Guide to Implementing and Sustaining a Program To Prevent CLABSI and CAUTI in the Intensive Care Unit Setting

Overview

This guide will help your team navigate resources that enhance previous Comprehensive Unit-based Safety Program (CUSP) resources to reduce central line-associated bloodstream infection (CLABSI) and catheter-associated urinary tract infection (CAUTI) in the hospital setting. Additionally, these resources introduce a new, tiered interventional approach designed to help overcome challenges with persistently elevated infection rates in the intensive care unit (ICU) setting. This guide helps you utilize five groupings of resources to support your journey to lower infections in your ICU. Since CLABSIs and CAUTIs will always be a potential threat to patient care in the ICUs, this guide is intended to help teams to create a structure that will provide sustained support for safe patient care. Before your team dives into the resources, it is assumed that your team comes to this work with two key points of understanding.
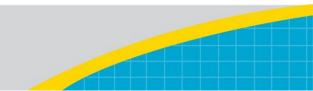
1. CUSP is the foundation of the application of this work. CUSP is a powerful and flexible model of sustainable safety improvement, and recognizes that all culture is local and can be adapted to a unit's specific needs and resources. The goal is to create a strong foundation of CUSP that will set the stage for sustainable work. Sustainability therefore begins as the team is created and revisited throughout the work.
2. Key mindsets in the implementation of this work are high reliability, systems thinking, and Just Culture. Aspects of each of these mindsets will be repeated throughout the toolkit and will guide work throughout this guide and within the resources in this guide.

With the mindsets of high-reliability, systems thinking and Just Culture as a basis, the following resources will guide teams to reduce CLABSI and or CAUTI in your ICU by implementing CUSP. This guide provides instructions on how to use the resource with the Toolkit for Preventing CLABSI and CAUTI in ICUs and apply recommendations from these tools toward your journey to zero infections.

CUSP Modules: Laying a Foundation To Implement a Program of Preventing CLABSI and CAUTI in ICUs

This series of modules highlights effective strategies to implement a quality improvement project aimed at lowering CLABSI and or CAUTIs in the ICU. The modules utilize tenets of CUSP to lay

a strong foundation of continued progress toward zero CLABSI and CAUTIs. As noted in the overview, a strong foundation of CUSP is key to sustaining infection prevention. Potential CLABSI and CAUTI infections will always be a threat to ICU patients, requiring teams to set up a system that allows them to focus on these infections over time. The CUSP model provides a structure for teams to assure that preventing infections is a "way of life" in your ICU. Since CUSP is sensitive to the local needs of a unit, the solutions that are needed from a team may change over time.

The topics discussed in these modules are engaging the team and obtaining leadership buy-in, identifying gaps, creating an action plan, monitoring progress, and identifying defects. These modules will walk you and your team through the correct steps in getting set up to start this work to lower infections in your ICU as well as establishing key actions that will be maintained throughout the work. Most likely, you already have structures set up that do some of this work. It is not the intention to start different efforts; rather, this guide highlights the key components needed for success in these modules so you can enhance existing patient safety activities. These modules should give your team the knowledge needed to evaluate your current work to improved patient care within your ICU. The modules can be reviewed in order or watched asynchronously to focus on certain areas of need.

- Building an Engaged CUSP Team
    - Offers an overview of CUSP and strategies to build a successful CUSP team
- Engaging the Team and Applying CUSP in the ICU Setting
    - Explores key aspects of safety culture and principles of safe systems design while guiding teams to use identifying defects as a tool
- Quality Improvement in Action
    - Provides tangible actions for teams to take to create a road map and movement on that roadmap to drive towards zero infections
- Using a Tiered Approach With CUSP Principles
    - Introduces the Tiered Interventions and connects them to CUSP. Introductory resource that can be expanded with the Playbook
- Using Data To Drive Change and Improve Patient Safety
    - Provides a deep dive into using data to drive toward zero infections

CLABSI and CAUTI Prevention Modules: Introduction to the Tiered Interventions

These modules provide simple steps ICU teams can take to ensure the clinical and cultural changes that prevent CLABSI and CAUTI are sustained after the initial work is completed. The CLABSI Prevention and CAUTI Prevention modules provide information on how to disrupt the lifecycle of a catheter device using tier 1 and tier 2 interventions, which are evidenced-based recommendations for action. The lifecycle of the catheter has 4 stages of potential intervention, indication, insertion, maintenance and removal; the tiers offer specific actions that are built on evidence based guidelines to address various stages within the lifecycle. Tier 1 interventions offer foundational interventions that occur around the catheter lifecycle consistently with every patient. Tier 2 interventions are team-focused interventions to support and monitor tier 1 activities. The tier 2 activities occur at various frequencies. When applied consistently, the tiered

interventions can lead to sustainable reduction of infection. These modules can be revisited to assure consistency of actions within your team's practices.

- CLABSI Modules
  - [Central Venous Catheter Indications and Alternatives](#) – avoiding placement and determining appropriateness
  - [Central Venous Catheter Insertion Bundle](#) – avoiding improper placement techniques
  - [Central Venous Catheter Maintenance](#) – maintaining awareness and proper care of catheters in place
  - [Central Venous Catheter Removal](#) – prompting removal of unnecessary catheters
- CAUTI Modules – Note, the CAUTI modules have two additional stages that are discussed in depth, alternatives to urinary catheters and urine culture stewardship.
  - [Indwelling Urinary Catheters Indications](#) – avoiding placement and determining appropriateness
  - [Alternative to Indwelling Urinary Catheters](#) – review when alternatives to indwelling urinary catheters are appropriate in the ICU setting
  - [Indwelling Urinary Catheter Insertion Bundle](#) – ensuring aseptic placement
  - [Indwelling Urinary Catheter Maintenance](#) – maintaining awareness and proper care of catheters in place
  - [Prompting Removal of Unnecessary Indwelling Urinary Catheters](#) – review of clinical indications for use and strategies to improve prompt removal
  - [Urine Culturing Stewardship in the ICU Setting](#) – review situations in which urine cultures are appropriate or inappropriate

Playbook for Preventing CLABSI and CAUTI in the ICU Setting: Connecting the Dots Between CUSP and the Tiered Interventions

This resource helps your ICU understand how to integrate CUSP and the tiered interventions introduced in the CLABSI and CAUTI prevention modules. The Playbook demonstrates how CUSP can be implemented through CLABSI and CAUTI prevention practices, policies, and procedures that occur in ICUs every day. Specific tangible examples are offered on how teams can bring CUSP to life with the tiered interventions. CUSP is a flexible model that can dovetail with various interventions to help sustain quality improvement within a culture of strong patient safety. However, teams can struggle to bring these concepts to life. By moving from knowledge to action; the Playbook offers various real life examples of the CUSP tenets in action. The Playbook is a rich document grounded in the mindsets of high reliability, systems thinking, and Just Culture. By using the CUSP, CLABSI, and CAUTI modules as a foundation to create a strong platform for CLABSI and or CAUTI prevention, the Playbook can be an actionable next step to cohesively connect the adaptive and technical needs to get to zero infections. This resource can help facilitate sustainability of CLABSI and CAUTI prevention within your team. To facilitate use of the playbook, teams can use this resource in two ways. First, the team lead or as a group can review the Playbook from cover to cover for a deep review of how to integrate CUSP with the tiered interventions. The overview offers framing and direct guidance about key

steps that need to be understood by the team prior to implementation of work to lower infections. The second use case would be for teams to choose a particular tier it is struggling with and study this section to receive guidance on a particular tiered intervention. However, if this method is chosen, the overview is key and should be reviewed before use of the Playbook. CUSP and the tiered interventions are intended to be applied consistently throughout care. However, sometimes teams need to focus improvement on one particular action at a time. The Playbook is written to offer that focused attention if needed.

A Playbook for Preventing CLABSI and CAUTI in the ICU Setting

CLABSI and CAUTI Learning Tools: CLABSI/CAUTI Event Reporting Tools and CLABSI/CAUTI Learning From Defects Tools

This section of the implementation guide can be revisited any time a CLABSI or CAUTI occurs on your unit. Regular and consistent use of these tools helps support sustainable identification of defects to allow teams to address these defects to move toward zero infections.

The event reporting tools support a thorough review of a CLABSI or CAUTI to support the team in identifying and addressing the defect(s) leading to the infection. The event reporting tools have a comprehensive list of questions specific to CLABSI and CAUTI that can help to identify potential causes or contributing factors of an infection's development. These tools are to be used after the identification of an infection for a deep dive into all details surrounding the specific infection identification. The tool can be completed by unit leadership and shared with unit staff after completion or unit staff can support the completion of the tool.

CLABSI Event Reporting Tool

CAUTI Event Reporting Tool

The Learning From Defects tools support a review of a CLABSI or CAUTI as well. However, these tools are a shortened list of questions intended to be used at the bedside with the care team. These tools can be used after an infection has been identified or when an infection is being considered, and the team would like to review the care to address any defects that are present in the moment. The tool exists in two versions: a Word document and a fillable PDF. The PDF can be accessed at a computer near the bedside and used as the care team discusses the case. The key to using either of these tools is to utilize them to identify and address defects. Communication of the insights gathered from these tools is key for maintaining zero infections.

Learn From Defects Tool Worksheet: CLABSI

Learn From Defects Tool Worksheet: CAUTI

APIC HAI Calculator Tools

This section provides access to the Association for Professionals in Infection Control and Epidemiology (APIC) healthcare-associated infections (HAIs) Calculator Tools. These tools help define the cost associated with HAI, though cost determination can be a complex process with

many points to consider. The APIC HAI Calculator Tools website was designed to help users assess the impact of their facility's HAIs on multiple metrics: cost, mortality, admissions, and reimbursement. Utilize this tool to engage senior leaders or other staff in this work to reduce infections.

[APIC HAI Calculator Tools Homepage](#)

Sustain the Gains To Get to Zero CLABSI/CAUTI

As discussed earlier in the implementation guide, potential CLABSI and CAUTI infections will always be a threat to ICU patients, requiring teams to set up a system that allows them to focus on these infections over time. The CUSP model can provide a structure for teams to assure that preventing infections is a "way of life" in your ICU. The implementation guide and the various tools discussed can be used when first getting started with a focus on CLABSI or CAUTIs, and also can be a resource across time as adaptive changes are required.

The support for addressing adaptive changes is key for sustaining infection prevention. Once the system, mentioned above, has been established, it provides support for individuals as they take action. However, actions change over time, and adaptive change is required to address these changes that happen. Sustainability or reaching the goal of zero infections cannot be accomplished without addressing adaptive change. Adaptive change requires unlearning and relearning over time. Rarely is behavioral change a function of not knowing what to do; it is a problem of making conscious choices and taking consistent action until new habits are hardwired. For example, proper hand washing technique and sterile technique are widely known by experienced clinicians. Shifting behavior to consistently implement proper technique requires more than re-educating; it requires shifting habits or learning how to work with barriers to that consistency, such as overcoming the fear of speaking up when a colleague is cutting corners. Creating adaptive change is something every ICU team needs to address. The Toolkit for Preventing CLABSI and CAUTI in ICUs was developed to anticipate that ICU teams working to lower infections would have challenges come up as time passes. The [Overcome Common Challenges](#) section of the toolkit organizes various tools under categories of common challenges ICUs have faced when implementing infection prevention activities. The Overcome Challenges section, coupled with revisiting the implementation guide and the resources, can support teams to work through changes over time and continue to work toward zero infections.