

CLABSI Guide to Patient Safety Tool

The central line-associated bloodstream infections (CLABSI) Guide to Patient Safety (GPS)¹ is a brief troubleshooting tool to aid infection prevention teams in reducing CLABSI in their hospital or unit. Modeled after the validated CAUTI GPS developed by researchers at Ann Arbor Veteran Affairs and University of Michigan,² the CLABSI GPS is designed to help teams re-examine their CLABSI data and prevention activities, and direct them toward specific strategies and resources to overcome barriers and challenges.

The CLABSI GPS is a brief self-administered assessment of yes/no questions. Multidisciplinary CLABSI prevention teams should either, thoughtfully as a group, or independently followed by group review, answer the 13 questions that comprise the assessment. When done this way, the guide can stimulate discussion and uncover barriers that may be impeding CLABSI reduction progress. Additionally, the STRIVE national project team encourages teams to complete the CLABSI GPS before implementing Tier 2 CLABSI prevention strategies, to ensure all Tier 1 CLABSI prevention strategies are being successfully implemented. For more information on Tier 1 and 2 CLABSI prevention strategies review the [STRIVE Tiered Interventions for CLABSI Prevention](#) resource on the [STRIVE website](#).

Instructions for Use

To accurately assess the team's CLABSI prevention efforts, it is recommended that:

1. The team working on CLABSI prevention at the hospital or unit-level complete the CLABSI GPS assessment. This can be done independently or as a group.
2. The responses are reviewed as a team as a means to uncover strengths and barriers to reducing CLABSI.
3. For questions 1 through 11 that were answered with a "No" and questions 12 and 13 that were answered "Yes," the team should click on the link below the question or reference the indicated section to review approaches, advice, tools and resources to better implement the indicated CLABSI prevention strategy.
4. If you answered "Yes" to questions 1 through 11 and "No" for question 12 and 13, and your CLABSI rates are not where you want them to be, consider viewing the [STRIVE Enhanced Interventions to Prevent CLABSI modules](#) (CLABSI202) and (CLABSI203).

¹ This tool – which is heavily based on the CAUTI GPS - was developed and disseminated using funding support from the Department of Veterans Affairs, University of Michigan, the Centers for Disease Control and Prevention (CDC), and the Agency for Healthcare Research and Quality (AHRQ).

² For more information about the CAUTI GPS, please review the following resources:

- catheterout.org, Guide to Patient Safety (GPS) Tool. Available at <http://catheterout.org/?q=gps>
- Saint S, Gaies E, Fowler KE, et al. Introducing a catheter-associated urinary tract infection (CAUTI) prevention guide to patient safety (GPS). *Am J Infect Control*. 2014; 42(5):548-50.
- Fletcher KE, Tyszka JT, Harrod M, et al. Qualitative validation of the CAUTI Guide to Patient Safety assessment tool. *Am J Infect Control*. 2016; 44:1102-9.

CLABSI Guide to Patient Safety

Hospital _____

Unit _____

1. Do you have a well functioning team (or work group) focusing on CLABSI prevention?

Yes No

If you answered 'No' to the question above, review guidance and resources on having a [well functioning team](#).

2. Do you have a team leader with dedicated time to coordinate your CLABSI prevention activities?

Yes No

If you answered 'No' to the question above, review guidance and resources on having a [CLABSI team leader](#).

3. Do you have an effective nurse champion for your CLABSI prevention activities?

Yes No

If you answered 'No' to the question above, review guidance and resources on [nurse champions](#).

4. Does your facility use a standardized central vascular catheters (CVC) insertion tray that includes chlorhexidine gluconate for skin antisepsis?

Yes No

If you answered 'No' to the question above, review guidance and resources on having a [standardized CVC insertion tray](#).

5. Do nurses stop a CVC insertion if aseptic insertion technique is not being followed?

Yes No

If you answered 'No' to the question above, review guidance and resources on [empowering nursing staff](#).

6. Do bedside nurses take initiative and contact physicians to ensure that CVCs are removed when the device is no longer needed?

Yes No

If you answered 'No' to the question above, review guidance and resources on [removing unnecessary CVC](#).

7. Do bedside nurses assess dressing integrity and replace loose, wet, soiled dressings on vascular catheters on a daily basis?

Yes No

If you answered 'No' to the question above, review guidance and resources on [CVC maintenance](#).

8. Do you have an effective physician champion for your CLABSI prevention activities?

Yes No

If you answered 'No' to the question above, review guidance and resources on [physician champions](#).

9. Is senior leadership supportive of CLABSI prevention activities?

Yes No

If you answered 'No' to the question above, review guidance and resources on [engaging senior leaders](#).

10. Do you currently collect any CLABSI-related data (e.g., CVC prevalence, CVC days, CLABSI rates)?

Yes No

If you answered 'No' to the question above, review guidance and resources on [collecting CLABSI-related data](#).

11. Do you routinely feed back any CLABSI-related data to frontline staff and physicians (e.g., CVC prevalence, CVC days, CLABSI rates)?

Yes No

If you answered 'No' to the question above, review guidance and resources on [feedback](#).

12. At your facility, do patients and/or families request CVCs such as peripherally inserted central catheters (PICCs)?

Yes No

If you answered 'Yes' to the question above, review guidance and resources on [engaging patients and families to prevent CLABSI](#).

13. At your facility are CVCs, such as PICCs, being inserted without an appropriate indication?

Yes No

If you answered 'Yes' to the question above, review guidance and resources on [appropriate indications for CVCs](#).

Question 1: Do you have a well functioning team (or work group) focusing on CLABSI prevention?

You indicated that either you do not have a team or the one you have does not function well for preventing CLABSI. A key aspect of implementing a CLABSI prevention initiative is developing a partnership between key stakeholders (e.g., intensive care physicians, hospitalists, anesthesiologists, interventional radiologists, vascular, bedside and intensive care unit (ICU) nurses) that insert and care for central lines. Ideally, stakeholders from these specialties should be engaged in improvement within an implementation team in your hospital or unit. This team plays a critical role in developing the CLABSI prevention initiative, assisting with implementation and monitoring CLABSI rates. Key responsibilities of this team are education, data collection and evaluation. Individuals can fill more than one role and some may be short-term and others longer-term.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Onboarding 4: Team Formation](#)
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103, UA104)
- [STRIVE Team Roster Tool](#)
- TeamSTEPPS Fundamentals Course: Module 2. Team Structure. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module2/jgteamstruct.html>.
- [AHRQ Team Assessment Tool](#)
- Damschroder LJ, Banaszak-Holl J, Kowalski CP, Forman J, Saint S, Krein SL. The role of the champion in infection prevention: results from a multisite qualitative study. *Qual Saf Health Care*. 2009; 18(6):434–40.
- Jain M, Miller L, Belt D, King D, Berwick DM. Decline in ICU adverse events, nosocomial infections and cost through a quality improvement initiative focusing on teamwork and culture change. *Qual Saf Health Care*. 2006; 15(4):235-9.
- Santana C, Curry LA, Nembhard IM, Berg DN, Bradley EH. Behaviors of successful interdisciplinary hospital quality Improvement teams. *J Hosp Med*. 2011; 6(9):501-6.

Question 2: Do you have a team leader with dedicated time to coordinate your CLABSI prevention activities?

You indicated that either you do not have a team leader or that the one you have does not have appropriate time for CLABSI prevention. The team leader is responsible for coordinating the CLABSI prevention efforts – collecting data, organizing reports, presenting outcomes and tracking progress. It is their responsibility to keep the improvement moving forward and coordinate all the moving pieces between stakeholders. It is unlikely that the CLABSI prevention initiative is the only responsibility of the team leader, and because of this, there may not be enough time devoted to the prevention efforts. Creating that dedicated time is imperative to a successful initiative.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Onboarding 4: Team Formation](#)
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103, UA104)
- [Top 10 Qualities of a Project Manager](#)
- [Top 10 Characteristics of Great Project Managers](#)
- TeamSTEPPS Fundamentals Course: Module 4. Leading Teams. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module4/igleadership.html>.
- Cannon-Bowers, J. A., S. I. Tannenbaum, E. Salas, and C. E. Volpe. "Defining competencies and establishing team training requirements". Team effectiveness and decision-making in organizations. Ed. R.A. Guzzo, E. Salas, and Associates: San Francisco: Jossey-Bass, (1995) 333.
- Salas E, Burke CS, Stagl KC. "Developing teams and team leaders: strategies and principles." Leader Development for Transforming Organizations. Ed. R. G. Demaree, S. J. Zaccaro, and S. M. Halpin: Mahwah, NJ: Lawrence Erlbaum Associates, Inc., (2004).

Question 3: Do you have an effective nurse champion for your CLABSI prevention activities?

You indicated that either you do not have a nurse champion or that the one you have is not effective when it comes to CLABSI prevention activities. Because nurses play key roles during CVC insertion (i.e., ensuring adherence to aseptic practice for CVCs or inserting PICCS), are solely responsible for care and management of vascular catheters and are critical members of multidisciplinary teams that review vascular catheter necessity on a daily basis, buy-in from this group of health care providers is key. The nurse champion is responsible for engaging nursing staff in CLABSI prevention efforts and working to integrate practices into daily nursing workflow. A nurse champion plays a large role in bringing the initiative to the nursing staff, but also in modeling excitement for infection prevention efforts and problem-solving as challenges arise. The nurse champion also forms a critical link between the multidisciplinary team, bringing frontline clinicians actionable data for change.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Onboarding 4: Team Formation](#)
 - [Uber Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103, UA104)
- [The Bedside Nurse and Supporters](#)
- Draper DA, Felland LE, Liebhaber A, Melichar L. The role of nurses in hospital quality improvement. Research Brief No. 3, March 2008; Center for Studying Health System Change. Available at <http://www.hschange.org/CONTENT/972/972.pdf>.
- Zoutman DE, Ford BD. Quality improvement in hospitals: Barriers and facilitators. *Int J Health Care Qual Assur.* 2017; 30(1):16-24.

Question 4: Does your facility use a standardized central vascular catheters (CVC) insertion tray that includes chlorhexidine gluconate for skin antisepsis?

You indicated that your facility either does not use a standardized CVC insertion tray or does not use one that contains chlorhexidine gluconate for skin antisepsis. Multiple studies have shown that the creation of a standardized tray that includes key equipment (e.g., introducer needle, guidewire, micro-puncture kit, antiseptic) helps prevent breaks in sterile procedure when inserting central lines. Additionally, use of alcohol-containing chlorhexidine as a skin antiseptic has been shown to reduce rates of CLABSI in multiple randomized trials and systematic reviews. Thus, these two measures are key to preventing CLABSIs.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
 - [Prevention of Central Line-Associated Bloodstream Infections: Aseptic Insertion and Site Selection](#) (CLABSI103)
- [Tiers of Interventions to Prevent CLABSI](#)
- [CDC Checklist for Prevention of Central Line Associated Blood Stream Infections](#)
- [Joint Commission Central Line Insertion Checklist – Template](#)
- [AHRQ Central Line Insertion Care Team Checklist](#)
- Chaiyakunapruk N, Veenstra DL, Lipsky BA, Saint A. Chlorhexidine compared with povidone-iodine solution for vascular-site care: A meta-analysis. *Ann Intern Med.* 2002; 136(11):792-801.
- Furuya EY, Dick A, Perencevich EN, et al. Central line bundle implementation in US intensive care units and impact on bloodstream infections. *PLoS One.* 2011; 6(1):e15452.
- Mimoz O, Lucet JC, Kerforne T, et al. Skin antisepsis with chlorhexidine-alcohol versus povidone iodine-alcohol, with and without skin scrubbing for prevention of intravascular-catheter-related infection (CLEAN): An open-label, multicenter, randomized, controlled, two-by-two factorial trial. *Lancet.* 2015; 386(10008):2069-77.
- Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infection in the ICU. *N Engl J Med.* 2006; 355(26):2725-32.

Question 5: Do nurses stop a CVC insertion if aseptic insertion technique is not being followed?

You indicated that nurses are not empowered to stop CVC placement if aseptic insertion technique is broken or not being followed. Empowering nurses to stop CVCs from being placed when aseptic insertion is not being followed is a key step to reducing CLABSI. The Michigan Keystone study found dramatic reductions when nurses not involved with device placement, monitored CVC insertion at the bedside and stopped the procedure if maximal sterile barriers and other antisepsis measures were not being followed. Encouraging nurses to speak up and developing a culture of patient safety such that this type of feedback is not only encouraged, but also appreciated is an important step in preventing CLABSIs.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Giving Infection Prevention Feedback](#) (CBT103)
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103)
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
 - [Prevention of Central Line-Associated Bloodstream Infections: Aseptic Insertion and Site Selection](#) (CLABSI103)
- [Tiers of Interventions to Prevent CLABSI](#)
- [CDC Checklist for Prevention of Central Line Associated Blood Stream Infections](#)
- [The Bedside Nurse and Supporters.](#)
- [VA Stop the Line for Patient Safety Initiative](#)
- [Minnesota Hospital Association Model Stop the Line Policy](#)
- TeamSTEPPS Fundamentals Course: Module 3. Communication. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module3/igcommunication.html>.
- TeamSTEPPS Fundamentals Course: Module 6. Mutual Support. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module6/slmutualsupp.html>.
- Draper DA, Felland LE, Liebhaber A, Melichar L. The role of nurses in hospital quality improvement. Research Brief No. 3, March 2008; Center for Studying Health System Change. Available at <http://www.hschange.org/CONTENT/972/972.pdf>.
- Furuya EY, Dick A, Perencevich EN, et al. Central line bundle implementation in US intensive care units and impact on bloodstream infections. *PLoS One*. 2011; 6(1):e15452.
- Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infection in the ICU. *N Engl J Med*. 2006; 355(26):2725-32.
- Zoutman DE, Ford BD. Quality improvement in hospitals: Barriers and facilitators. *Int J Health Care Qual Assur*. 2017; 30(1):16-24.

Question 6: Do bedside nurses take initiative and contact physicians to ensure that CVCs are removed when the device is no longer needed?

You indicated that bedside nurses either do not take the initiative or do not contact physicians to ensure that CVCs are removed when no longer clinically necessary. Each day with a CVC increases the risk of infections such as CLABSI. An effective way to prevent CLABSI, therefore, is to review the necessity of a central line every day and encourage removal of devices that are idle and not being used, clinically unnecessary or no longer clinically indicated, e.g., the reason for CVC is no longer relevant. Multidisciplinary rounds and processes that encourage clinicians to continuously reassess central line necessity can substantial impact central line utilization and reduce CLABSIs.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Giving Infection Prevention Feedback](#) (CBT103)
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103)
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
 - [Central Venous Catheter Appropriateness](#) (CLABSI102)
 - [Maintenance and Removal of Central Venous Catheters](#) (CLABSI104)
 - [Enhanced Interventions to Prevent CLABSI](#) (CLABSI202)
- [Central Line Necessity Tracking Tool](#)
- [IHI How-To-Guide: Multidisciplinary Rounds](#)
- [Joint Commission Central Line Removal Considerations](#)
- TeamSTEPPS Fundamentals Course: Module 3. Communication. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module3/igcommunication.html>.
- Chopra V, Flanders SA, Saint S, et al. The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC): Results from a multispecialty panel using the RAND/UCLA appropriateness method. *Ann Intern Med.* 2015; 163(6):S1-S40.
- Chopra V, Krien SL, Olmsted RN, Safdar N, Saint S. Chapter 10. Prevention of central line-associated bloodstream infections: Brief update review. Making Healthcare Safer II: An Updated Critical Analysis of the Evidence for Patient Safety Practices. No. 211. AHRQ Publication No. 13-E001-EF. Rockville, MD. Agency for Healthcare Research and Quality. March 2013.
- Eliminating CLABSI, A National Patient Safety Imperative: Final Report. Content last reviewed January 2013. Agency for Healthcare Research and Quality, Rockville, MD. AHRQ Publication No: 11-0037-EF.
- Fitch K, Bernstein SJ, Aguilar MD et al. The RAND/UCLA appropriateness method user's manual. RAND Corporation. 2001.

Question 7: Do bedside nurses assess dressing integrity and replace loose, wet, soiled dressings on vascular catheters on a daily basis?

You indicated that bedside nurses either do not assess vascular catheter dressing integrity on a daily basis or do not replace loose, wet or soiled dressing when observed. Care of the catheter exit site is vital in the prevention of CLABSI. Semi-transparent dressings or dressings containing antiseptics are key to preventing bacterial migration from the skin to the bloodstream. Any factor that jeopardizes the integrity of the dressing can increase the risk of CLABSI. Daily rounds that examine catheter entry sites, ensure that the dressing is clean, dry and intact, and promptly address dressing issues that threaten the exit site can prevent maintenance-related infections. A well-functioning CLABSI prevention initiative often has a well-functioning vascular catheter care team that is constantly monitoring CVC care and maintenance practices.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Giving Infection Prevention Feedback](#) (CBT103)
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103)
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
 - [Maintenance and Removal of Central Venous Catheters](#) (CLABSI104)
 - [Enhanced Interventions to Prevent CLABSI](#) (CLABSI202)
- [CDC Checklist for Prevention of Central Line Associated Blood Stream Infections](#)
- [Central Line Necessity Tracking Tool](#)
- [Joint Commission CVC Maintenance Bundles](#)
- [Dressing Integrity Observation Audit Tool](#) from the University of Rochester
- [Joint Commission Scrub the Hub Flyer](#)
- [IHI How-To-Guide: Multidisciplinary Rounds](#)
- TeamSTEPPS Fundamentals Course: Module 3. Communication. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module3/igcommunication.html>
- Chopra V, Flanders SA, Saint S, et al. The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC): Results from a multispecialty panel using the RAND/UCLA appropriateness method. *Ann Intern Med.* 2015; 163(6):S1-S40.
- Gorski L, Hadaway L, Hagel M, et al. Infusion therapy standards of practice. *N Infus Nurs.* 2016; 39(1S):S1-169.
- Marschall J, Mermel LA, Fakih M, et al. Strategies to prevent central line-associated bloodstream infections in acute care hospitals: 2014 update. *Infect Control Hosp Epidemiol.* 2014; 35(7):753-71.
- Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. *N Engl J Med.* 2006; 355(26):2725-32.

Question 8: Do you have an effective physician champion for your CLABSI prevention activities?

You indicated that you do not have a physician champion for your CLABSI prevention activities or that the one you have is not effective. Having a physician leader that is respected amongst members of the clinical care team in your facility is an important part of the cultural aspect of overcoming CLABSI. Ideal physician champions are either those involved in the insertion of CVCs (e.g., critical care, surgery, interventional radiologists) or in ordering of devices (e.g., hospitalists). An effective physician champion plays a large role in bringing the initiative to the medical staff, modeling the positive excitement for CLABSI prevention and problem solving as challenges arise. The physician champion also forms a critical link between the multidisciplinary team, bringing frontline clinicians actionable data and strategies for change.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Onboarding 4: Team Formation](#)
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103, UA104)
- Damschroder LJ, Banaszak-Holl J, Kowalski CP, Forman J, Saint S, Krein SL. The role of the champion in infection prevention: results from a multisite qualitative study. *Qual Saf Health Care*. 2009; 18(6):434-40.
- Reinertsen JL, Gosfield AG, Rupp W, Whittington JW. Engaging physicians in a shared quality agenda. IHI Innovation Series white paper. (2007); Cambridge, MA: Institute for Healthcare Improvement. (Available on www.IHI.org)
- Saint S, Kowalski CP, Banaszak-Holl J, Forman J, Damschroder L, Krein SL. The importance of leadership in preventing healthcare-associated infection: results of a multisite qualitative study. *Infect Control Hosp Epidemiol*. 2010; 31(9):901-7.

Question 9: Is senior leadership supportive of CLABSI prevention activities?

You indicated that you do not have the support of senior leadership for your CLABSI prevention activities. Preventing CLABSI is no easy task and often requires additional material, support and staff to enable change. These types of initiatives are costly and often require the approval of managerial staff in departments such as medical executive leadership, purchasing and accounts. A key element that led to the success of the Michigan Keystone study was requiring senior leadership presence during CLABSI meetings so that data and action items could be reviewed and discussed with the multidisciplinary team. These meetings thus serve to ensure buy-in from those that may not have clinical roles, but make decisions regarding supplies and purchases. Given the many competing priorities of hospitals, having the support of leadership is key to making lasting progress with your CLABSI prevention initiative. Having a member of the hospital executive leadership team oversee the initiative also lets the hospital staff know the importance of the initiative.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103, UA104)
 - [Building a Business Case for Infection Prevention](#) (BC101, BC102, BC103)
- Tools for an Infection Prevention Business Case
 - Murphy D, Whiting J, Hollenbeak CS. Dispelling the myths: the true cost of healthcare-associated infections. Washington, DC: Association for Professionals in Infection Control and Epidemiology (APIC). 2007. Available at <http://www.spyderstyle.com/media/pdf/white-papers/The%20True%20Costs%20of%20Healthcare%20Associated%20Infections.pdf>
 - Kerkering TM. Building a Business Case for Infection Prevention. Society of Hospital Medicine. Available at <https://www.hospitalmedicine.org/CMDownload.aspx?ContentKey=95f19518-799c-4e62-ae27-07aa87b6f53e&ContentItemKey=765daf1b-7065-4b48-8e5c-7168331bfc4f>
- Kotter J. Leading change: why transformation efforts fail. *Harv Bus Rev*. 1995; 59-67.
- Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. *N Engl J Med*. 2006; 355(26):2725-32.
- Saint S, Kowalski CP, Banaszak-Holl J, Forman J, Damschroder L, Krein SL. The importance of leadership in preventing healthcare-associated infection: results of a multisite qualitative study. *Infect Control Hosp Epidemiol*. 2010; 31(9):901-7.

Question 10: Do you currently collect any CLABSI-related data (e.g., CVC prevalence, CVC days, CLABSI rates)?

You indicated that you do not currently collect data related to CLABSI prevention such as number of central venous catheters, days of use or rates of infection. To successfully prevent CLABSI, reliable and actionable data that clearly points to a problem and solution is key. Measurement of data that is unit- and patient-specific is necessary in order to identify outliers, trends in infection rates as well as the efficacy of interventions. The Centers for Disease Control and Prevention's (CDC) National Healthcare Safety Network (NHSN) module and Targeted Assessment for Prevention (TAP) Strategy tools provide overviews of how these data can be collected, reported and used to guide improvement.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Using Audits to Monitor Infection Prevention Practices](#) (CBT102)
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
- [NHSN CLABSI Surveillance Resources](#)
- [NHSN CLABSI Module](#)
- [TAP CLABSI Implementation Guide](#)
- TAP Strategy 'How To Guide' for the individual user. Available at:
<https://www.cdc.gov/hai/pdfs/prevent/TAP-Guide-for-Individual-Facility-User.pdf>
- [APIC Implementation Guide CLABSI](#)
- Marschall J, Mermel LA, Fakih M, et al. Strategies to prevent central line-associated bloodstream infections in acute care hospitals: 2014 update. *Infect Control Hosp Epidemiol.* 2014; 35(7):753-71.
- Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infection in the ICU. *N Engl J Med.* 2006; 355(26):2725-32.

Questions 11: Do you routinely feed back any CLABSI-related data to frontline staff (e.g., CVC prevalence, CVC days, CLABSI rates)?

You indicated that you do not routinely feedback CLABSI-related data to frontline staff. While collecting CLABSI-related data is key to measuring the success of the intervention, it is imperative that the staff, especially those on the frontline are aware of successes and failures. Sharing data is therefore imperative to not only motivate, but also engage the staff at all stages of the CLABSI prevention work. Having access to timely data will also encourage staff to continue changes for sustaining reductions in CLABSI.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Giving Infection Prevention Feedback](#) (CBT103)
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103, UA104)
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
- [AHRQ Week Without CLABSI Banner](#)
- [TAP CLABSI Implementation Guide](#)
- TeamSTEPPS Fundamentals Course: Module 3. Communication. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module3/igcommunication.html>
- TeamSTEPPS Fundamentals Course: Module 6. Mutual Support. Content last reviewed March 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at <https://www.ahrq.gov/teamstepps/instructor/fundamentals/module6/igmutualsupp.html>
- Dubbert PM, Dolce J, Richter W, Miller M, Chapman SW. Increasing ICU staff handwashing: effects of education and group feedback. *Infect Control Hosp Epidemiol.* 1990; 11(4):191-3.

Question 12: At your facility, do patients and/or families request CVCs such as peripherally inserted central catheters (PICCs)?

You indicated that patients and families often request CVCs such as PICCs, in your facility. This phenomenon is a common and growing trend in the United States, especially as PICCs become more prevalent. Additionally, patients that might have received PICCs in the past (for appropriate or inappropriate indications) are likely to request this device again given the comfort associated with lack of needle sticks for blood draws. However, these devices are not without risks. Educating patients on the risks and benefits of CVCs as well as PICCs is therefore important. Partnering with medical providers such that the use of CVCs and PICCs occurs only for appropriate indications is an important step in preventing infection. The Michigan Appropriateness Guide to Intravenous Catheters (MAGIC) is one such document that can help inform this decision.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Uber-Adaptive Strategies for Infection Prevention](#) (UA101, UA102, UA103, UA104)
 - [Patient and Family Engagement](#) (PFE101, PFE102)
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
 - [Central Venous Catheter Appropriateness](#) (CLABSI102)
 - [Prevention of Central Line-Associated Bloodstream Infections: Aseptic Insertion and Site Selection](#) (CLABSI103)
 - [Maintenance and Removal of Central Venous Catheters](#) (CLABSI104)
- [A Roadmap for Patient and Family Engagement in Healthcare](#)
- [Advancing the Practice of Patient and Family Centered Care in Hospitals. How to Get Started](#) from the [Institute for Patient and Family Centered Care](#)
- [AHRQ Guide to Patient and Family Engagement in Hospital Quality and Safety](#)
- [CMS Patient and Family Engagement Resources](#)
- [HAIs and Patient Safety: What You Can Do to Be A Safe Patient](#)
- Chopra V, Flanders SA, Saint S, et al. The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC): Results from a multispecialty panel using the RAND/UCLA appropriateness method. *Ann Intern Med.* 2015; 163(6):S1-S40.
- Marschall J, Mermel LA, Fakih M, et al. Strategies to prevent central line-associated bloodstream infections in acute care hospitals: 2014 update. *Infect Control Hosp Epidemiol.* 2014; 35(7):753-71.
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Question 13: At your facility are CVCs, such as PICCs, being inserted without an appropriate indication?

You indicated that CVCs, such as PICCs, are inserted without an appropriate indication in your facility. The best way to avoid a CLABSI is to avoid insertion of a central venous access device if it is not necessary. Partnering with medical providers such that the use of CVCs and PICCs occurs only for appropriate indications is an important step in preventing infection. Steps that include standardized list of indications, electronic medical record improvements to facilitate documentation of indication, or working with inserters of CVCs to ensure that the indication for use is documented can help improve use of CVC. The Michigan Appropriateness Guide to Intravenous Catheters (MAGIC) contains appropriate indications for use of CVCs such as PICCs and tunneled catheters.

Tools, Resources and Further Reading

- STRIVE Content:
 - [Central Line-Associated Bloodstream Infection \(CLABSI\): An Introduction](#) (CLABSI101)
 - [Central Venous Catheter Appropriateness](#) (CLABSI102)
 - [Prevention of Central Line-Associated Bloodstream Infections: Aseptic Insertion and Site Selection](#) (CLABSI103)
 - [Maintenance and Removal of Central Venous Catheters](#) (CLABSI104)
- [Tiers of Interventions to Prevent CLABSI](#)
- [CDC Checklist for Prevention of Central Line Associated Blood Stream Infections](#)
- [Joint Commission Central Line Insertion Checklist –Template](#)
- [AHRQ Central Line Insertion Care Team Checklist](#)
- [Catheter Choice Guide](#) from Johns Hopkins
- [APIC Implementation Guide CLABSI](#)
- Chopra V, Flanders SA, Saint S, et al. The Michigan Appropriateness Guide for Intravenous Catheters (MAGIC): Results from a multispecialty panel using the RAND/UCLA appropriateness method. *Ann Intern Med.* 2015; 163(6):S1-S40.
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