HSAG HEALTH SERVICES ADVISORY GROUP

ESRD Networks 7, 13, 15, 17

BSI and LTC Reduction QIA 2020 Orientation

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Health Services Advisory Group (HSAG)

End Stage Renal Disease (ESRD) Network 15

January 23, 2020

The facility must participate in Network projects and activities aimed at addressing identified needs and improving quality of care in the individual facility or the Network-wide area.

www.cms.gov/Medicare/Provider-Enrollment-and-Certification/GuidanceforLawsAndRegulations/downloads/esrdpgmguidance.pdf

Agenda

- Introduction: Reducing BSIs and LTCs QIA
- Facility inclusion criteria
- Goals
- Activities and requirements
- Interventions
- Tools
- Next steps and best practices
- Data reporting
- Questions/comments
- Post-call attendance

BSI = Bloodstream Infection
LTC = Long-Term Catheter
QIA = Quality Improvement Activity

Reducing BSIs and LTCs QIA: Introduction

Introduction

Objectives:

- Practice and use the CDC's 9 Core Interventions.
- Promote the use of the CDC's infection prevention practices and observation tools.
- Educate and include patients in infection control practices.
- Reduce hospitalizations due to BSIs.
- Improve transitions of care by use of an HIE, EMR system, or use of another effective means to obtaining hospital records, specifically regarding blood cultures in real-time or prior to patients returning to the dialysis facility.
- Spread best practices throughout Network 15 and nationwide by attending LAN calls hosted by the NCC.

CDC = The Centers for Disease Control and Prevention
HIE = Health Information Exchange
EMR = Electronic medical record
LAN = Learning and Action Network
NCC = National Coordinating Center

BSI-LTC QIA Inclusion Criteria

Inclusion Criteria and Focus

- Reducing BSIs QIA
  - NHSN Excess Infection Report
    - 20% of facilities with the highest Excess Infections
    - Goal: Decrease rates by a 20% relative reduction
    - 72 facilities
- Reducing LTCs
  - CROWNWeb
    - Facilities with a catheter “in-use rate” greater than 15%
    - Goal: Decrease LTCs by 0.25% Network-wide
    - 34 facilities

NHSN = National Healthcare Safety Network

BSI/LTC QIA Interventions

Interventions

- Designate a facility staff lead and a back-up for the QIA to allow for:
  - Consistency of reporting.
  - Implementation of interventions.
- Attend the ESRD NCC bi-monthly LAN calls.
  - National/facility speakers providing best practices for QIAs.
  - Attendance is **mandatory** for all QIA facilities.
    - The first call was held January 7, 2020.
    - Calls are scheduled for the first Tuesday, every other month.
    - Attendance is tracked by the Network and reported to CMS.
  - LAN-identified interventions must be implemented by facilities during the QIA.

CMS = The Centers for Medicare & Medicaid Services

Interventions (cont.)

- Complete a Root Cause Analysis (RCA) via the worksheets that were provided from the Network in December, 2019.
  - Use the *Five Whys* and *PDSA Cycle* to identify barriers to reducing BSIs or Reducing LTCs.
  - Identify barriers and implement interventions to overcome issues.
  - Review and refer to the videos (i.e., the December assignment).
- Provide staff education.
  - Distribute and discuss educational materials.
- Provide patient education.
  - Distribute and discuss educational materials and collect feedback from patients when directed.

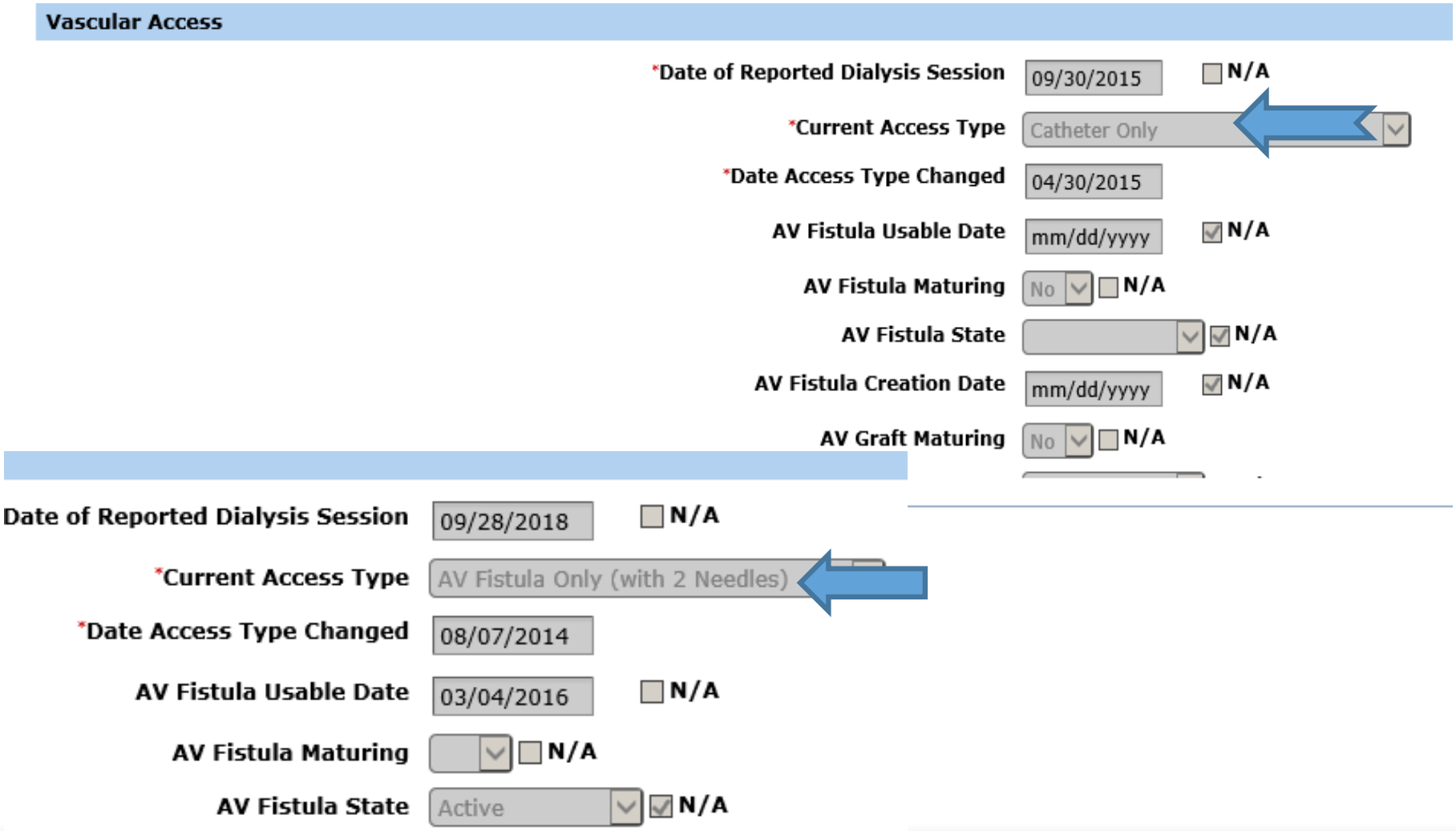
PDSA = Plan, Do, Study, Act

Reducing Long-Term Catheters Interventions

Interventions include:

- Using a vascular access tracking tool.
- Reviewing *Fistula First Catheter Last* (FFCL) reports generated from CROWNWeb data.
  - Review monthly each catheter patient.
  - Communicate a plan for catheter patients.
  - Document refusals, education, and re-education efforts.
- Sit with each CROWNWeb facility user and review vascular access documentation monthly for advancing accesses.

CROWNWeb: Vascular Access Reporting



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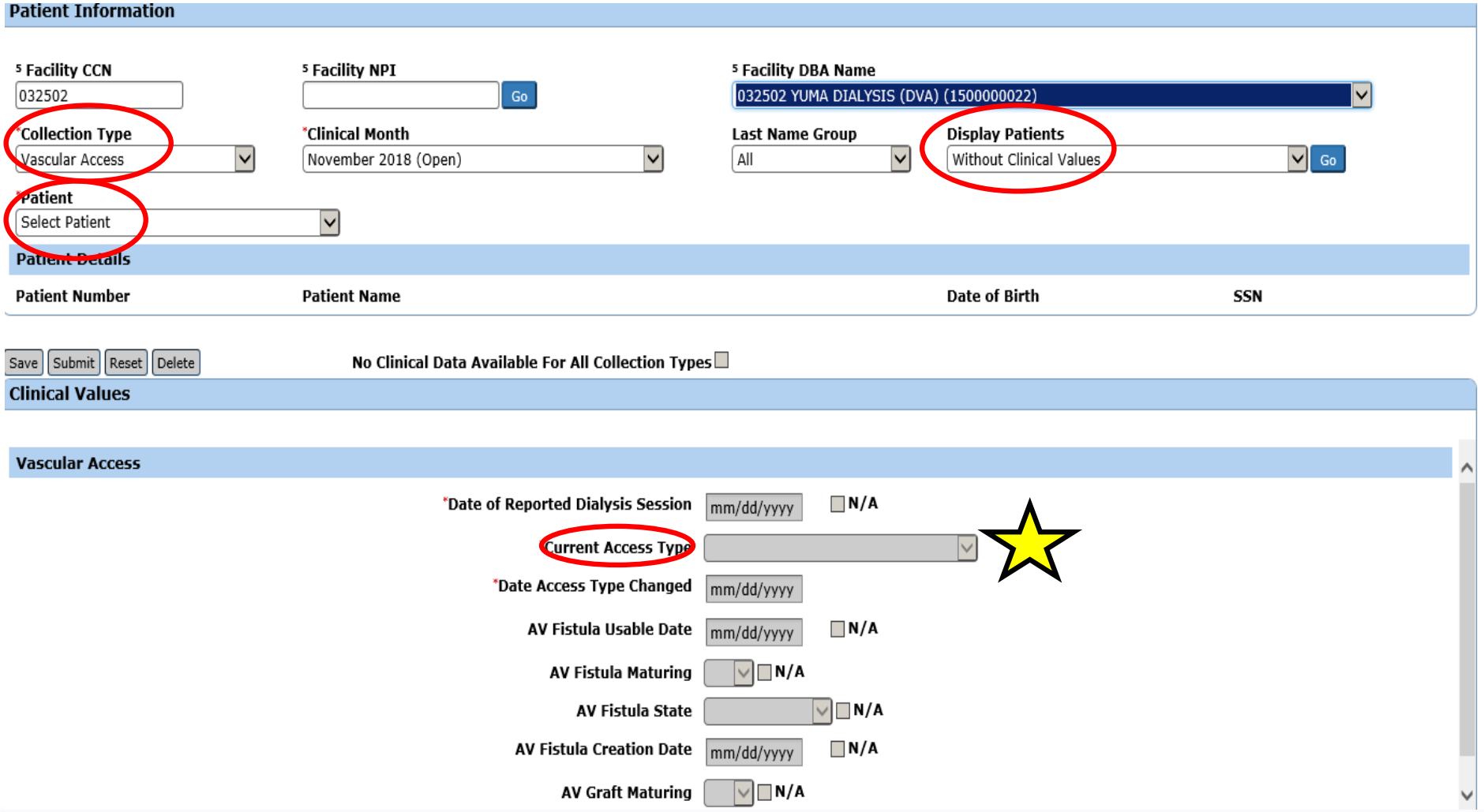
Updating CROWNWeb



QIA Focus:

Participating facilities will focus on:

- Performing audits using the CDC BSI prevention audit tools.
- Using CDC, AHRQ, and Network resources.
- Providing on-going education for patients and staff regarding infection prevention practices, culminating with a signed patient and staff pledge (do not submit to NW15).
- Engaging patients in their own infection prevention practices by encouraging them to complete CDC audits for hand hygiene compliance.
- Reporting monthly to NHSN and the Network regarding:
  - Dialysis events.
  - Completion of patient education and CDC BSI prevention audits.
- Attending monthly calls as scheduled.

AHRQ = Agency for Healthcare Research and Quality
NHSN = National Healthcare Safety Network

BSI Toolkit Checklist, Steps 1 and 2

Instructions and Completion Checklist-BSI Prevention QIA Toolkit

- Step 1 Attend the QIA Orientation Webinar on January 23, 2020.
- Step 2 Review the following videos prior to completing an RCA worksheet and the **Plan-Do** of the PDSA template:
  - Illustrated Look at Quality Improvement in Health Care (8:09 minutes)
    - http://www.ihi.org/resources/Pages/AudioandVideo/MikeEvansVideoQIHealthCare.aspx
  - 5 Whys: Finding the Root Cause (1:15 minutes)
    - http://www.ihi.org/resources/Pages/Tools/5-Whys-Finding-the-Root-Cause.aspx
  - PDSA Cycle: Plan, Do, Study, Act (Part 1) (4:45 minutes)
    - http://www.ihi.org/education/IHIOpenSchool/resources/Pages/AudioandVideo/Whiteboard5.aspx

BSI Toolkit Checklist, Steps 3 and 4

Instructions and Completion Checklist-BSI Prevention QIA Toolkit

- Step 3: Review BSIs for October 2019–December 2019 to identify root causes of each BSI and possible trends. Then complete an RCA and the "Plan & Do" of the PDSA and submit to smoretti@hsag.com or via fax: 303.860.8392 **by January 31, 2020**.
  - Note: During subsequent months, you will be reviewing only the BSIs identified during the reporting month.
- Step 4: Have all patient care staff complete the self-guided training course, Infection Prevention in the Dialysis Setting, by February 28, 2020: www.cdc.gov/dialysis/clinician/CE/infection-prevent-outpatient-hemo.html.
  - The course offers one no-cost continuing education (CE) credit (acquiring CE credit is not required for the QIA).

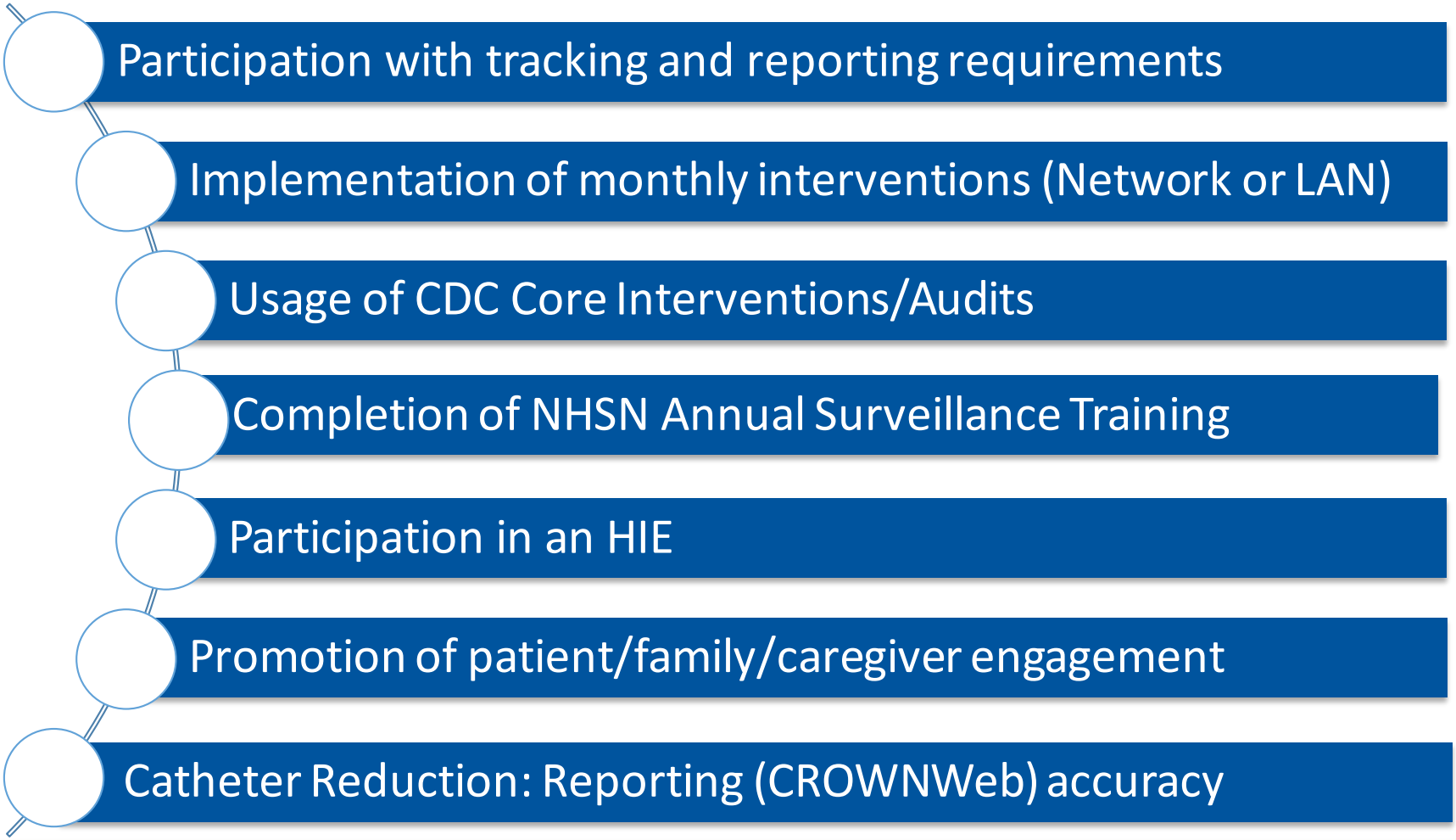
BSI Toolkit Checklist, Steps 5 and 6

- Step 5: **Before the last day of each month**, verify/validate that vascular accesses are reported correctly (by definition) into CROWNWeb, paying careful attention to catheters advancing to permanent access use.
- Step 6: Have all patient care staff review the enclosed CDC audit instructions and begin audits by March 1, 2020; audits are to be completed on a monthly basis.
  - 7 CDC Arteriovenous Fistula (AVF)/Fistula Graft (AVG) Cannulation Observation audits
  - 7 CDC Catheter Connection and Disconnection Observation audits
  - 7 CDC Dialysis Station Dis-infection Observation audits
  - 13 CDC Hemodialysis Hand Hygiene Observation audits
  - 5 CDC Hemodialysis Hand Hygiene Observation audits **and 4–5 audits completed by patients** (approx. 1 each week).

BSI Toolkit Checklist, Steps 7, 8, and 9

- Step 7: Enter dialysis facility events into NHSN monthly and complete the Network monthly reporting by the last day of the month.
  - Facility infection data and the results of CDC audits are required to be reviewed with the facility's Medical Director during Quality Assurance and Performance Improvement (QAPI) meetings.
- Step 8: Disseminate patient and staff infection prevention pledges, beginning March 2020.
  - Keep a record of the number of patients provided with resources and of the patients who signed the pledges each month, as you will provide to the Network in monthly reporting.
- Step 9: Complete monthly reporting via the link provided for each month of the QIA. Survey links will be emailed along with the intervention/education at the beginning of each reporting month.

QIA Evaluation Criteria



Steps to Success

Follow these steps to success for the Network 15 BSI QIA:

- Educate staff on their role regarding participation in the BSI QIA.
  - 2 project leads
  - At least one patient
- Complete CDC audits monthly, including patient participation in the hand hygiene audits.
- Use materials to educate patients and staff.
  - Have patients and staff sign pledges once the education is complete.
- Submit monthly reporting by the last day of each month.
- Notify Network 15 of any management and QIA lead changes.
- Learn and understand CROWNWeb. Sit with your administrative assistant (AA) or designated CROWNWeb user and understand what is being entered or not entered each month for each patient's vascular access.
- **Never email patient information to Network 15.**

Review/Discuss/Educate

QAPI meetings:

- Discuss use of the CDC Core Interventions.
- Review BSIs occurring that month.
- Discuss root cause of each BSI, if applicable.
- Discuss QIA monthly intervention(s).
- Discuss results of monthly CDC audits:
  - Opportunities of improvement.
  - Knowledge deficits.

Educate and inform staff during:

- Stand-up meetings/huddles.
- Staff meetings.

QIA Interventions: Staff Education

Staff education for February 2020 must include:

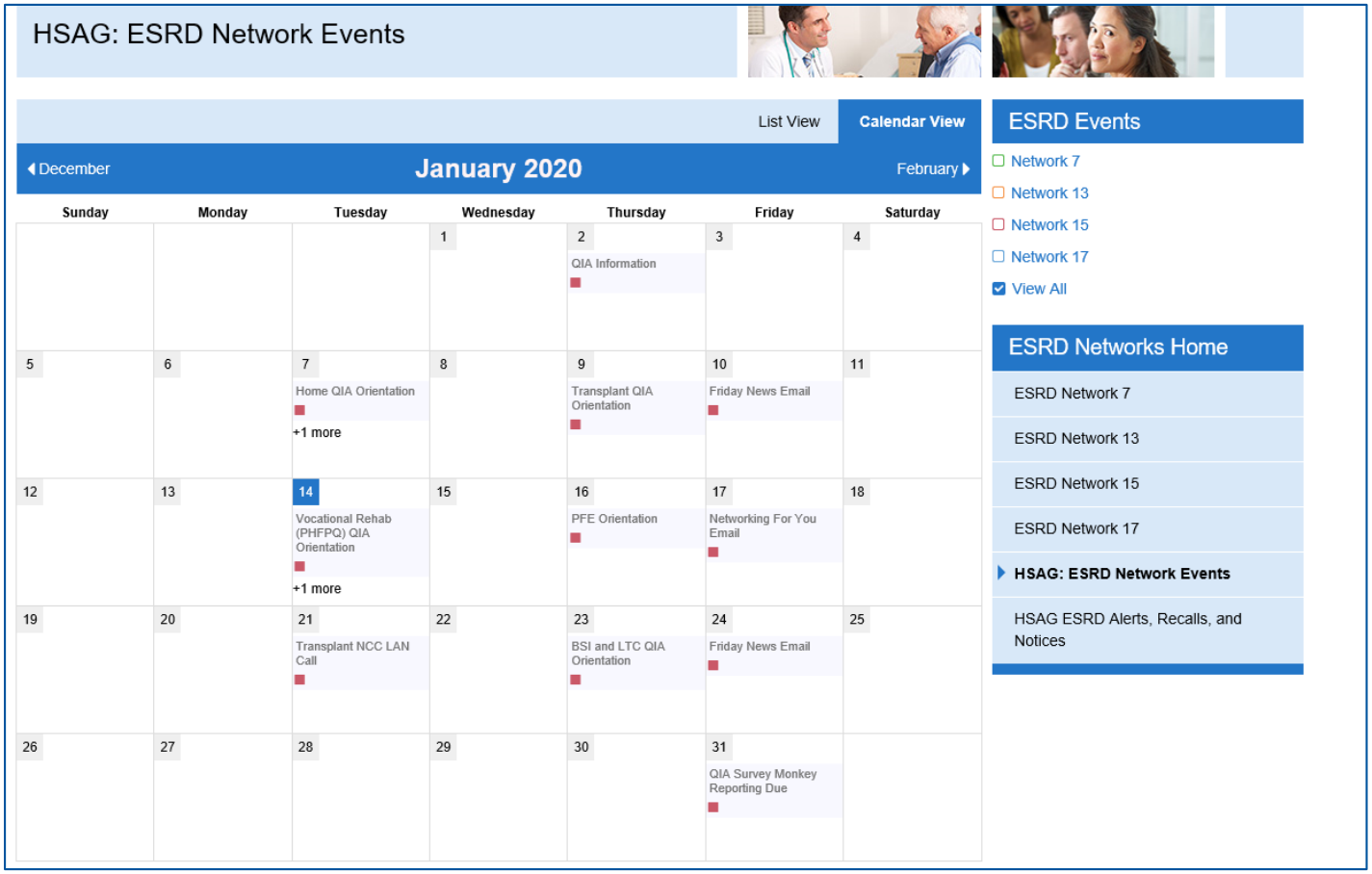
- Completion of the 1-hour self-guided training course, Infection Prevention in the Dialysis Setting, by all QIA facility patient-care staff. The training course is available on the CDC website at: https://www.cdc.gov/dialysis/provider/CE/hemo-course/Infection-Prevention-Dialysis-Settings/Infection-Prevention-Dialysis-Settings.htm
- Completion of the annual online NHSN Dialysis Event Surveillance Training by all QIA facility NHSN users. The training is available at: https://www.cdc.gov/nhsn/training/dialysis/index.html
- Review of the CDC Recommended Interventions for Dialysis BSI Prevention by all facilities. The document is available at: www.cdc.gov/dialysis/prevention-tools/core-interventions.html

Activity Requirements

Activities:

- Participation in NCC LAN call every-other month
- Implementation of the CDC 9 CORE Interventions
- Reduction of LTC
- Reporting on infections in the NHSN
- Initiate use of an HIE/information transfer system to record positive blood cultures during transition of care

January Calendar



https://www.hsag.com/en/esrd-networks/esrd-events/

Facility Resources for BSI Prevention

Resources

These additional resources are available to assist you in completing your BSI QIA:

- Best practices video—Covers hand hygiene, catheter connection/disconnection, and fistula/graft cannulation:
  - www.cdc.gov/dialysis/prevention-tools/training-video.html
- Catheter Scrub-the-Hub protocol:
  - www.cdc.gov/dialysis/PDFs/collaborative/Hemodialysis-Central-Venous-Catheter-STH-Protocol.pdf
- Checklist tools:
  - www.cdc.gov/dialysis/prevention-tools/index.html
- Hand hygiene, catheter connection/disconnection, and fistula/graft cannulation audit tool:
  - www.cdc.gov/dialysis/prevention-tools/index.html

Resources (cont.)

These additional resources are available to assist you in completing your BSI QIA:

- AHRQ Safety Program for ESRD Facilities toolkit:
  - https://www.ahrq.gov/patient-safety/settings/esrd/resource.html
- Patient education for hand-hygiene observations:
  - Protocol:
    - https://www.cdc.gov/dialysis/prevention-tools/
  - Test Your Hand Hygiene Knowledge video:
    - https://fmqaimedia.com/demo/handwashing/

CORE Interventions

CDC Approach to BSI Prevention in Dialysis Facilities

(i.e., the Core Interventions for Dialysis Bloodstream Infection (BSI) Prevention)

1. Surveillance and feedback using NHSN
Conduct monthly surveillance for BSIs and other dialysis events using CDC's National Healthcare Safety Network (NHSN). Calculate facility rates and compare to rates in other NHSN facilities. Actively share results with front-line clinical staff.

2. Hand hygiene observations
Perform observations of hand hygiene opportunities monthly and share results with clinical staff.

3. Catheter/vascular access care observations
Perform observations of vascular access care and catheter accessing quarterly. Assess staff adherence to aseptic technique when connecting and disconnecting catheters and during dressing changes. Share results with clinical staff.

4. Staff education and competency
Train staff on infection control topics, including access care and aseptic technique. Perform competency evaluation for skills such as catheter care and accessing every 6-12 months and upon hire.

5. Patient education/engagement
Provide standardized education to all patients on infection prevention topics including vascular access care, hand hygiene, risks related to catheter use, recognizing signs of infection, and instructions for access management when away from the dialysis unit.

6. Catheter reduction
Incorporate efforts (e.g., through patient education, vascular access coordinator) to reduce catheters by identifying and addressing barriers to permanent vascular access placement and catheter removal.

7. Chlorhexidine for skin antisepsis
Use an alcohol-based chlorhexidine (>0.5%) solution as the first line skin antiseptic agent for central line insertion and during dressing changes.*

8. Catheter hub disinfection
Scrub catheter hubs with an appropriate antiseptic after cap is removed and before accessing. Perform every time catheter is accessed or disconnected.**

9. Antimicrobial ointment
Apply antibiotic ointment or povidone-iodine ointment to catheter exit sites during dressing change.***

* Povidone-iodine (preferably with alcohol) or 70% alcohol are alternatives for patients with chlorhexidine intolerance.

** If closed needleless connector device is used, disinfect device per manufacturer's instructions.

*** See information on selecting an antimicrobial ointment for hemodialysis catheter exit sites on CDC's Dialysis Safety website (http://www.cdc.gov/dialysis/prevention-tools/core-interventions.html#sites). Use of chlorhexidine-impregnated sponge dressing might be an alternative.

For more information about the Core Interventions for Dialysis Bloodstream Infection (BSI) Prevention, please visit http://www.cdc.gov/dialysis

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NHSN Annual Surveillance Training

Self-paced, interactive training

80%

Requires a passing score of at least 80%

Required annually for all participating NHSN Dialysis Event Surveillance users

June 1

The Network 15 goal for completion will be June 1, 2020. The sooner, the better.

Access at: https://www.cdc.gov/nhsn/training/dialysis/index.html.

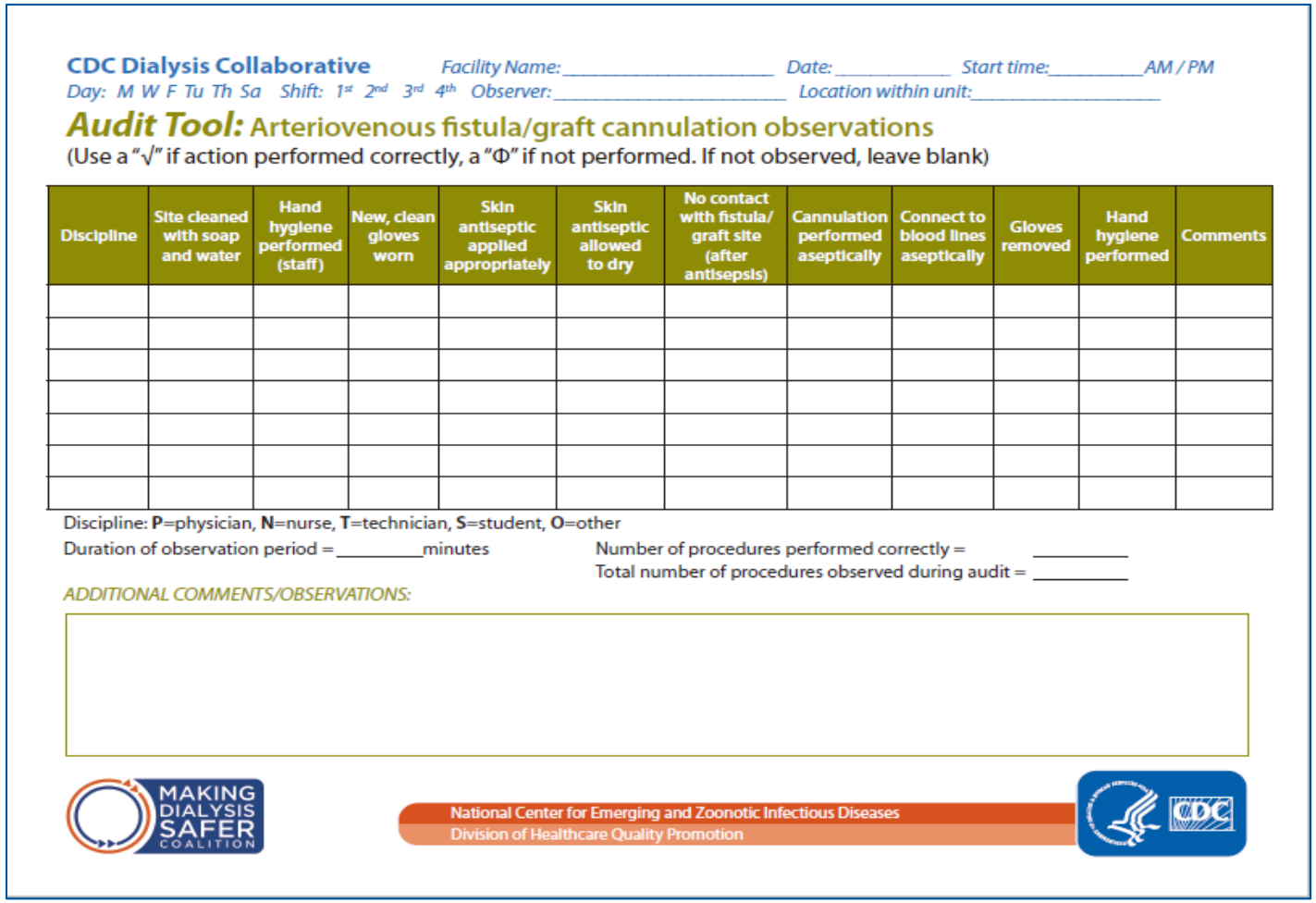
Note: This is now hosted in CDC Train. If you have never created an account for this platform, plan for a few extra minutes to register and establish an account.

QIA Interventions: CDC Audit Tools

For the period of March–September 2020, all QIA facilities must complete the following monthly audits:

- ≥13 hand hygiene observations
- ≥ 7 catheter connection/disconnection observations
- ≥ 7 fistula/graft cannulation observations
- ≥ 7 dialysis station disinfection observations
- The audit tools are here:
  - www.cdc.gov/dialysis/prevention-tools/index.html
- Facility staff should watch the CDC best practices video at:
  - https://www.medscape.com/viewarticle/808932?src=par_cdc_stm_mscpedt&faf=1 .
  - This video covers:
    - Hand hygiene
    - Catheter connection/disconnection
    - Fistula/graft cannulation

AVF/AVG Cannulation Observations



CDC Dialysis Collaborative *Facility Name:_____ Date:_____ Start time:_____AM / PM*

Day: M W F Tu Th Sa Shift: 1st 2nd 3rd 4th Observer:_____ Location within unit:_____

Audit Tool: **Arteriovenous fistula/graft cannulation observations**

(Use a "√" if action performed correctly, a "Φ" if not performed. If not observed, leave blank)

Discipline	Site cleaned with soap and water	Hand hygiene performed (staff)	New, clean gloves worn	Skin antiseptic applied appropriately	Skin antiseptic allowed to dry	No contact with fistula/ graft site (after antisepsis)	Cannulation performed aseptically	Connect to blood lines aseptically	Gloves removed	Hand hygiene performed	Comments

Discipline: **P**=physician, **N**=nurse, **T**=technician, **S**=student, **O**=other

Duration of observation period =_____minutes

Number of procedures performed correctly =_____

Total number of procedures observed during audit =_____

ADDITIONAL COMMENTS/OBSERVATIONS:

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Source: CDC. Audit Tool: Arteriovenous fistula/graft cannulation observations. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html#anchor_1558368621

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AVF/AVG Decannulation Observations

CDC Dialysis Collaborative *Facility Name:_____ Date:_____ Start time:_____AM / PM*
Day: M W F Tu Th Sa Shift: 1st 2nd 3rd 4th Observer:_____ Location within unit:_____

Audit Tool: Arteriovenous fistula/graft decannulation observations

(Use a "√" if action performed correctly, a "Φ" if not performed. If not observed, leave blank)

Discipline	Hand hygiene performed (staff)	New, clean gloves worn	Disconnect from blood line aseptically	Needles removed aseptically	Clean gloves worn (by patient/staff) to compress site	Clean gauze /bandage applied to site	If other activities performed between needle removals, hand hygiene is performed and new, clean gloves are worn	Staff gloves removed	Staff hand hygiene performed	Patient gloves removed and hand hygiene performed (if applicable)	Comments

Discipline: **P**=physician, **N**=nurse, **T**=technician, **S**=student, **O**=other

Duration of observation period = _____minutes

Number of procedures performed correctly = _____

Total number of procedures observed during audit = _____

ADDITIONAL COMMENTS/OBSERVATIONS:

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Source: CDC. Audit Tool: Arteriovenous fistula/graft decannulation observations. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html#anchor_1558368621

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Catheter Connections and Disconnection

CDC Dialysis Collaborative *Facility Name:_____ Date:_____ Start time:_____AM / PM*
Day: M W F Tu Th Sa Shift: 1st 2nd 3rd 4th Observer:_____ Location within unit:_____

Audit Tool: Catheter connection and disconnection observations

(Use a "√" if action performed correctly, a "Φ" if not performed. If not observed, leave blank)

Procedure observed, C=connect D=disconnect	Discipline	Mask worn properly (if required)	Hand hygiene performed	New clean gloves worn	Catheter removed from blood line aseptically (disconnection only)	Catheter hub scrubbed	Hub antiseptic allowed to dry	Catheter connected to blood lines aseptically (connection only)	New caps attached aseptically (after disconnecting)	Gloves removed	Hand hygiene performed

Discipline: **P**=physician, **N**=nurse, **T**=technician, **S**=student, **O**=other

Duration of observation period = _____minutes

Number of procedures performed correctly = _____
Total number of procedures observed during audit = _____

ADDITIONAL COMMENTS/OBSERVATIONS:

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CDC

Source: CDC. Audit Tool: Catheter connection and disconnection observations. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html#anchor_1558368659

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Exit Site Care

CDC Dialysis Collaborative *Facility Name:_____ Date:_____ Start time:_____AM / PM*
Day: M W F Tu Th Sa Shift: 1st 2nd 3rd 4th Observer:_____ Location within unit:_____

Audit Tool: Catheter exit site care observations

(Use a "√" if action performed correctly, a "Φ" if not performed. If not observed, leave blank)

Discipline	Mask worn properly (if required)	Hand hygiene performed	New clean gloves worn	Skin antiseptic applied appropriately	Skin antiseptic allowed to dry	No contact with exit site (after antisepsis)	Antimicrobial ointment applied	Dressing applied aseptically	Gloves removed	Hand hygiene performed	Comments

Discipline: **P**=physician, **N**=nurse, **T**=technician, **S**=student, **O**=other

Duration of observation period:_____minutes

Number of procedures performed correctly = _____
Total number of procedures observed during audit = _____

ADDITIONAL COMMENTS/OBSERVATIONS:

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Source: CDC. Audit Tool: Catheter exit site care observations. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html#anchor_1558368637

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Hand Hygiene Observations

CDC Dialysis Collaborative *Facility Name:_____ Date:_____ Start time:_____AM / PM*
Day: M W F Tu Th Sa Shift: 1st 2nd 3rd 4th Observer:_____ Location within unit:_____

Audit Tool: Hemodialysis hand hygiene observations

(Use a "√" for each 'hand hygiene opportunity' observed. Under 'opportunity successful', use a "√" if successful, and leave blank if not successful)

Discipline	Hand hygiene		Describe any missed attempts (e.g., during medication prep, between patients, after contamination with blood, etc.):
	Hand hygiene opportunity	Opportunity successful	

Discipline: **P**=physician, **N**=nurse, **T**=technician, **S**=student, **D**=dietitian, **W**=social worker, **O**=other

Duration of observation period = _____ minutes Number of successful hand hygiene opportunities observed = _____

Total number of patients observed during audit = _____ Total number of hand hygiene opportunities observed during audit = _____

** See hand hygiene opportunities on back page

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Source: CDC. Audit Tool: Hemodialysis hand hygiene observations. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html#anchor_1558368637

Hand Hygiene Opportunities

Guide to Hand Hygiene Opportunities in Hemodialysis

Hand hygiene opportunity category	Specific examples
1. Prior to touching a patient	• Prior to entering station to provide care to patient • Prior to contact with vascular access site • Prior to adjusting or removing cannulation needles
2. Prior to aseptic procedures	• Prior to cannulation or accessing catheter • Prior to performing catheter site care • Prior to parenteral medication preparation • Prior to administering IV medications or infusions
3. After body fluid exposure risk	• After exposure to any blood or body fluids • After contact with other contaminated fluids (e.g., spent dialysate) • After handling used dialyzers, blood tubing, or prime buckets • After performing wound care or dressing changes
4. After touching a patient	• When leaving station after performing patient care • After removing gloves
5. After touching patient surroundings	• After touching dialysis machine • After touching other items within dialysis station • After using chairside computers for charting • When leaving station • After removing gloves

Please make note of the following during this session.			
	Yes	No	Comments
There is a sufficient supply of alcohol-based hand sanitizer			
There is a sufficient supply of soap at handwashing stations			
There is a sufficient supply of paper towels at handwashing stations			
There is visible and easy access to hand washing sinks or hand sanitizer			

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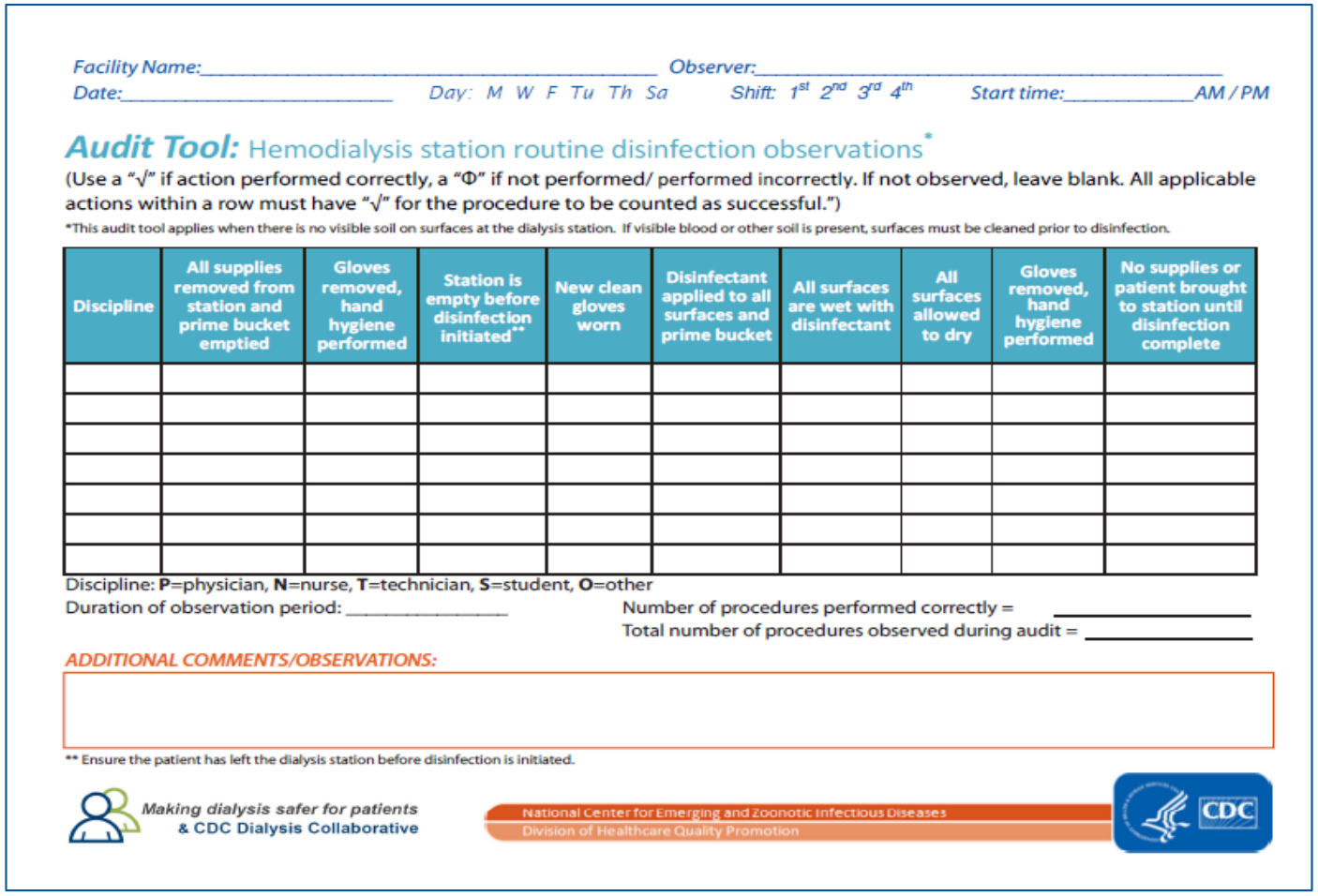
Source: CDC. Guide to Hand Hygiene Opportunities in Hemodialysis. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/PDFs/collaborative/Hemodialysis-Hand-Hygiene-Observations.pdf

Routine Disinfection Observations



Facility Name:_____ Observer:_____

Date:_____ Day: M W F Tu Th Sa Shift: 1st 2nd 3rd 4th Start time:_____AM / PM

Audit Tool: Hemodialysis station routine disinfection observations*

(Use a "√" if action performed correctly, a "Φ" 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 soil on surfaces at 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 prime bucket emptied	Gloves removed, hand hygiene performed	Station is empty before disinfection initiated**	New clean gloves worn	Disinfectant applied to all surfaces and prime bucket	All surfaces are wet with disinfectant	All surfaces allowed to dry	Gloves removed, hand hygiene performed	No supplies or patient 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.

Making dialysis safer for patients & CDC Dialysis Collaborative

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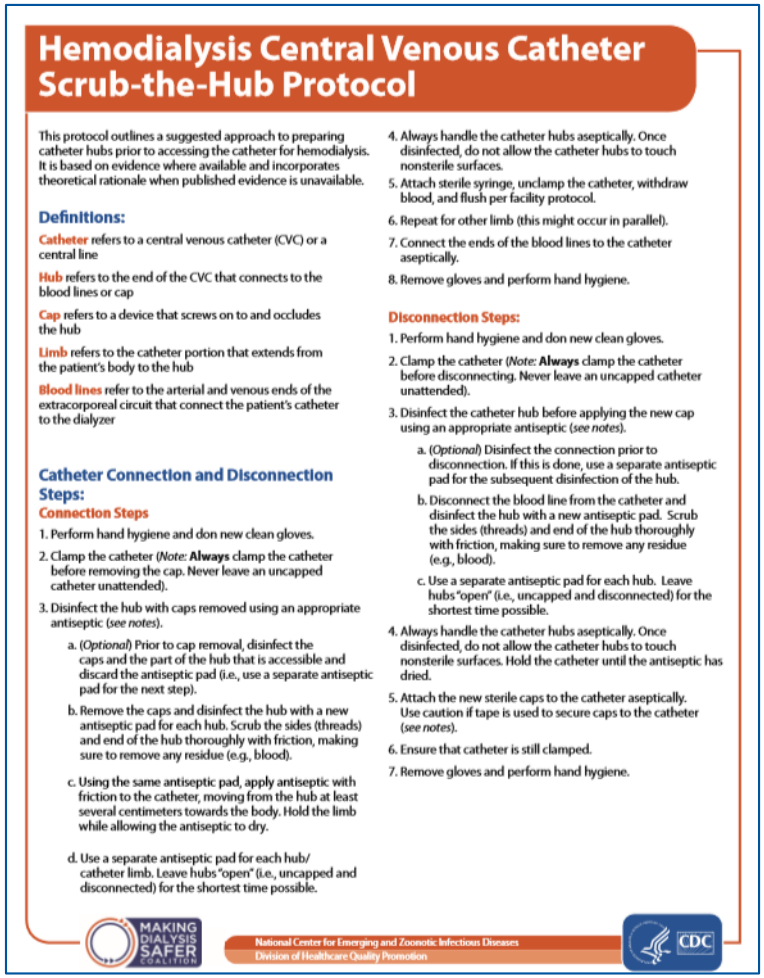
CDC

Source: CDC. Hemodialysis station routine disinfection observations. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html#anchor_1558368603

Scrub-The-Hub Protocol:



Hemodialysis Central Venous Catheter Scrub-the-Hub Protocol

This protocol outlines a suggested approach to preparing catheter hubs prior to accessing the catheter for hemodialysis. It is based on evidence where available and incorporates theoretical rationale when published evidence is unavailable.

Definitions:

Catheter refers to a central venous catheter (CVC) or a central line

Hub refers to the end of the CVC that connects to the blood lines or cap

Cap refers to a device that screws on to and occludes the hub

Limb refers to the catheter portion that extends from the patient's body to the hub

Blood lines refer to the arterial and venous ends of the extracorporeal circuit that connect the patient's catheter to the dialyzer

Catheter Connection and Disconnection Steps:

Connection Steps

1. Perform hand hygiene and don new clean gloves.
2. Clamp the catheter (*Note:* **Always** clamp the catheter before removing the cap. Never leave an uncapped catheter unattended).
3. Disinfect the hub with caps removed using an appropriate antiseptic (*see notes*).
   a. (*Optional*) Prior to cap removal, disinfect the caps and the part of the hub that is accessible and discard the antiseptic pad (i.e., use a separate antiseptic pad for the next step).
   b. Remove the caps and disinfect the hub with a new antiseptic pad for each hub. Scrub the sides (threads) and end of the hub thoroughly with friction, making sure to remove any residue (e.g., blood).
   c. Using the same antiseptic pad, apply antiseptic with friction to the catheter, moving from the hub at least several centimeters towards the body. Hold the limb while allowing the antiseptic to dry.
   d. Use a separate antiseptic pad for each hub/catheter limb. Leave hubs "open" (i.e., uncapped and disconnected) for the shortest time possible.
4. Always handle the catheter hubs aseptically. Once disinfected, do not allow the catheter hubs to touch nonsterile surfaces.
5. Attach sterile syringe, unclamp the catheter, withdraw blood, and flush per facility protocol.
6. Repeat for other limb (this might occur in parallel).
7. Connect the ends of the blood lines to the catheter aseptically.
8. Remove gloves and perform hand hygiene.

Disconnection Steps:

1. Perform hand hygiene and don new clean gloves.
2. Clamp the catheter (*Note:* **Always** clamp the catheter before disconnecting. Never leave an uncapped catheter unattended).
3. Disinfect the catheter hub before applying the new cap using an appropriate antiseptic (*see notes*).
   a. (*Optional*) Disinfect the connection prior to disconnection. If this is done, use a separate antiseptic pad for the subsequent disinfection of the hub.
   b. Disconnect the blood line from the catheter and disinfect the hub with a new antiseptic pad. Scrub the sides (threads) and end of the hub thoroughly with friction, making sure to remove any residue (e.g., blood).
   c. Use a separate antiseptic pad for each hub. Leave hubs "open" (i.e., uncapped and disconnected) for the shortest time possible.
4. Always handle the catheter hubs aseptically. Once disinfected, do not allow the catheter hubs to touch nonsterile surfaces. Hold the catheter until the antiseptic has dried.
5. Attach the new sterile caps to the catheter aseptically. Use caution if tape is used to secure caps to the catheter (*see notes*).
6. Ensure that catheter is still clamped.
7. Remove gloves and perform hand hygiene.

MAKING DIALYSIS SAFER COALITION

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

CDC

Notes/Discussion:

Antiseptic Use and Selection

As described in the 2011 CDC/Healthcare Infection Control Practices Advisory Committee (HICPAC) Guidelines for the Prevention of Intravascular Catheter-Related Infections, prior to accessing the catheter hub it should be disinfected with an appropriate antiseptic (greater than 0.5% chlorhexidine with alcohol, 70% alcohol, or 10% povidone-iodine). There is not enough evidence to recommend one antiseptic over the others. Generally, antiseptics should be allowed to dry for maximal effect.

If using 70% alcohol, sterile antiseptic pads should be used (sterile pads are labeled sterile and packaging for nonsterile pads often does not state whether the pads are sterile or nonsterile). For practical reasons, pads or similar products might be preferred over other forms of antiseptics (e.g., swabsticks) for disinfecting the catheter as they are malleable and allow for vigorous cleaning of small spaces.

If using an antiseptic that leaves a residue (e.g., chlorhexidine), avoid allowing large amounts of antiseptic to enter the lumen of the catheter to avoid potential toxicities to the patient.

If using chlorhexidine, removing all blood residue is particularly important to maximize the effect of the antiseptic.

Soaking Caps

The role of soaking caps in an antiseptic prior to removing them is not clear. It is not a CDC/HICPAC recommendation. This procedure is described in the 2000 National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI) Vascular Access Guidelines but was not included in the 2006 update.

Handling Catheter Hubs

Catheter hubs should always be handled aseptically. Once disinfected, the catheter hubs should not be allowed to touch nonsterile surfaces. This might be best performed by holding them until the antiseptic dries. During this time, the staff member performing the procedure should also ensure that the catheter remains clamped.

When disinfecting catheter hubs, clean, nonsterile gloves can be used if aseptic technique is maintained.

Bloodline Disinfection

When accessing the line, disinfecting the ends of the sterile blood lines is not required if care has been taken not to contaminate the ends of the blood lines (i.e., through careful aseptic technique). Blood lines can become contaminated during connections and disconnections, as well as during the priming process. Contact with contaminated prime waste in prime buckets that have not been properly cleaned and disinfected or through backflow from waste handling ports must be avoided. Disinfecting the bloodlines does not address this issue.

Disconnection and Line Reversals

Catheter hubs should be disinfected again after disconnecting from bloodlines and before replacing a new cap at the end of a treatment. This should be done in a manner similar to that used when disinfecting the hub prior to accessing. Disinfecting the catheter hub and the end of the extracorporeal blood line should also be performed if, during a treatment, a patient must be disconnected and their blood is re-circulated. Anytime a patient's circuit is disconnected this should be done aseptically and the number of times a patient's catheter is disconnected from the blood lines should be minimized to the extent possible.

Securing Caps with Tape

Caution should be used if taping caps on to hubs between treatments. Tape can leave residue on the hubs that might make disinfecting them more difficult.

Use of Masks

Although data supporting the use of masks during catheter accessing/deaccessing to prevent vascular access infections is lacking, this practice is recommended for patients and staff in the 2000 KDOQI guidelines and is included in the Centers for Medicare and Medicaid Services (CMS) End Stage Renal Disease Program Conditions for Coverage Interpretive Guidance.

Personal Protective Equipment (PPE)

Proper PPE should always be worn by staff to avoid exposure to potentially infectious blood and body fluids when connecting/disconnecting catheters.

Aseptic Technique

This includes practices that prevent the contamination of clean/sterile items and surfaces. Once tasks requiring aseptic technique have been started, care must be taken to avoid contamination of gloves and other clean/sterile items that can occur when touching dirty surfaces (e.g., positioning patient, using computer keyboard).

Selected References:

1. National Kidney Foundation. KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for 2006 Updates: Hemodialysis Adequacy, Peritoneal Dialysis Adequacy and Vascular Access. *Am J Kidney Dis* 2006; 48 (suppl 1):S1-S322.
2. National Kidney Foundation. KDOQI Clinical Practice Guidelines for Hemodialysis Adequacy, 2000. *Am J Kidney Dis* 2001; 37 (suppl 1):S7-S64.
3. O'Grady NP, Alexander M, Burns LM, et al. Guideline for the prevention of intravascular catheter-related infections. *Clin Infect Dis* 2011; 52:e162-e193.

Source: CDC. Hemodialysis Central Venous Catheter Scrub-the-Hub Protocol. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/PDFs/collaborative/Hemodialysis-Central-Venous-Catheter-STH-Protocol.pdf

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Days Since Last BSI Poster

Source: Making Dialysis Safer Coalition. Together Let's Keep Dialysis Patients Safe. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/pdfs/Days-since-infection-poster_8.5x11_nonfillable_508-300199.pdf

Patient Education Resources

Engaging Patients as Partners

Provide patient education, using the following materials introduced monthly for the QIA:

- A Patient's Guide: Clean Hands Can Save Lives.
- Washing Your Vascular Access & Knowing the Signs and Symptoms.

Patients should be encouraged to:

- Sign the *Patient Infection Prevention* pledge.
- Participate in the hand hygiene audits: Perform 5 hand hygiene audits per month for the period of March–September 2020.
  - Patient audits should be recorded with other hand hygiene audits on the Network monthly reporting.

Audit Sample:

CDC Dialysis Collaborative Facility Name: ABC Dialysis Date: 4/19/14 Start time: _____ AM / PM
Day: M W F Tu Th Sa Location within unit: _____
Shift: 1st 2nd 3rd 4th Observer: _____

Audit Tool: Hemodialysis hand hygiene observations

(Use a "√" for each 'hand hygiene opportunity' observed. Under 'opportunity successful', **use a "√" if successful**, and **leave blank if not successful**)

Discipline	Hand hygiene		Describe any missed attempts (e.g., during medication prep, between patients, after contamination with blood, etc.):
	Hand hygiene opportunity	Opportunity successful	
N	√	√	
T	√		Tech went from one patient station to another without washing hands
D	√	√	
W	√		Social worker touched one patient then another without washing first

Discipline: P=physician, N=nurse, T=technician, S=student, D=dietician, W=social worker, O=other
Duration of observation period = _____ minutes Number of successful hemodialysis hand hygiene observations = _____
Total number of patients observed during audit = _____ Total number of hand hygiene observations observed during audit = _____
** See hand hygiene opportunites on backpage

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CS228827

SAMPLE

Source: CDC. Hemodialysis Hand Hygiene Observations. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/prevention-tools/audit-tools.html#anchor_1558368755

Sample cont.

Guide to Hand Hygiene Opportunities in Hemodialysis

Hand hygiene opportunity category	Specific examples
1. Prior to touching a patient	• Prior to entering station to provide care to patient • Prior to contact with vascular access site • Prior to adjusting or removing cannulation needles
2. Prior to aseptic procedures	• Prior to cannulation or accessing catheter • Prior to performing catheter site care • Prior to parenteral medication preparation • Prior to administering IV medications or infusions
3. After body fluid exposure risk	• After exposure to any blood or body fluids • After contact with other contaminated fluids (e.g., spent dialysate) • After handling used dialyzers, blood tubing, or prime buckets • After performing wound care or dressing changes
4. After touching a patient	• When leaving station after performing patient care • After removing gloves
5. After touching patient surroundings	• After touching dialysis machine • After touching other items within dialysis station • After using chair-side computers for charting • When leaving station • After removing gloves

Please make note of the following during this session.			
	Yes	No	Comments
There is a sufficient supply of alcohol-based hand sanitizer			
There is a sufficient supply of soap at hand-washing stations			
There is a sufficient supply of paper towels at hand-washing stations			
There is visible and easy access to hand washing sinks or hand sanitizer			

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Source: CDC. Guide to Hand Hygiene Opportunities in Hemodialysis. Accessed on January 16, 2020. Available at: https://www.cdc.gov/dialysis/PDFs/collaborative/Hemodialysis-Hand-Hygiene-Observations.pdf

Next Steps

Next Steps (cont.)

Make a QIA notebook/binder with resources/instructions.

Delegate CDC Infection Prevention Audits for staff and patients.

Complete and submit to the Network by January 31, 2020:

- RCA.
- Plan-Do portion of the PDSA cycle.

Check email daily for updates/assignments from the Network.

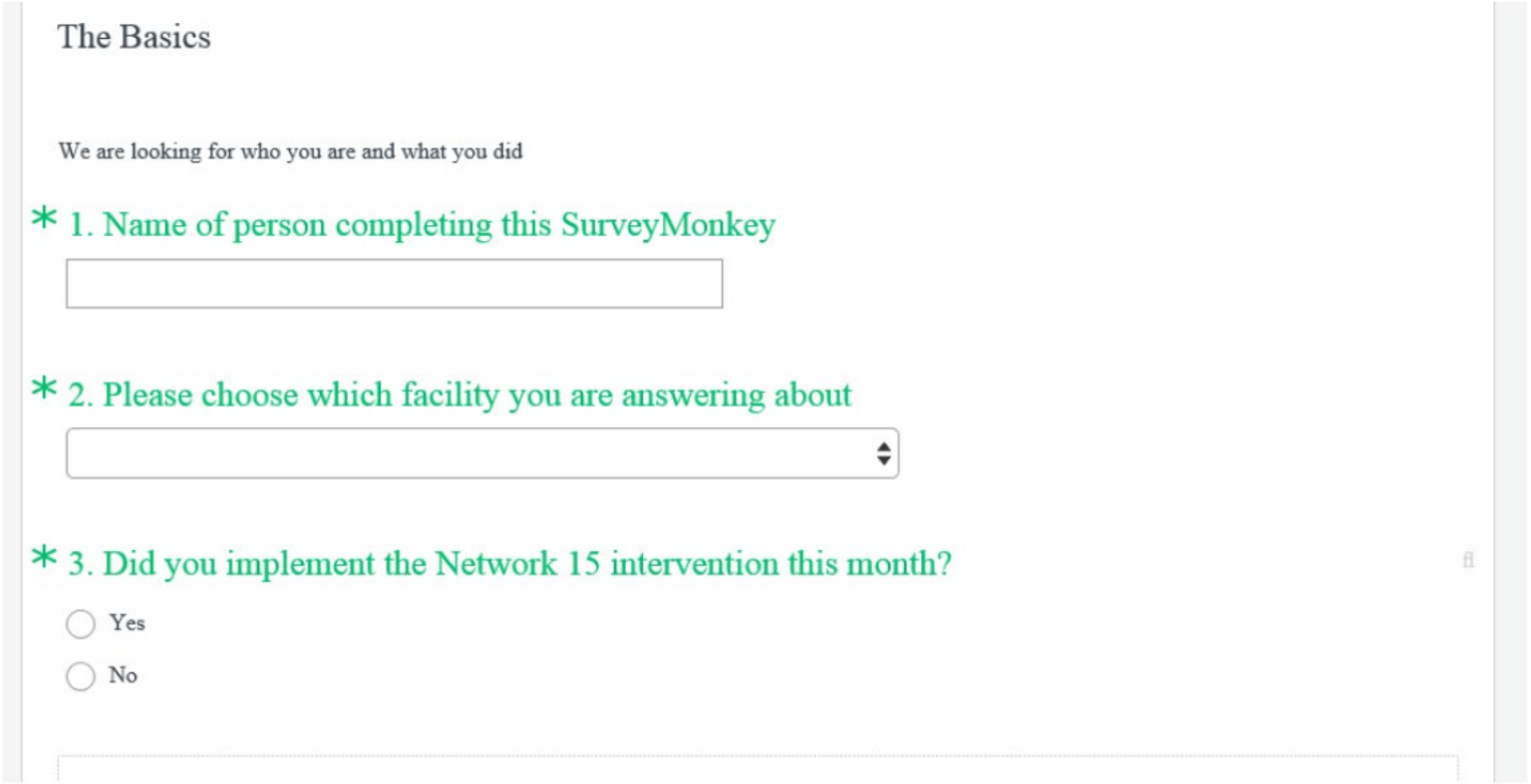
Inform/update all staff of the facility's participation in this QIA.

Complete and attest to Annual NHSN Annual Surveillance Training.

6 Report using your 6-digit Medicare Provider Number.

FAX ONLY; DO NOT EMAIL PATIENT DATA

Monthly Reporting



The Basics

We are looking for who you are and what you did

* 1. Name of person completing this SurveyMonkey

* 2. Please choose which facility you are answering about

* 3. Did you implement the Network 15 intervention this month?

- Yes
- No

Questions

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HSAG HEALTH SERVICES ADVISORY GROUP

ESRD Networks 7, 13, 15, 17

Thank you!

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