Supplementary Material*


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* This supplementary material was provided by the authors to give readers further details on their article. The material was reviewed but not copyedited.
CAUTI Guide to Patient Safety Tool

The catheter-associated urinary tract infection (CAUTI) Guide to Patient Safety (GPS) is a brief troubleshooting tool to aid infection prevention teams in reducing CAUTI in their hospital or unit.

Over the past decade, our multi-disciplinary research team has sought to better understand why some hospitals are more successful than others in preventing device-associated infection. This work includes conducting qualitative assessments of a total of 43 hospitals across the United States. In total, we have conducted 400 interviews of personnel at various levels within the organizations, from chief executive officers to front-line nurses and physicians.

From these interviews, we found that a handful of critical issues seemed to arise irrespective of a hospital’s location or size. These ranged from technical issues (e.g., collecting catheter use data) to common barriers to effective CAUTI prevention (e.g., lack of a physician champion). Because in person visits are both time-consuming and resource-intensive, we developed this self-administered list of questions that could be completed by key informants to help guide their hospital’s approach to CAUTI prevention.

Instructions for Use

To accurately assess the team’s CAUTI prevention efforts, it is recommended that:

1. The team working on CAUTI prevention at the hospital or unit-level completes the CAUTI 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 CAUTI.
3. For questions 1 through 9 that were answered with a “No” and any part of question 10 that was 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 CAUTI prevention strategy.

This tool was developed by faculty and staff from the Department of Veterans Affairs and the University of Michigan using funding support from the Department of Veterans Affairs, the University of Michigan, and the National Institutes of Health (NIH). This tool was validated and disseminated using funding support from the Agency for Healthcare Research and Quality (AHRQ), the Department of Veterans Affairs, and the University of Michigan.

* The version of this tool with active links to resources can be found at http://www.catheterout.org/cauti-gps.html
CAUTI Guide to Patient Safety

Hospital ___________________________  Unit ___________________________

1. Do you have a well-functioning team (or work group) focusing on CAUTI 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 CAUTI prevention activities?
   □ Yes  □ No

   If you answered ‘No’ to the question above, review guidance and resources on having a CAUTI team leader.

3. Do you have an effective nurse champion for your CAUTI prevention activities?
   □ Yes  □ No

   If you answered ‘No’ to the question above, review guidance and resources on nurse champions.

4. Do bedside nurses assess, at least daily, whether their catheterized patients still need a urinary catheter?
   □ Yes  □ No

   If you answered ‘No’ to the question above, review guidance and resources on having a daily assessment.

5. Do bedside nurses take initiative to ensure the indwelling urinary catheter is removed when the catheter is no longer needed (e.g., by contacting the physician or removing the catheter per protocol)?
   □ Yes  □ No

   If you answered ‘No’ to the question above, review guidance and resources on removing unnecessary urinary catheter.

6. Do you have an effective physician champion for your CAUTI prevention activities?
   □ Yes  □ No

   If you answered ‘No’ to the question above, review guidance and resources on physician champions.

7. Is senior leadership supportive of CAUTI prevention activities?
   □ Yes  □ No

   If you answered ‘No’ to the question above, review guidance and resources on engaging senior leaders.
CAUTI Guide to Patient Safety

Hospital ___________________________  Unit ___________________________

8. Do you currently collect CAUTI-related data (e.g., urinary catheter prevalence, urinary catheter appropriateness, and infection rates) in the unit(s) in which you are intervening?

☐ Yes  ☐ No

If you answered ‘No’ to the question above, review guidance and resources on physician champions.

9. Do you routinely feedback CAUTI-related data to frontline staff (e.g., urinary catheter prevalence, urinary catheter appropriateness, and infection rates)?

☐ Yes  ☐ No

If you answered ‘No’ to the question above, review guidance and resources on engaging senior leaders.

10. A. Have you experienced substantial nursing resistance?

☐ Yes  ☐ No

If you answered ‘Yes’ to the question above, review guidance and resources on nursing resistance.

B. Have you experienced substantial physician resistance?

☐ Yes  ☐ No

If you answered ‘Yes’ to the question above, review guidance and resources on physician resistance.

C. Have you experienced patient and family requests for an indwelling urinary catheter?

☐ Yes  ☐ No

If you answered ‘Yes’ to the question above, review guidance and resources on engaging patients and families.

D. Have you experienced indwelling urinary catheters commonly being inserted in the emergency department without an appropriate indication?

☐ Yes  ☐ No

If you answered “Yes” to the question above, review guidance and resources on appropriate indications for urinary catheters.
CDI Guide to Patient Safety Tool

The *Clostridioides difficile* infection (CDI) Guide to Patient Safety (GPS) is a brief troubleshooting tool to aid infection prevention teams in reducing CDI in their hospital or unit. Modeled after the validated catheter-associated urinary tract infection (CAUTI) GPS developed by researchers at Veteran Affairs Ann Arbor Healthcare System and University of Michigan*, the CDI GPS is designed to help teams re-examine their CDI data and prevention activities, and direct them toward specific strategies and resources to overcome barriers and challenges.

The CDI GPS is a brief self-administered assessment of yes/no questions. Multidisciplinary CDI prevention teams should answer the 11 questions that comprise the assessment, either thoughtfully as a group, or independently followed by group review. When done this way, the guide can stimulate discussion and uncover barriers that may be impeding CDI reduction progress.

**Instructions for Use**

To accurately assess the team’s CDI prevention efforts, it is recommended that:

1. The team working on CDI prevention at the hospital or unit-level complete the CDI 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 CDI.
3. For questions that were answered with a “No,” 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 CDI prevention strategy.

* The version of this tool with active links to resources can be found at [http://psep.med.umich.edu/gpscdi.html](http://psep.med.umich.edu/gpscdi.html)
CDI Guide to Patient Safety

1. Do you have a well-functioning team (or work group) focusing on CDI 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 CDI prevention activities?
   - Yes □  No □
   
   If you answered ‘No’ to the question above, review guidance and resources on having a CDI team leader.

3. Do you have an effective physician champion for your CDI prevention activities?
   - Yes □  No □
   
   If you answered ‘No’ to the question above, review guidance and resources on physician champions.

4. Is senior leadership supportive of CDI prevention activities?
   - Yes □  No □
   
   If you answered ‘No’ to the question above, review guidance and resources on engaging senior leaders.

5. Do you routinely collect CDI-related data (e.g., incidence, prevalence, compliance with prevention practices) in the unit(s) or populations in which you are intervening to reduce infection?
   - Yes □  No □
   
   If you answered ‘No’ to the question above, review guidance and resources on CDI-related data.

6. Do you routinely provide CDI-related data back to frontline staff and physicians? (e.g., incidence, prevalence, compliance with prevention practices, etc.)
   - Yes □  No □
   
   If you answered ‘No’ to the question above, review guidance and resources on feedback.

7. Is staff empowered to speak up and remind colleagues about proper hand hygiene and personal protective equipment use?
   - Yes □  No □
   
   If you answered ‘No’ to the question above, review guidance and resources on empowering staff to speak up about CDI prevention best practices.
8. Do you conduct audits and provide feedback on the effectiveness of environmental cleaning?

☐ Yes  ☐ No

If you answered ‘No’ to the question above, review guidance and resources on effective environmental cleaning to prevent CDI.

9. Do you have an antibiotic stewardship team that includes at least one physician and one pharmacist?

☐ Yes  ☐ No

If you answered ‘No’ to the question above, review guidance and resources on antibiotic stewardship related to CDI prevention.

10. Does your laboratory reject formed stools if submitted for CDI testing?

☐ Yes  ☐ No

If you answered ‘No’ to the question above, review guidance and resources on stool stewardship.

11. Are clinicians educated as to when to order CDI testing?

☐ Yes  ☐ No

If you answered ‘No’ to the question above, review guidance and resources on clinician education on testing stewardship.
CLABSI Guide to Patient Safety Tool

The central line-associated bloodstream infections (CLABSI) Guide to Patient Safety (GPS) is a brief troubleshooting tool to aid infection prevention teams in reducing CLABSI in their hospital or unit. Modeled after the validated catheter-associated urinary tract infection (CAUTI) GPS developed by researchers at Veteran Affairs Ann Arbor Healthcare System and University of Michigan*, 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.

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.

This tool is modeled on the CAUTI GPS and was adapted by a team that included subject matter experts affiliated with the University of Michigan and Department of Veterans Affairs and funding support from the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Disease Control and Prevention (CDC).

* The version of this tool with active links to resources can be found at http://www.improvepicc.com/gpsclabsi.html
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 provide any CLABSI-related data back 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.
MRSA Guide to Patient Safety Tool*

The methicillin-resistant *Staphylococcus aureus* (MRSA) Guide to Patient Safety (GPS) is a brief troubleshooting tool to aid infection prevention teams in reducing MRSA in their hospital or unit. Modeled after the validated catheter-associated urinary tract infection (CAUTI) GPS developed by researchers at Veteran Affairs Ann Arbor Healthcare System and University of Michigan*, the MRSA GPS is designed to help teams re-examine their MRSA data and prevention activities, and direct them toward specific strategies and resources to overcome barriers and challenges.

The MRSA GPS is a brief self-administered assessment of yes/no questions. Multidisciplinary MRSA 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 MRSA reduction progress.

**Instructions for Use**

To accurately assess the team’s MRSA prevention efforts, it is recommended that:

1. The team working on MRSA prevention at the hospital or unit-level complete the MRSA 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 MRSA.

3. For questions that were answered with a “No,” the team should click on the link** below the question or reference the indicated section to review approaches, advice, and tools and resources to better implement the indicated MRSA prevention strategy.

**  

** The version of this tool with active links to resources can be found at [http://psep.med.umich.edu/gpsmrsa.html](http://psep.med.umich.edu/gpsmrsa.html)

* Note. While this guide focuses on MRSA prevention, these strategies can be applied to the prevention of other multidrug-resistant organisms (MDROs)
MRSA Guide to Patient Safety

1. Do you currently have a well-functioning team (or work group) focusing on MRSA 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 MRSA prevention activities?
   ☐ Yes ☐ No
   
   If you answered ‘No’ to the question above, review guidance and resources on having a MRSA team leader.

3. Do you have an effective nurse champion for your MRSA prevention activities?
   ☐ Yes ☐ No
   
   If you answered ‘No’ to the question above, review guidance and resources on nurse champions.

4. Do you have an effective physician champion for your MRSA prevention activities?
   ☐ Yes ☐ No
   
   If you answered ‘No’ to the question above, review guidance and resources on physician champions.

5. Is senior leadership supportive of MRSA prevention activities?
   ☐ Yes ☐ No
   
   If you answered ‘No’ to the question above, review guidance and resources on engaging senior leaders.

6. Do you currently assess or identify the source of MRSA bloodstream infections (vascular catheter, surgical site, skin/soft tissue, etc.) to help focus MRSA prevention strategies?
   ☐ Yes ☐ No
   
   If you answered ‘No’ to the question above, review guidance and resources on assessing the primary source of MRSA bloodstream infections.

7. Do you currently collect MRSA-related data (e.g., incidence, prevalence, compliance with prevention practices) in the unit(s) or populations in which you are intervening to reduce infections?
   ☐ Yes ☐ No
   
   If you answered ‘No’ to the question above, review guidance and resources on MRSA-related data.
MRSA Guide to Patient Safety

8. Do you routinely provide MRSA-related data back to frontline staff and physicians? (e.g., incidence, prevalence, compliance with prevention practices)
   □ Yes        □ No

   *If you answered ‘No’ to the question above, review guidance and resources on providing feedback.*

9. Do you have a system in place for communicating confirmed MRSA-positive cultures to frontline care staff?
   □ Yes        □ No

   *If you answered ‘No’ to the question above, review guidance and resources on communication.*

10. Do you currently place patients colonized or infected with MRSA into Contact Precautions?
    □ Yes        □ No

    *If you answered ‘No’ to the question above, review guidance and resources on Contact Precautions for patients colonized or infected with MRSA.*

11. Is staff empowered to speak up if hand hygiene is not performed effectively?
    □ Yes        □ No

    *If you answered ‘No’ to the question above, review guidance and resources on empowering staff to speak up about hand hygiene best practices.*

12. Does frontline staff receive training about how to prevent transmission of MRSA and other multidrug-resistant organisms (MDROs)?
    □ Yes        □ No

    *If you answered ‘No’ to the question above, review guidance and resources on training frontline staff on MRSA prevention.*

13. Do you have standardized processes for daily and discharge environmental cleaning/disinfection of patient rooms that includes monitoring of cleaning/disinfection quality?
    □ Yes        □ No

    *If you answered ‘No’ to the question above, review guidance and resources on environmental cleaning and disinfection.*