collaborative email listserv and learning webinars**
  - **Email ICAR mailbox or Nicole/Priti**
- **Dedicated webpage(s) for viral hepatitis planned**
- **Exploring staff training opportunities**

## Checklist: Hemodialysis injectable medication preparation

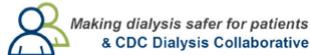
- Ensure medication preparation area is clean<sup>1</sup>
- Inspect medication vial and discard if sterility is questionable<sup>2</sup>
- Perform hand hygiene
- Prepare medication aseptically
- Disinfect rubber septum of vial with alcohol
- Withdraw medication using a new needle and new syringe<sup>3</sup>
- Discard single-dose vials and store multi-dose vials appropriately<sup>4</sup>

<sup>1</sup>Prepare injectable medications in a designated clean workspace that is free of obvious contamination sources (e.g., blood, body fluids, contaminated equipment, tap water). This workspace should be clearly separated from the patient treatment area, and ideally in a separate room.

<sup>2</sup>Examine appearance of vial contents for signs of possible contamination (e.g., turbidity, particulate matter). Vials should be discarded if sterility is questionable, the expiration date has been exceeded, or the beyond-use date has been exceeded. If a multi-dose vial will not be immediately discarded after use, the vial should be labeled upon opening to indicate the beyond-use date.

<sup>3</sup>Medications should be prepared as close as possible to the time of administration. If not immediately administered by the person who prepared the medication, they should be labeled appropriately.

<sup>4</sup>If not discarded, opened multi-dose vials should be stored in a designated clean area in accordance with manufacturer's instructions.

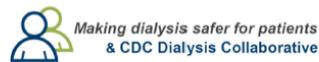


## Checklist: Hemodialysis injectable medication administration

Injectable medications should be handled and transported from the medication preparation area in a manner that minimizes contamination risk. The provider administering the medication should also ensure the correct medication and dose are being administered to the correct patient.

- Perform hand hygiene
- Put on new, clean gloves
- Scrub injection port with antiseptic\*
- Attach syringe and administer medication aseptically
- Discard syringe
- Remove gloves
- Perform hand hygiene

\*The following are appropriate antiseptics: chlorhexidine, povidone-iodine, tincture of iodine, 70% alcohol



# Injection Safety Checklists

New CDC  
tools!





# Checklist: Dialysis Station Routine Disinfection

This list can be used if there is no visible soil on surfaces at the dialysis station. If visible blood or other soil is present, surfaces must be cleaned prior to disinfection. The proper steps for cleaning and disinfection of surfaces that have visible soil on them are not described herein. Additional or different steps may be warranted in an outbreak situation. Consider gathering necessary supplies prior to Part A.

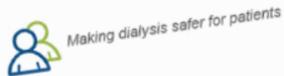
## Part A: Before Beginning Routine Disinfection of the Dialysis Station

- Disconnect and takedown used blood tubing and dialyzer from the dialysis station.
- Discard tubing and dialyzers in a leak-proof container.
- Check that there is no visible soil or blood on surfaces.
- Ensure that the priming bucket has been emptied.
- Ensure that the patient has left the dialysis station.
- Discard all single-use supplies. Move any reusable supplies to an area where they can be cleaned and disinfected before being stored or returned to a dialysis station.
- Remove gloves and perform hand hygiene.

## Part B: Routine Disinfection of the Dialysis Station – AFTER patient has left

- Wear clean gloves.
- Apply disinfectant to all surfaces in the dialysis station using a cloth (avoid excessive friction).
- Ensure surfaces are visibly wet with disinfectant. Allow surfaces to remain wet for the required contact time.
- Disinfect all surfaces of the emptied priming bucket. Allow to remain wet for the required contact time before reconnection or reuse.
- Keep used or potentially contaminated items away from the dialysis station.
- Remove gloves and perform hand hygiene.

Do not bring patient or clean supplies to station until these steps are completed.



Centers for Disease Control and Prevention  
National Center for Emerging and Zoonotic Infectious Diseases



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National Center for Emerging and Zoonotic Infectious Diseases  
Division of Healthcare Quality Promotion



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### ADDITIONAL COMMENTS/OBSERVATIONS:

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# Station Disinfection Audit Tool

New CDC tools!



# **Additional Tools for Facilities & Tracking Audits**

- **NHSN Prevention Process Measures Module**
  - **Allows tracking of audits performed and high-level results**
  - **For each audit type, report:**
    - # of successful opportunities or procedures**
    - total # of opportunities or procedures observed**
  - **Available for all CDC audit types**
- **Regular use can be encouraged to select facilities**
  - **Rights can be conferred to a group, including ESRD Network group**





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## Dialysis Safety

Patients who undergo dialysis treatment have an increased risk for getting a healthcare-associated infection (HAI). Hemodialysis patients are at a high risk for infection because the process of hemodialysis requires frequent use of catheters or insertion of needles to access the bloodstream. Also, hemodialysis patients have weakened immune systems, which increase their risk for infection, and they require frequent hospitalizations and surgery where they might acquire an infection.

### Continuing Education Course

#### Infection Prevention in Dialysis Settings

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 <b>Healthcare-associated Infections (HAI)</b>
 <b>National Healthcare Safety Network (NHSN)</b>
 <b>Hand Hygiene</b>
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Reporting for CMS ESRD QIP