Introduction
BSI Prevention QIA Toolkit

In support of the Centers for Medicare & Medicaid Services’ (CMS’) reduction in healthcare-associated infections (HAIs) initiatives, HSAG: ESRD Network 15 (the Network) is conducting an infection prevention quality improvement activity (QIA) with the goal of reducing bloodstream infection (BSI) rates. Your facility was selected to participate in this QIA by the Network. Participating facilities were identified by analysis of BSI data from the National Healthcare Safety Network (NHSN) for the period of January through June 2016 for all vascular access types.

Objectives
The BSI Prevention QIA is intended to:

- Improve facility infection control processes.
- Promote the use of the Centers for Disease Control and Prevention’s (CDC’s) recommended infection prevention practices and observation tools.
- Engage patients by educating them regarding infection prevention practices, so they feel empowered to speak up about ensuring a safe dialysis environment.
- Improve patient quality of life.
- Reduce hospitalizations due to BSIs.
- Spread best practices and lessons learned statewide.
- Promote antibiotic stewardship.

QIA Focus
Participating facilities will focus on:

- Performing audits using the CDC BSI prevention audit tools, including:
  - Hand Hygiene.
  - Catheter Connection/Disconnection and Fistula/Graft Cannulation.
  - Dialysis Station Disinfection.
  - Accurate and Timely NHSN Reporting.
- Using CDC and Agency for Healthcare Research and Quality (AHRQ) quality improvement tools.
- Educating patients regarding infection prevention practices, culminating with a signed patient pledge to join the fight against HAIs.
- 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.
The following instructions are your guide to completing the BSI Infection Prevention QIA interventions found in this BSI toolkit:

☐ **Step 1**  **Attend the QIA Orientation Webinar on January 25, 2017**
If you are unable to attend, contact Susan Moretti at SMoretti@nw15.esrd.net to obtain the link to view the webinar recording.

☐ **Step 2**  **Review BSIs for December 2016–February 2017**
- Identify root causes
  **Note:** During subsequent months, you will be reviewing only the BSIs identified during the reporting month.

☐ **Step 3**  **Complete the Infection Prevention Action Plan on the February monthly reporting form (due March 5, 2017).**
  **Note:** A monthly reporting form for each month of the QIA is included in this toolkit.

☐ **Step 4**  **Have all patient care staff complete the one-hour self-guided training course, Infection Prevention in the Dialysis Setting, by February 28, 2017.**
- The course is available on the CDC website at [www.cdc.gov/dialysis/clinician/CE/infection-prevent-outpatient-hemo.html](http://www.cdc.gov/dialysis/clinician/CE/infection-prevent-outpatient-hemo.html).
- The course offers one FREE continuing education (CE) credit.
  - Acquiring CE credit is not required for the QIA.
- Staff having completed the course must sign the February monthly reporting form.

☐ **Step 5**  **Submit the monthly reporting form to the Network via fax or email by March 5, 2017.**
- Fax: 303.860.8392
- Email: SMoretti@nw15.esrd.net
☐ **Step 6** Have all patient care staff review the enclosed CDC audit instructions and begin audits by March 1, 2017; audits are to be completed on a monthly basis.

- 7 CDC AV Fistula Graft Cannulation Observation audits
- 7 CDC AV Fistula/Graft/Decannulation Observation audits
- 7 CDC Catheter Connection and Disconnection Observation audits
- 7 CDC Dialysis Station Disinfection Observation audits
- 13 CDC Hemodialysis Hand Hygiene Observation audits
- 5 CDC Hemodialysis Hand Hygiene Observation audits
  - Audits completed by patients
- **Email or fax all audits to the Network by the 5th of the next month**

☐ **Step 7** Enter dialysis facility events into NHSN monthly and submit the Network monthly reporting form by the 5th of the following 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 the patient resources included in this toolkit and have patients sign the Infection Prevention Pledge, beginning March 2017.

- Report the number of patients provided with resources and the number of patients that signed pledges each month on the monthly reporting form.

☐ **Step 9** Complete the QIA evaluation that will be provided in October 2017.

**Additional Resources**

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

- Best Practices Video – Preventing bloodstream infections in outpatient hemodialysis patients, covers hand hygiene, catheter connection/disconnection, and fistula/graft cannulation: [http://youtu.be/_0zhY0JMGCA](http://youtu.be/_0zhY0JMGCA)
2017
BSI Prevention QIA

Susan Moretti, BSN, RN
Nephrology Nurse
Network 15 Quality Improvement Team
January 25, 2017

Orientation Webinar Attendance

To verify facility attendance, send an email after the call, with the name of the facility and attendees to Susan Moretti at:

SMoretti@nw15.esrd.net
Introduction to the 2017 BSI Prevention QIA
HAIs in the ESRD Population

• The end stage renal disease (ESRD) population is at a higher risk for HAIs than the general population:
  ▪ Incidence of HAIs can be up to 100 times higher
  ▪ Rate of mortality due to HAIs is 43% higher
• Infection is a leading cause of morbidity, second only to cardiovascular disease as a cause of death for dialysis patients.

Source: National Action Plan to Prevent Healthcare-Associated Infections

BSI QIA Goals

The goals of the Network 15 BSI QIA are to:
• Demonstrate a 5% relative reduction in the pooled mean rate of BSIs in the targeted QIA facilities
• Promote patient, family, and caregiver engagement within the facilities
  ▪ Allow patients the ability to impact their own care and engage in monitoring infection prevention opportunities
Facility Inclusion Criteria

The BSI QIA will include facilities:

• With BSI rates from the first and second quarter of 2016 that were above the Network average of 0.46

• 63 facilities (20% of the Network 15 service area) with an in-center hemodialysis patient census ≥30

BSI QIA Interventions
BSI QIA Interventions

Network 15 interventions will include the implementation of:

- The Plan-Do-Study-Act (PDSA) improvement model
- The BSI Prevention QIA Toolkit
- Staff education
- Use of CDC audit tools for:
  - Hand hygiene
  - Catheter connection/disconnection
  - Fistula/graft cannulation/decannulation
  - Dialysis station disinfection
- Patient engagement as partners in infection prevention through:
  - Patient education
  - Patient action
    - Patient pledge
    - Patient-completed audits
- CDC Core Elements of Antibiotic Stewardship
- Additional interventions identified by facility

PDSA Cycle Improvement Model

- **PLAN**
  - Objective
  - Predictions
  - Plan to carry out the cycle (who, what, where, when)
  - Plan for data collection

- **DO**
  - Carry out the plan
  - Document observations
  - Record data

- **STUDY**
  - Analyze data
  - Compare results to predictions
  - Summarize what was learned

- **ACT**
  - What changes are to be made?
  - Next cycle?
QIA Interventions: Staff Education

Staff education for February 2017 must include:

• Completion of the one-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:

• Completion of the annual online NHSN Dialysis Event Surveillance Training by all QIA facility National Healthcare Safety Network (NHSN) users. The training is available at:

• Review of the CDC Recommended Interventions for Dialysis BSI Prevention by all facilities. The document is available at:
QIA Interventions: CDC Audit Tools

• For the period of March–September 2017, all QIA facilities must complete the following monthly audits:
  ▪ ≥ 13 hand hygiene observations
  ▪ ≥ 7 catheter connection/disconnection observations
  ▪ ≥ 7 fistula/graft cannulation observations
  ▪ ≥ 7 fistula/graft decannulation observations
  ▪ ≥ 7 dialysis station disinfection observations

• The audit tools can be located here:

• Facility staff should watch the CDC best practices video found at: [www.youtube.com/watch?v=_0zhY0JMGCA&feature=youtu.be](https://www.youtube.com/watch?v=_0zhY0JMGCA&feature=youtu.be), which covers:
  ▪ Hand hygiene
  ▪ Catheter connection/disconnection
  ▪ Fistula/graft cannulation/decannulation

CDC Audit Tools:
Hand Hygiene Observations

Facilities must:
• Utilize the hand hygiene audit tool to collect a minimum of **13 observations** per month
• Tally the numerator/denominator
• Submit audit results via the Network monthly report by the **5th of the following month**:
  ▪ Numerator = Number of successful hand hygiene opportunities observed
  ▪ Denominator = Total number of hand hygiene opportunities observed during audit
CDC Audit Tools: Catheter Connection/Disconnection Observations

Facilities must:
• Utilize the catheter connection/disconnection audit tool to collect a minimum of 7 observations per month
• Tally the numerator/denominator
• Submit audit results via the Network monthly report by the 5th of the following month:
  ▪ Numerator = Number of procedures performed correctly
  ▪ Denominator = Total number of procedures observed during audit

QIA CDC Audit Tools: Fistula/Graft Cannulation/Decannulation Observations

Facilities must:
• Utilize the fistula/graft cannulation audit tool to collect a minimum of 7 observations per month
• Utilize the fistula/graft decannulation audit tool to collect a minimum of 7 observations per month
• Tally numerator/denominator
• Submit audit results via Network monthly report by the 5th of the following month:
  ▪ Numerator = Number of procedures performed correctly
  ▪ Denominator = Total number of procedures observed during audit
QIA CDC Audit Tools: Dialysis Station Disinfection Observations

Facilities must:
• Utilize the dialysis station disinfection audit tool to collect a minimum of 7 observations per month
• Tally the numerator/denominator
• Submit audit results via Network monthly report by the 5th of the following month:
  ▪ Numerator = Number of procedures performed correctly
  ▪ Denominator = Total number of procedures observed during audit

QIA CDC Audit Observations

Expectations:
• Project Leads should disperse CDC Audits amongst Direct Patient Care staff for completion to promote engagement of all clinical staff. Managers should not be completing all audits
• Project Leads ensure audits are being completed and review the audits to identify the trends
• Review trends at QAPI
• Plan Do Study Act for ongoing improvement
QIA Interventions: Engaging Patients as Partners—Education

In order to encourage patient and family engagement at the facility level, facilities should provide patient education using the following materials found in the QIA Toolkit:

- **A Patient’s Guide: Clean Hands Can Save Lives**
  - Hand washing
  - Staff hand washing protocol
- **Washing Your Vascular Access & Knowing the Signs and Symptoms**
  - Washing the dialysis access prior to treatment
  - Signs and symptoms of infection

QIA Interventions: Engaging Patients as Partners—Action

- Once they have been provided with the appropriate educational materials,* patients should be encouraged to:
  - Sign the *Patient Infection Prevention Pledge*
- Patients selected to participate in the hand hygiene audits should be encourage to:
  - Perform **5 hand hygiene audits per month** for the period of March–September 2017
  - Patient audits should be recorded with other hand hygiene audits on the Network monthly report

*All patient educational materials can be found in the BSI QIA Toolkit*
Antibiotic Stewardship Collaborative

Your organization agrees to:
- Establish antibiotic stewardship (AS) activities that meet the Centers for Disease Control and Prevention (CDC) Core Elements of Antibiotic Stewardship in Outpatient Settings.
- Participate in learning and action network (LAN) activities to promote and spread AS best practices.
- Identify both a clinical lead to support this collaborative and a staff champion to oversee the program and activities.

Health Services Advisory Group (HSAG) agrees to:
- Provide no-cost education, outreach, and technical assistance to spread the principles of AS.
- Educate healthcare providers on the fundamentals of AS and the risks of inappropriate use of antibiotics.
- Work with your organization to establish AS activities that meet the CDC Core Elements of Antibiotic Stewardship in Outpatient Settings.
- Build partnerships with state and local agencies, advocacy groups, and healthcare stakeholders to develop education and implement AS programs where they are most needed.
- Develop a change package of best practices to strengthen AS in your organization.
- Develop a LAN that includes national and local thought leaders, academic/professional societies, frontline clinicians, health systems, and patients to sustain AS program activities.
- Facilitate coaching calls and peer-to-peer assistance upon request.
- Provide presentations by nationally recognized subject-matter experts (including the CDC) at collaborative meetings and webinars.

BSI QIA Reporting
QIA Monthly Reporting

For the period of March–September 2017, QIA facilities must:
• Enter BSI events into NHSN by the end of each month
• Complete the Network monthly reports, including, as applicable:
  ▪ Patient census
  ▪ Number of events, by access
  ▪ Organism identified/sensitivities reviewed with nephrologist
  ▪ Root cause of BSI events and planned/completed interventions
  ▪ Patient education/patient pledges
• Return completed monthly reports by the 5th of the following month along with the completed CDC audits

February Monthly Reporting Form
March, May, July, and August Monthly Reporting Forms

Infection Prevention QIA Monthly Reporting Form

Reporting Month: March 2017

<table>
<thead>
<tr>
<th>Facility Name:</th>
<th>New Facility</th>
<th>VIC Code:</th>
<th>0000000</th>
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</thead>
<tbody>
<tr>
<td>Individual Community Provider:</td>
<td>Ratio Director</td>
<td>00000000</td>
<td></td>
</tr>
<tr>
<td>Facility Hemodialysis Patient Census:</td>
<td>88</td>
<td></td>
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<tr>
<td>Report only on patients who had a positive blood culture. Please enter the patient's positive culture type that is highest level.</td>
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<tr>
<td>Blood</td>
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Infection Prevention Action Plan

List of reported 30 events, type of organism isolated, the documented root cause, and planned/completed interventions.

Infection(s) by Patient (cm x cm) | Type of Organism Identified | Wound infection/Other | Type of Infection(s) | Root Cause of Infection(s) | Planned/Completed Intervention(s) |
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Staph. Aureus</td>
<td>FF x NO</td>
<td>Ticks control measures</td>
<td>CVC care watch/flu staff audits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prevention Process Measure: # of Successful Observations, Total # of Observations

- Hand Hygiene Observations (1 minute per patient) 10
- Hand Hygiene Observations (1 minute completed by patients per month) 4
- Catheter Connections/Disconnections (2 minutes per month) 8
- Stoma Care (2 minutes per month) 6
- Dilated Systolic Diastolic (Minimum per month) 6

Patient Resources

- Infection Prevention: Washing Your Vascular Access & Warming the Skin and Temperature
- Infection Prevention: Washing Your Vascular Access & Warming the Skin and Temperature
- Infection Prevention: Washing Your Vascular Access & Warming the Skin and Temperature

Assume expected 30 events per patient, patients cannot be included in multiple events.

April, June, and September Monthly Reporting Forms

Infection Prevention QIA Monthly Reporting Form

Reporting Month: April 2017

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Infection Prevention Action Plan for 30 Events

List of reported 30 events, type of organism isolated, the documented root cause, and planned/completed interventions.

Infection(s) by Patient (cm x cm) | Type of Organism Identified | Wound infection/Other | Type of Infection(s) | Root Cause of Infection(s) | Planned/Completed Intervention(s) |
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Patient Resources

- Infection Prevention: Washing Your Vascular Access & Warming the Skin and Temperature
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- Infection Prevention: Washing Your Vascular Access & Warming the Skin and Temperature

Assume expected 30 events per patient, patients cannot be included in multiple events.
The following best practices for HAI reduction at the facility level were identified during QIA activities for 2016:

- Include all staff members in monthly audit completion to improve infection control practices
- Conduct targeted auditing during turnover to identify the need to adjust patient schedules to allow for proper infection control technique
- Identify staff in need of additional education on cannulation and central venous line catheter care infection control procedures
- Conduct infection control-specific staff meetings and in-services to focus staff on following protocols
• Prompt physicians and nurse practitioners to practice hand hygiene between patients when rounding
• Identify and correct improper mask placement during catheter care
• Include patients in hand hygiene audits to encourage more patient participation and better staff-to-patient communication regarding infection control protocols
• Engage patients through use of Network educational materials to support infection prevention interventions by staff
• Conduct infection control lobby days targeting hand hygiene, vascular access care, and CVC reduction to foster patient and family/caregiver awareness of infection control practices
Comprehensive Unit-Based Safety Program (CUSP) Toolkit

The AHRQ CUSP Toolkit:
• Includes training tools to make care safer by improving the foundation of how physicians, nurses, and other clinical team members work together
• Builds the capacity to address safety issues by combining clinical best practices and the science of safety
• Was created for clinicians by clinicians
• Can be found at: www.ahrq.gov/professionals/education/curriculum-tools/cusptoolkit/index.html

CUSP Toolkit (cont.)

• Is modular and modifiable to meet individual unit needs
• Includes teaching tools and resources to support change at the unit level, presented through facilitator notes that take you step-by-step through the modules, presentation slides, tools, and videos
• Includes the following modules:
  ▪ Learn about CUSP
  ▪ Assemble the Team
  ▪ Engage the Senior Executive
  ▪ Understand the Science of Safety
  ▪ Identify Defects Through Sensemaking
  ▪ Implement Teamwork and Communication
  ▪ Apply CUSP
  ▪ The Role of the Nurse Manager
  ▪ Spread
  ▪ Patient and Family Engagement
AHRQ ESRD Toolkit Modules

Each module includes teaching tools and resources to support change at the unit level, including:

• Creating a Culture of Safety
• Clinical Care
• Using Checklists and Audit Tools
• Patient and Family Engagement


The CDC Dialysis BSI Prevention Collaborative:

Is a partnership aimed at preventing

Is open to freestanding and hospital based
Dialysis BSI Prevention Collaborative Topics

- **About the Collaborative**
  - Approach
  - Benefits of Joining

- **Core Interventions**
  - Bloodstream
  - Staff Education
  - Catheter

- **News and Reports**
  - Collaborative & Dialysis News

- **Audit Tools, Protocols & Checklists**
  - Toolkits, Forms, Training, Protocols

CDC Resources

- **Catheter Scrub-the-Hub Protocol**
  - Key steps in catheter connection/disconnection

- **Checklist tools**

- **Hand Hygiene Observation Protocol**
Quality Assessment and Performance Improvement (QAPI)

• Review QIA outcomes in facility QAPI meetings, including:
  ▪ Monthly audit results
  ▪ Patient engagement in QIA
• Document participation in the Network 15 QIA in QAPI meeting minutes
• Be prepared to submit QAPI meeting minutes for this QIA if requested by the Network

Steps to Success

Follow these steps to success for the Network 15 BSI QIA:
• Facility attendance with all project activities (participation is mandatory)
• Read all Network emails and correspondence
• Educate staff
• Complete CDC audits monthly, including patient participation in the process
• Utilize materials to educate patients
  ▪ Have patients sign pledges once education is complete
• Submit monthly report to the Network by the 5th of each following month
• Notify Network 15 of any facility staff and management changes
• Never email patient information to Network 15
Questions

Reminder: Orientation Webinar Attendance Verification

To verify facility attendance, send an email after the call with the name of the facility and attendees to Susan Moretti at:

SMoretti@nw15.esrd.net
Network 15 Contacts

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Thank you!

Network 15 Quality Improvement Team

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This material was prepared by HSAG: ESRD Network 15, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy nor imply endorsement by the U.S. Government. Pub #: CO-ESRD-15A146-01162017-01