



BSI 2019 Discovery Assessment Findings

Overview

Medline provides comprehensive patient safety solutions designed to promote staff education and best practices, ultimately to improve patient outcomes.

Medline partners with healthcare facilities to identify gaps in care, provide sound recommendations, and deliver results. Discovery assessments are the first step in executing the mission.

The discovery assessments are an evaluation tool provided by Medline to healthcare staff. **These assessments allow Medline to deliver actionable practice recommendations to standardize best practices within healthcare teams and to positively impact care.**

The **Medline Blood Stream Infection (BSI)** discovery assessment provides a comprehensive clinical solution to identify variations in catheter care.



134*

BSI Discovery Assessments
completed at healthcare
facilities in 2019

*Data on file

3,963*

BSI Discovery Clinician Surveys
completed in 2019

*Data on file

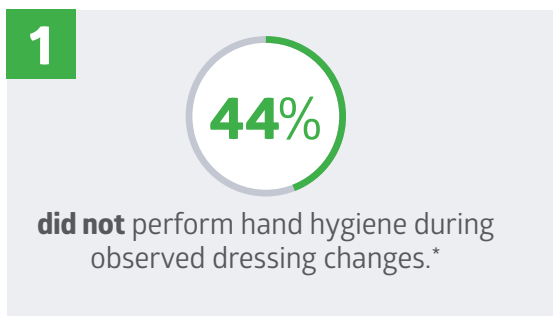
BSI Discovery Assessment

Through surveys and observations of dressing changes, the BSI discovery assessment evaluates how current catheter care practices within healthcare facilities can be improved according to best practice recommendations in an effort to avoid BSIs.

Central line associated bloodstream infections (CLABSIs) are prevalent among hospital patients who require a central line during a hospital stay. CLABSIs can impact a patient's health status and increase a patient's time in the hospital, as **about 250,000 CLABSIs occur among hospital patients with central lines every year.**¹ In addition, the Centers for Disease Control and Prevention (CDC) reports that **among patients with CLABSIs, as many as one in every four patients die.**² As a complication to central line insertion and maintenance, CLABSIs can also **extend a hospital stay between seven to twenty days.**³

CLABSIs are associated with the highest number of preventable deaths among all healthcare-acquired conditions.² However, **65-70% of CLABSIs can be prevented by utilizing evidence-based measures.**^{1,2} Evidence-based measures include following best practices outlined by the CDC, INS (Infusion Nurses Society), and APIC (Association for Professionals in Infection Control and Epidemiology) to follow the central line bundle method,^{2,4} which is a highly recommended protocol that promotes sterile placement and securement of central lines, sterile dressing change and maintenance of central lines, and aseptic skin preparation. Following best practices to decrease the rate of CLABSIs can promote better patient outcomes, shorter hospital stays, and decreased healthcare costs.^{2,5}

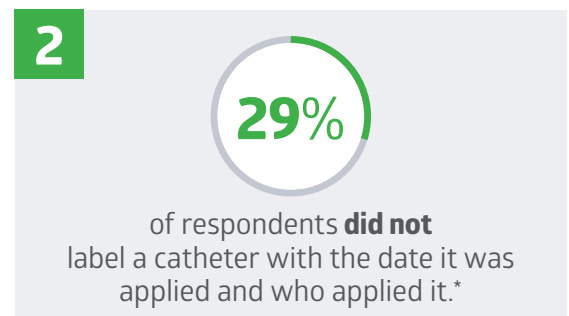
Ten Insights from Medline's 2019 BSI Discovery Assessments



*Data on file

All standard guidelines recommend performing hygiene procedures, either by washing hands with conventional soap and water or using alcohol-based hand rubs.⁴

Hand hygiene should be performed before and after inserting, replacing, accessing, repairing, or dressing an intravascular catheter.⁴



*Data on file

The CDC, APIC, and INS guidelines recommend using a standardized checklist at every catheter placement which includes documenting information regarding the date and time a catheter is placed, whether aseptic technique was followed, and whether the patient's skin was prepared and cleaned before and after a catheter is placed.^{2,4,6,7} Recording relevant information at the time of catheter placement can help reduce CLABSIs and promote a culture of safety within a healthcare facility.^{2,7}

In addition, INS also recommends that catheter dressings are labeled with the date performed, or the date to be changed in accordance with a healthcare facility's dressing change protocol.⁶

3

25%

reported using **no** securement device when inserting a catheter.*

*Data on file

4

40%

used sutures as a securement device, which is **not recommended**.*

*Data on file

Using a catheter-specific and sutureless securement device is recommended to reduce risks of contamination, catheter dislodgement or migration.⁴ The use of tape is considered ineffective for stabilization compared to alternative securement devices,⁶ and sutures are not recommended for securement since sutures can disrupt the catheter entry site, and pose the risk of an inadvertent needle stick injury.^{4,6}

Catheter-specific securement devices may also reduce CLABSIs by reducing the degree of bacterial colonization.^{3,4}

5

51%

did not maintain sterility during observed dressing changes.*

*Data on file

6

36%

did not maintain aseptic technique when handling dressing change kit components.*

*Data on file

The use of aseptic technique is highly recommended by standard guidelines for the placement and maintenance of intravascular catheters.^{2,4,6}

Aseptic technique includes performing hand hygiene, using sterile and clean gloves for catheter care and dressing change, and preparing a patient's skin with chlorhexidine gluconate (CHG) or an alternative acceptable antiseptic prior to catheter insertion and dressing change.^{2,4}

In addition, maximum sterile barrier precautions should be taken prior to any catheter insertion.^{2,4}

7

29%

did not properly apply a CHG dressing during observed dressing changes.*

*Data on file

8

26%

reported that catheter dressings are **not** clean and intact.*

*Data on file

CHG (chlorhexidine gluconate) dressings are an essential component of a central line bundle which helps prevent CLABSIs.^{2,8}

CHG dressing is a highly recommended antiseptic dressing option as part of the central line bundle method for patients under 60 years of age, and is the only recommended antiseptic dressing for use in all patients over 60 years of age.²

The CDC, INS, and APIC guidelines recommend that catheter dressings should be applied using aseptic technique, and should be regularly monitored to ensure that dressings are not damp, loose, or visibly soiled.^{2,4,5,6}

Gauze dressings should be replaced every two days for short-term central lines, and transparent dressings should be replaced every seven days for short-term lines.⁴

Transparent dressings should be replaced every seven days for implanted or tunneled central lines,⁴ unless the dressing is visibly loose, damp, or soiled.

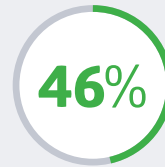
9



did not prepare a clean area for a dressing change kit during observed dressing changes.*

*Data on file

10



did not note if all kit supplies are used during a dressing change.*

*Data on file

Using a clean work surface during any catheter care procedure can help reduce the risk of cross-contamination.⁸

All components of a standardized dressing change kit should be used during dressing change, and aseptic technique should be utilized before, during, and after a dressing change.^{6,7,9} Using a standardized dressing change kit with the necessary equipment to perform a dressing change safely, and using a catheter checklist to record dressing changes can help prevent CLABSIs within a healthcare facility.^{5,6,9}

Moving forward

In addition to the threat to patient safety that CLABSIs pose, the prevalence of CLABSIs also places a burden on the healthcare system, as the associated healthcare cost of a CLABSI can add up to \$110,000.² The bundle method and other best practices and protocols for BSI prevention are proven to decrease rates of CLABSIs within healthcare facilities,^{2,5} and decrease the associated healthcare costs.^{2,10,11} **CLABSI reduction initiatives from 2008 to 2013 saved \$1.8 billion in excess healthcare costs.**²

Ongoing education among nursing professionals and patients regarding CLABSI prevention and aseptic catheter care is necessary to create lasting CLABSI reduction rates and promote a culture of safety within healthcare facilities. Nursing professionals should be encouraged to use catheter checklists at the time of catheter placement and dressing changes to maintain accountability and records of catheter care. Further, healthcare facilities should encourage nursing professionals to adhere to the central line bundle protocol regarding aseptic placement, care, and dressing changes for central lines, optimal catheter placement sites, and appropriate skin preparation. A combination of ongoing education, implementation of a standardized bundle and BSI prevention protocols within a healthcare facility can reduce CLABSI rates and decrease healthcare costs.

References:

1. Kusek, Linda, et al. Preventing Central Line-Associated Bloodstream Infections: A Global Challenge, A Global Perspective. The Joint Commission, 2012.
2. Barnes, Sue, et al. Guide to Preventing Central Line-Associated Bloodstream Infections. Association for Professionals in Infection Control and Epidemiology (APIC), Dec. 2015, apic.org/Resource_/TinyMceFileManager/2015/APIC_CLABSI_WEB.pdf.
3. Helm, Robert, et al. "Accepted but Unacceptable: Peripheral IV Catheter Failure." *Journal of Infusion Nursing*, vol. 38, no. 3, May 2015, pp. 189–203.
4. O'Grady, Naomi, et al. Guidelines for the Prevention of Intravascular Catheter-Related Infections, 2011. Centers for Disease Control and Prevention (CDC), Oct. 2017.
5. Marshall, Jonas, et al. "Strategies to Prevent Central Line-Associated Bloodstream Infections in Acute Care Hospitals: 2014 Update." *Infection Control and Hospital Epidemiology*, vol. 35, no. 7, July 2014, pp. 753–770. JSTOR, <https://www.jstor.org/stable/pdf/10.1086/676533.pdf?refreqid=excelsior%3A64cf82b012141a87e5bbf1f281997fd>
6. Gorski, Lisa, et al. *Infusion Therapy Standards of Practice*. Infusion Nurses Society, Feb. 2016.
7. CDC. Checklist for Prevention of Central Line Associated Blood Stream Infections. Centers for Disease Control and Prevention (CDC), 2011.
8. "Central-Line Associated Bloodstream Infections Toolkit and Monograph." Jointcommission.org, The Joint Commission, 2013, www.jointcommission.org/resources/patient-safety-topics/infection-prevention-and-control/central-line-associated-bloodstream-infections-toolkit-and-monograph/.
9. "BSI Bundle: A Best Practice." *rn.com*: AMN Healthcare Education Services, www.rn.com/Pages/ResourceDetails.aspx?id=3058.
10. "Estimating the Additional Hospital Inpatient Cost and Mortality Associated With Selected Hospital-Acquired Conditions." *Ahrq.Gov*, Agency for Healthcare Research and Quality (AHRQ), 2017, www.ahrq.gov/hai/pfp/haccost2017-results.html.
11. Halton, Kate A., et al. "Cost-Effectiveness of a Central Venous Catheter Care Bundle." *PLoS ONE*, vol. 5, no. 9, 17 Sept. 2010, p. e12815, 10.1371/journal.pone.0012815.



Medline Industries, Inc. Three Lakes Drive, Northfield, IL 60093
 Medline United States
 1-800-MEDLINE (633-5463)
medline.com | info@medline.com

Medline Canada
 1-800-268-2848 | medline.ca | canada@medline.com

Medline México
 01-800-831-0898 | medlinemexico.com | mexico@medline.com

Follow us    