



Change Pathway

Central Line-Associated Bloodstream Infections

Why Now?

According to the Centers for Disease Control and Prevention (CDC) the incidence of Central Line-associated Bloodstream Infections (CLABSI) as well as many other hospital-acquired infections (HAIs) are on the rise. [In 2020, National Healthcare Safety Network \(NHSN\) data showed that CLABSIs saw a 47% increase in Q4 across all location types \(inpatient and intensive care units\) as compared to 2019 \(CDC, 2021\).](#)

Furthermore, a retrospective study on the impact of COVID-19 on HAIs revealed that during the months in which >10% of admissions were active COVID-19 patients, the [CLABSI standardized infection ratio \(SIR\) was 2.38 times higher than the months when COVID-19 represented less than 5% of admissions \(Fakih, et al., 2021\)](#). It is apparent that in the wake of the pandemic, key aspects of CLABSI prevention such as line maintenance, sterile insertion, and auditing may have lapsed.

An increase in CLABSI rates because of the COVID-19 pandemic further asserts the need to refocus on CLABSI best practices and reinvigorate prevention efforts at the unit and hospital level.

Resources and tools for you



- [Comprehensive Unit-Based Safety Program \(CUSP\)](#)
- [Agency for Healthcare Research and Quality \(AHRQ\) CLABSI Toolkit Components](#)
- [Institute for Healthcare Improvement \(IHI\) How-to Guide: Prevent CLABSI](#)
- [Centers for Disease Control and Prevention \(CDC\) tools, staff education, and prevention bundles](#)

Reviewing the Data on CLABSI



Central line-associated bloodstream infections (CLABSI) have **increased by 47%** since the pandemic began in the US



Telligen's partner hospitals reported a **108% increase** in CLABSI rates from 2019 to 2021



Telligen's partner hospitals saw a nearly **10% (9.8%) increase** in COVID-19 positive patients with CLABSI from 2020 to 2021



Step-by-Step Path to Quality Improvement



Hospital: _____

Team Leader: _____ Team members: _____ Executive Sponsor: _____

HQIC Quality Improvement Change Pathway Focus Topic: _____

Instructions: This checklist serves as a guide for implementation of a selected quality improvement project. The change pathway is just one suggested method for achieving HQIC program goals, additional actions may be required.

PLAN



- **Define the problem & analyze causes (Note: Quality Lead needs to complete the following 3 steps before starting the project)**
 - Review relevant data. [Login to CDS](#) and click on “Reports” to view outcome measure trends.
 - Login to the Telligen [portal](#) view your organization’s responses by downloading the completed clinical topic area “CLABSI” form.”
 - Review Medicare conditions of participation (CoPs) if applicable, state regulatory requirements and core resources that are relevant to this patient safety topic (pg. 1). [Regulatory Requirements Statement from Telligen](#).
- Write out a problem statement that captures insights gained from data review.
- Assess the current state by completing a [brief staff safety assessment](#), [gap assessment worksheet](#), and/or [central line audit](#).
- Imagine the future state. Ask yourself, *what are we trying to accomplish?*
- Perform a root cause analysis (RCA) of the problem. Select a template: [5 why’s](#) and/or [fishbone diagram](#).
- Consider barriers to improvement: [patient population disparities](#), [geographical barriers](#), staffing, and infrastructure challenges.
- **Build your team**
 - Identify key stakeholders and subject matter experts. Ask yourself, *who has a stake in the results of this project?* (Examples: nursing leaders, physicians, bedside nurses, infection preventionists, patients and families)
 - Engage an existing team, workgroup, or committee. Consider adding your CLABSI project to an existing, relevant, meeting agenda.
 - Complete [QI Team Member Matrix tool](#). Keep your team small (less than 10 people).
 - Share Page 1 (above), hospital specific data, assessments, and patient stories to motivate the team into action.
 - Write out a compelling purpose (clear, challenging, consequential). Ask yourself, *what does the team need to accomplish?*

DO



- **Select a promising practice (intervention) for implementation**
 - Ask yourself, *what changes can we make that will result in improvement?*

- Select an intervention to try. Attempt “low hanging fruit” first. Click on the following links to view topic-specific promising practices:
 - [AHRQ- Back to Basics](#)
 - [AHRQ- Central Line Insertion Checklist](#)
 - [APIC- Central Line Maintenance Bundle \(pg. 45\)](#)
 - [IHI- CLABSI bundle \(pgs. 11-17\)](#)
- Incorporate age friendly, rural, health disparities, and/or patient-centered elements into your intervention.
- Assess the financial feasibility of your intervention by conducting a [cost-benefit analysis](#) (if applicable) and obtain leadership approval.
- **Establish a measurement strategy**
 - Ask yourself, *how will we know a change is an improvement?*
 - Determine the types of data sources that already exist in your facility.
 - Evaluate potential data sources for tracking your intervention. Examples include: EHR reports, physical checklists, risk management reports.
 - Determine data collection method, frequency, and responsible team member(s).
 - Review the [Telligent HQIC Specifications Manual](#). Baseline measure rate: _____ Improvement target rate: _____
- **Develop an action plan**
 - Write an [AIM statement](#).
 - Create a [timeline](#) for implementation of selected intervention.
 - Define role and responsibility for each team member.
- **Implement intervention**

STUDY



- **Analyze results**
 - Review progress toward improvement target.
 - Ask yourself, *has the current state changed?*
 - Revisit the CLABSI audit tool.
 - Emergency Preparedness - *Ask yourself, if an emergency arises (COVID-19 surge, supply chain issue, staffing shortage, etc.) what aspects of this process MUST be maintained and WHO is responsible for ensuring maintenance of critical processes ?*

ACT



- **Adapt, Adopt, or Abandon**
 - Reconvene team members and key stakeholders to determine next steps.
 - Ask yourself, *was the intervention successful? How can we modify to create more improvement? Will a different intervention work better?*
- **Reflect, Share, and Spread**
 - Conduct a Team Debrief: consider what worked well and what did not. [Plan for sustaining the gain](#).
 - Share your pathway with other HQIC hospitals during learning collaborative events, via [Gaggle list serv](#), or by emailing HQICTeam@telligen.com.

Additional Resources:

- [IHI Breakthrough Series White Paper](#), [IHI Comprehensive QI Toolkit](#), [Six Meetings for Success Video](#)



Develop Your Own AIM Statement

Use the following template to create your own AIM statement for your project.

By  , the  at  will

implement  to improve  Problem

by  to benefit  .

Calendar Date HQIC Team Hospital/Specific Unit

Intervention

How Much Whom

By _____, the _____ at _____ will

implement _____ to improve _____

by _____ to benefit _____.