CatheterOut

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.

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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.

CLABSI 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.

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

Because your catheter-associated urinary tract infection (CAUTI) prevention team is responsible for defining, designing, leading, and sustaining the initiative, it is crucial that it functions well.

"For the change effort to be successful a powerful group must lead the change; and members of that group must work together as a team. Key characteristics that must be represented on the team include power, leadership skills, credibility, communications ability, expertise, authority, analytical skills, and a sense of urgency." (From TeamSTEPPS)

1. Team Membership
    - The composition of the team is important for the success of the initiative. We suggest that the team –at a minimum –include:
        - Team leader/project manager: When selecting a team leader, consider whether s/he has successfully led another quality improvement project. Leadership and management skills, and previous success are more important than the job title or content expertise.
    - Nurse champion: When selecting a nurse champion, consider someone who is well respected and in a position to obtain support from the other nurses given that avoiding catheter use may be perceived as additional nursing work (monitoring indwelling urinary catheter placement, increased toileting time, and possible data collection). We believe that having an effective nurse champion is critically important to the success of your initiative! For more information on overcoming a lack of/or challenges with a nurse champion, click here. Select Engaging Providers tab and then Nurse Engagement.
    - Physician champion: When selecting a physician champion try to involve a physician who is highly regarded. If finding someone who is able to be actively engaged in the process is not possible, then consider selecting a respected physician who is willing to lend their name to this initiative. For overcoming a lack of/or challenges with a physician champion, click here. Select Engaging Providers tab and then Physician Engagement.
    - Data person: Because the success of the intervention will be determined by the data, this person is a key component of any team. They are responsible for collating information-specifically, the presence of a Foley, the explanation for its original insertion or continued use, and any indication of a healthcare-associated urinary tract infection—and feed it back to the floor unit involved and to the hospital office responsible for sending the results to the CDC. This is often an infection preventionist, quality manager, or patient safety officer and it is common that s/he is already collecting and reporting the data to the internal leadership and for public reporting. For further information, see Question 8.

- Other important team members can include a member of the senior leadership, a nurse educator, an infection preventionist, and a quality improvement officer.
- Ideally the team will be composed of members with different backgrounds and various levels of experience.
- Despite the possibility that the initiative may take place over many units, we suggest that there only be one CAUTI Prevention Team.

2. What the Team Does
    - The team must **take ownership** of the initiative.
    - Team members must **meet on a regular basis** (we suggest biweekly to begin).
    - They must **develop and implement an initiative**, which will involve educating healthcare providers of the existing evidence and severity of catheter complications.
    - They must **collect data** and feed it back to the unit.

3. Information and Exercises for Team Evaluation and Improvement
    - For a video overview of the assembly of a CAUTI prevention team, click here.
    - For an example of a team assessment tool, please click here.
    - For more information on team roles and responsibilities, click here.

4. Further Reading Suggestions
    - 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.
    - Fakih MG, Krein SL, Edson B, Watson SR, Battles JB, Saint S. Engaging healthcare workers to prevent catheter-associated urinary tract infection and avert patient harm. Am J Infect Control. 2014;42(10Suppl):S223-9.
    - 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.

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

Because the project manager (also referred to as the team leader) is responsible for coordinating and facilitating meetings, team communication, and overseeing that members understand their roles and follow through on their responsibilities, it is imperative that s/he has dedicated time to commit to the project.

1. If nobody has been identified for this role
    - Ask senior leadership for advice about who they recommend and who they can provide with some protected time to do this work.
    - Find someone who has been successful in coordinating a quality improvement initiative.
    - Experience and knowledge of the topic is secondary in importance to leadership skills, enthusiasm, persistence, and credibility. The leader will be expected to reach out to the content experts for guidance related to the technical aspects of the work.

2. If the selected project manager is not as effective as necessary
    - Check to see if s/he has been given dedicated time to work on this particular project. If not, engage leadership to help with this.
    - S/he may be lacking some of the necessary skills. We have found that coaching him/her on what they can improve upon can be very helpful.
    - S/he may not be a good fit for the initiative, and it may be time to consider replacing him/her with someone else.

3. For a better understanding of what makes a project manager successful
    - Top 10 Qualities of a Project Manager
    - Top 10 Characteristics of GREAT Project Managers

4. Further Reading Suggestions
    - 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 CAUTI prevention activities?

Because a CAUTI initiative is especially dependent on nurses, an effective nurse champion is key. By effective we mean: well respected and trusted by peers, supportive of safety, and an agent of change.

1. <u>If a nurse champion is not yet identified</u>
    - The most successful nurse champions are those that know their way around the hospital hierarchy but are independent-minded in terms of finding solutions. S/he must be on good terms with her colleagues.
    - Think twice about having a nurse executive or the director of nursing take on this role as there is danger that the bedside nurses may view the initiative as another occasion for obeying the boss.
    - Some qualities that make a successful nurse champion include: being personable, enthusiastic, empathetic, and having great communication skills.
    - There is no "one-size-fits-all" strategy. You must identify the type of individual that will work best in your organization.
    - Consider a nurse manager, nurse educator, and even a respected licensed practical nurse who others go to for advice.
    - Consider having co-champions if necessary.
    - Far more than the physician champion, the nurse champion is the face of the project to the people most instrumental in the project's success, the bedside nurses.

2. <u>If the nurse champion on your team is not as effective or engaged as needed</u>
    - As with other members of the team, we have found that often the nurse champion has not been given dedicated time to work on this particular project. Supporting the nurse champion (e.g., reducing some of the clinical commitments in order to address the quality improvement project) during the initial stages may help with implementation efforts.
    - If the nurse champion has the dedicated time but is lacking some of the necessary skills, we have found that coaching him/her can be very helpful. The ideal coach may be the senior leader who is tracking the outcome of this project.
    - It is important to choose the champion based on his/her commitment to the issue and interest in safety. If it is clear that the nurse champion is not a good fit for the initiative (s/he may have been appointed rather than recruited), it may be time to consider replacing the nurse champion.
    - It is also important to recognize the nurse champion for his/her efforts via such mechanisms as certificates of recognition, annual evaluation appraisals, mention in newsletters, and acknowledgement from the Chief Nursing Officer.

- We have also found that identifying and enlisting others who are either already engaged in this initiative or eager to improve patient safety can help support the efforts of the nurse champion.

3. For more information on nurse engagement, click here.
   Select Engaging Providers tab and then Nurse Engagement

4. Further Reading Suggestions
   - 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. http://www.hschange.com/CONTENT/972/972.pdf
   - Gokula RM, Smith MA, Hickner J. Emergency room staff education and use of a urinary catheter indication sheet improves appropriate use of Foley catheters. Am J Infect Control.2007;35(9):589-93.

Question 4: Do bedside nurses assess, at least daily, whether their catheterized patients still need a urinary catheter?

Because the necessity of an indwelling urinary catheter may change while a patient is in the hospital, it is imperative to continually assess its appropriateness. Daily assessment of catheter necessity is perhaps the single most important method of decreasing catheter use and subsequent infection.

1. Remind/educate your staff
    - Urinary catheters are often placed unnecessarily, remain in place without physician awareness, and are not removed promptly when no longer needed.
    - Prolonged catheterization is the strongest risk factor for catheter-associated urinary tract infection (CAUTI).
    - Promptly removing unnecessary catheters is an important step in reducing a patient's risk of CAUTI.

2. Indwelling urinary catheters should be addressed daily
    - If nurses are concerned that they will have to spend more time cleaning up patients if the indwelling urinary catheter is removed, try:
        - Timed voiding or hourly intentional rounding
        - Exploring incontinence products, urinals, condom catheters, and intermittent straight catheters
    - If there is a general feeling of being overworked ("just trying to get through my shift"), try:
        - "Catheter patrol" - One or two daytime charge nurses who monitor which patients have indwelling urinary catheters, assist with toileting, and assess the indications for urinary catheters. If the indwelling urinary catheter is no longer clinically indicated, the "catheter patrol" can talk with the bedside nurse or ask the physician directly to discontinue.
        - Daily assessment tool - Tailored to the care setting, bedside nurses (or the "catheter patrol") can assess the indications for the continued use of indwelling urinary catheters and if no longer clinically indicated, nurses can discuss its removal with the physician. Click here for an example.
    - If there is no mechanism to trigger prompt removal, consider:
        - Stop orders that prompt catheter removal by default after a certain time period or a set of clinical conditions has occurred (such as 24 or 48 hours post-operative) unless the catheter remains clinically appropriate.

          Or
        - A nurse-initiated removal protocol—whereby a nurse can initiate the removal of the indwelling urinary catheter by contacting the physician if after assessment an indication for continued use has not been identified.

3. For more information
    - For the current appropriateness guidelines, see the Ann Arbor Criteria.
    - For more information and examples of nurse driven protocols to evaluate and discontinue unnecessary urinary catheters, click here.
    - For more information on daily evaluation of urinary catheter appropriateness, see the information under Question 8.

4. Further Reading Suggestions

    - Elpern EH, Killeen K, Ketchem A, Wiley A, Patel G, Lateef O. Reducing use of indwelling urinary catheters and associated urinary tract infections. Am J CritCare.2009;18(6):535-41; quiz42.
    - Fakih MG, Watson SR, Greene MT, Kennedy EH, Olmsted RN, Krein SL, Saint S. Reducing inappropriate urinary catheter use: a statewide effort. Arch Intern Med. 2012;172(3):255-60.
    - Fakih MG, Pena ME, Shemes S, et al. Effect of establishing guidelines on appropriate urinary catheter placement. Acad Emerg Med.2010;17:337-40.
    - Fakih MG, Dueweke C, Meisner S, et al. Effect of nurse-led multidisciplinary rounds on reducing unnecessary use of urinary catheterization in hospitalized patients. Infect Control Hosp Epidemiol.2008;29:815–9.
    - Fuchs MA, Sexton DJ, Thornlow DK, Champagne MT. Evaluation of an evidence-based, nurse-driven checklist to prevent hospital-acquired catheter-associated urinary tract infections in intensive care units. J Nurs Care Qual.2011;26(2):101-9.
    - Gokula RR, Hickner JA, Smith MA. Inappropriate use of urinary catheters inelderly patients at a midwestern community teaching hospital. Am J Infect Control. 2004;32:196-9.
    - Meddings J, Rogers MA, Krein SL, Fakih MG, Olmsted RN, Saint S. Reducing unnecessary urinary catheter use and other strategies to prevent catheter-associated urinary tract infection: an integrative review. BMJ Qual Saf.2014;23(4):277-89.
    - Meddings J, Rogers MA, Macy M, Saint S. Systematic review and meta-analysis: reminder systems to reduce catheter-associated urinary tract infections and urinary catheter use in hospitalized patients. Clin Infect Dis.2010;51:550-60.
    - Miller BL, Krein SL, Fowler KE, et al. A multimodal intervention to reduce urinary catheter use and associated infection at a Veterans Affairs Medical Center. Infect Control Hosp Epidemiol. 2013;34(6),631–633.
    - Saint S, Wiese J, Amory JK, et al. Are physicians aware of which of their patients have indwelling urinary catheters? Am J Med.2000;109:476-80.

Question 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)?

Because timely removal of the indwelling urinary catheter is crucial for reducing catheter-associated urinary tract infection (CAUTI), nurses should be empowered and supported to take the initiative to remove the catheter when it is no longer appropriate (e.g., by contacting the physician or removing the catheter per approved protocol).

1. Policy to trigger prompt removal is key
    - Stop orders which prompt the clinician to remove the catheter by default after a certain time period or a set of clinical conditions has occurred (such as 24 or 48 hours post-operative) unless the catheter remains clinically appropriate.
        - Stop orders "expire" in the same fashion as restraint orders or antibiotic orders, unless action is taken by physicians.
    - Urinary catheter reminders simply alert doctors and bedside nurses to the fact that a Foley is being used by a patient and provide a list of the appropriate reasons to continue or discontinue the indwelling catheter.
        - Reminders are generally dispatched as a hospital unit eases into an infection prevention initiative.
        - The reminder is included in the patient's chart or is part of the patient's electronic record.
    - The use of daily appropriateness tracking can be helpful for decreasing unnecessary indwelling urinary catheters. Bedside nurses make a daily entry indicating whether any given Foley meets one or more of the appropriate indications for catheter use. If an in-place catheter fails that test, the nurse is to alert the appropriate physician caring for the patient and recommend the catheter's removal. Additional information can be found under Question 8.
    - Some hospitals have had great success with a nurse-initiated removal protocol whereby a bedside nurse can initiate the removal of the indwelling urinary catheter without an attending physician order; however, this usually needs to be approved by a Medical Executive Committee first, and should be presented by a physician.

2. Resistance to early Foley removal, a common barrier
    - Educate staff members
        - Urinary catheters are often placed unnecessarily, remain in place without physician awareness, and are not removed promptly when no longer needed. Prolonged catheterization is the strongest risk factor for CAUTI.
        - For more information on infectious complications, click here, then click Infectious Complications.

        - For examples of power point presentations, click here. *Select the Educational Tools tab and then click Presentations.*
    - Enlist champions and supporters
        - When physicians, especially urologists and surgeons are resistant, have the physician champion present information about the indications and non-indications for the indwelling urinary catheter at a medical staff meeting.
        - Engage a surgeon and/or urologist as a physician champion and work with them to establish conditions under which the catheter can be removed.
        - Work with physician assistants or nurse practitioners to discontinue Foleys within 1 or 2 days after surgery
    - Identify and promote other benefits to catheter removal
        - Earlier mobility
        - Decreased non-infectious complications (urine leakage, gross hematuria and urethral strictures)
        - Earlier discharge potential

3. Challenges and pearls to keep in mind when implementing catheter removal strategies
    - Capitalize on "nurse-to-nurse" communication at times of care transition (between shift and between units) as opportunities to reassess catheter need. Having a nurse champion on every shift may facilitate reassessment, especially if shift schedules make it difficult to share information.
    - Simple reminders are often ignored. It can be challenging to sustain the impact of reminders.
    - Reminder system chosen should be tailored to the care setting (stickers, electronic, etc.). Both low-tech and high-tech strategies have been effective.
    - If using electronic reminders/stop orders, make sure the reminder/stop order is directed at the primary team and not the consultants.
    - Using electronic catheter orders can increase catheter use inadvertently by making indwelling catheters easier to order than alternatives.
    - Physicians and/or nurses should document the rationale for leaving the catheter in if appropriate indications are not met. Documentation makes the rationale explicit and communicates it to the rest of the healthcare team.
    - Nurses may not be comfortable initially with the responsibility of removing urinary catheters without a physician order. Supportive nursing and physician leadership can help overcome nurses' reluctance to act.
    - Incontinence is a very tempting reason for placing a urinary catheter. Encourage bedside staff to avoid placing catheters for incontinence by providing other readily available strategies to manage incontinent patients, including bedside commodes, incontinence garments, condom catheters for male patients, and "people power" to provide prompted toileting and bed linen changes.

4. Further Reading Suggestions

- Fakih MG, Rey JE, Pena ME, Szpunar S, Saravolatz LD. Sustained reductions in urinary catheter use over 5 years: bedside nurses view themselves responsible for evaluation of catheter necessity. Am J Infect Control. 2013;41(3):236-9.
- Fink R, Gilmartin H, Richard A, Capezuti E, Boltz M, Wald H. Indwelling urinary catheter management and catheter associated urinary tract infection practices in Nursing Improving Care for Healthsystem Elders Hospitals. Am J Infect Control.2012; 40:715-20.
- Meddings J, Rogers MA, Krein SL, Fakih MG, Olmsted RN, Saint S. Reducing unnecessary urinary catheter use and other strategies to prevent catheter-associated urinary tract infection: an integrative review. BMJ Qual Saf.2014;23(4):277-89.
- Meddings J, Rogers MAM, Macy M, Saint S. Systematic review and meta-analysis: reminder systems to reduce catheter-associated urinary tract infections and urinary catheter use in hospitalized patients. Clin Infect Dis.2010;51(5):550-60.
- Oman KS, Makic MB, Fink R, SchraederN, Hulett T, Keech T, Wald H. Nurse-directed interventions to reduce catheter-associated urinary tract infections. Am J Infect Control.2012;40:548-53.
- Patrizzi K, Fasnacht A, Manno M. A collaborative, nurse-driven initiative to reduce hospital-acquired urinary tract infections. J Emerg Nurs.2009;35:536-9.

Question 6: Do you have an effective physician champion for your CAUTI prevention activities?

Because catheter-associated urinary tract infection (CAUTI) prevention efforts require collaboration and support of both physicians and nurses, an effective physician champion can be important.

1. <u>To identify a physician champion</u>
    - There is no "one-size-fits-all" strategy. You must identify the type of physician that will work best in your organization. Some suggestions include hospital epidemiologists, hospitalists, infectious diseases specialists, and urologists. Beware of choosing people on the basis of their job title. Unfortunately, titles don't guarantee that a person will be appropriate for this task.
    - Our experience has been that the most successful physician champions are those that have pride in the hospital's culture of excellence or concern over the lack of one. Ideally they are ideally a person who has the ear of the hospital administration and the respect of his or her peers, a doctors' doctor, and someone who has the patience to hear out people who disagree with his or her point of view.
    - Because many physicians are not employees of the hospital and convincing a physician, employee or not, to take on any extra work is likely a tough assignment, we suggest the following:
        - While we do not believe that paying doctors to take part in a patient-centered intervention is necessary or preferred, we see no problem with
            - Temporarily relieving the physician of some of his/her responsibilities
            - Or as was done in one hospital, recognizing a member of the medical staff with a "physician champion" award, complete with a certificate signed by the hospital's chief of staff and a gift certificate to a local restaurant.
        - Assure the physician champion that their role will not take too much of their time. They should not, for example, be expected to attend all meetings or be otherwise involved in matters unrelated to clinical concerns such as budget discussions or internal promotional plans or working out details of data collection, unless of course they want to be. Their chief responsibility will be to share the details of the intervention with colleagues and gain their cooperation.

2. If the physician champion on your team is not as effective or engaged as needed
    - In institutions where there are good nurse-physician working relationships, most physicians may be willing to go along with recommendations by nurses, especially if the new practice is viewed as a "nursing initiative."
    - As with other members of the team, we have found that in many instances the physician champion has not been given dedicated time to work on this particular project.
    - Make sure that medical leadership supports the initiative.
    - A 'strong' physician champion may not be entirely necessary if both nurses and medical leadership supports the initiative and there is no active resistance from physicians.
    - Find a member of the 'tribe'. "Surgeons are very tribal," the chief of staff said, discussing the difficulty an infection prevention leader (an internist) might have trying to bring his message to a group of surgeons. "The first thing we're going to do is we're going to say, 'Look, you're not one of us.' The way to get buy-in from surgeons is you got to have a surgeon on your team."

3. Further Reading Suggestions
    - 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.
    - Fakih MG, Krein SL, Edson B, Watson SR, Battles JB, Saint S. Engaging healthcare workers to prevent catheter-associated urinary tract infection and avert patient harm. Am J Infect Control. 2014;42(10Suppl):S223-9.
    - 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 7: Is senior leadership supportive of CAUTI prevention activities?

It is helpful if hospital administrators and clinical chiefs take on personal leadership roles in quality improvement initiatives. With some extra effort they can help build powerful support for the catheter-associated urinary tract infection(CAUTI)prevention project. Ideally, one member of the executive leadership team will be primarily responsible for overseeing the CAUTI initiative at your hospital. In our experience, this often is the chief nursing executive.

1. To engage leadership
    - Prepare and present a business case to help convince leadership that the time and resources for implementing the new practice will be worth it.
        - The CAUTI Cost Calculator estimates your hospital's costs due to CAUTI. It can be used to estimate both the current and projected costs after a hypothetical intervention to reduce catheter use.
    - Be sure leadership receives monthly CAUTI rates and catheter use data.

2. Ways that leadership can show their support
    - Mention in meetings and other staff encounters that these prevention activities are a reflection of the hospital's mission
    - Stop by and listen in to a reporting session on the initiative, thus boosting the team's sense of purpose;
    - Include updates on the project's progress in their hospital-wide newsletter and online communications;
    - Make the degree of a person's support of quality initiatives a regular element of employee performance reviews;
    - Top supervisors can provide backing when those leading an initiative run up against immovable road blocks.

3. Further Reading Suggestions
    - Kotter J. Leading change: why transformation efforts fail. Harv Bus Rev.1995;59-67.
    - 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;31:901-7.

Question 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?

Collecting and comparing data both before and after an intervention provides an objective way to evaluate if your interventions are successful in reducing unnecessary catheter days and catheter-associated urinary tract infection (CAUTI). Ongoing assessments allow you to assess if the intervention is sustained.

1. The what and when of data collection
    - What to collect:
        - The presence of a Foley
        - The explanation for its original insertion or continued use
        - Number of symptomatic CAUTI
    - When to collect it:
        - At baseline: daily for 2 weeks (phase1)
        - During implementation: daily for two weeks (phase two)
        - After implementation: one day a week for 5 weeks (phase3)
        - During sustainability: daily for one week each quarter (phase4)

2. Calculations you should make from the data you collect:
    - Process measure:
        - Catheter utilization rate: Total # catheter-days/Total # patient-days X100
    - Outcome measure:
        - NHSN measure: # of symptomatic CAUTI/1,000 urinary catheter days as measured in NHSN.
        - Population-based measure: Total # of symptomatic CAUTI/10,000 patient days
    - Additional measures to consider
        - Unnecessary Urinary Catheter %: # of unnecessary catheter-days/Total # catheter-days X100
    - For more information on these calculations click here.

3. It is important to apply a consistent approach to data collection at all stages of your prevention program so that you can compare across time periods and units.
    - For an example of a data collection tool click here. Feel free to use or modify this in any way.

4. Ensure that you have someone on the team who is responsible for collecting data
    - This is typically an infection preventionist or a member of the quality improvement department.
    - Responsibilities of this team member include
        - Collecting and collating information –specifically, the presence of a Foley, the explanation for its original insertion or continued use, and any indication of a healthcare-associated urinary tract infection.
        - CAUTI Guide to Patient Safety (GPS) Q8www.catheterout.org2Last updated 10/3/2014Feeding it back to the floor unit involved and to the hospital office responsible for sending the results to the CDC.

5. Further Reading Suggestions
    - Choudhuri JA, Pergamit RF, Chan JD, et al. An electronic catheter-associated urinary tract infection surveillance tool. Infect Control Hosp Epidemiol.2011;32(8):757-62.
    - Fakih MG, Greene MT, Kennedy EH, et al. Introducing a population-based outcome measure to evaluate the effect of interventions to reduce catheter-associated urinary tract infection. Am J Infect Control.2012;40(4):359-64.
    - Trick WE, Samore M. Denominators for device infections: who and how tocount.Infect Control Hosp Epidemiol. 2011;32(7):641-3.
    - Wright MO, Kharasch M, Beaumont JL, Peterson LR, Robicsek A. Reporting catheter-associated urinary tract infections: denominator matters. Infect Control Hosp Epidemiol.2011;32(7):635-40.

6. For an example data collection process currently used by several hospitals click here.

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

Actively communicating with and providing timely and useful feedback to staff is an important part of quality improvement. Many hospitals have found that the transparency of sharing as much information as possible with the staff can help staff stay motivated and engaged in the quality improvement initiative.

1. Data that should be fed back to frontline staff
    - What to collect: frontline staff
    - Data from the intervention
    - Any comparable data from nearby hospitals
    - Any comparable national data

2. Mechanisms for feedback
    - "Scorecard" that provides information on how performance is progressing toward goals
        - Can be provided at both the hospital and unit level
        - Should be visibly displayed throughout the hospital for all staff to see
    - Newsletters
    - Staff training
    - New employee orientation
    - e-mail Communications
    - Staff meetings

3. The key to effective feedback is not just the amount of information provided, but also how meaningful that information is for staff.
    - Do not limit feedback to numbers (e.g., CAUTI rate) provide details to make it more meaningful to the staff (e.g., we have gone X days since our last CAUTI).

4. Rewarding the staff or a unit for positive changes can be motivating
    - For example:
        - One site gave a little treat when a nurse initiated an early removal of a urinary catheter
        - Another site provided a pizza party to a unit that was able to get their high CAUTI rate down to zero

5. Further Reading Suggestions

- Dubbert PM, Dolce J, Richter W, Miller M, Chapman SW. Increasing ICU staff handwashing: effects of education and group feedback. Infect Control HospEpidemiol. 1990;11(4):191-3.

Question 10A: Have you experienced substantial nursing resistance?

In a catheter-associated urinary tract infection (CAUTI) prevention program, the nursing staff, especially frontline staff, are central to the success of the initiative. Because they are the staff whose day-to-day activities are most affected by the changes, they may present the greatest resistance.

1. Reason for the resistance
    - Because resistance can occur for a number of different reasons, as a first step we suggest interviewing front-line staff to learn why they are resistant to implementing a CAUTI prevention program and what, in the opinion of staff, is needed before acceptance of the program can occur.
    -
2. Strategies for enhancing nursing engagement and decreasing potential resistance
    - Get a volunteer from the nursing staff to be a change champion for each shift—someone who other staff respect and who is committed to the process (examples include a front line nurse or a nurse educator).
    - Get buy-in before implementation. For example, ask, "Whom do we have to convince on this floor?" Have that person help to develop the plan and/or participate in the education for that unit.
    - Provide regular feedback on progress, as well as monthly reports on urinary catheter prevalence, and CAUTI rates.
    - Encourage nurses to be creative, developing visual cues to stimulate interest and keep the CAUTI initiative a top priority.
        - One site posted flyers/banners on the unit, such as "This is a catheter out zone."
    - Make sure to listen and clearly understand nurses' concerns and address them to the nurses' satisfaction. This may require some education of the staff, creativity, or reallocation of resources.
    - Consider changes to (or redistribution of) workload.
        - For example, one site instituted a "small zone" so that nurses could be given a somewhat lighter workload when assigned to a patient who needed help with frequent toileting.
        - Another strategy is to prioritize nurse assistant/tech tasks to toileting patients.
    - Bring the education to the bedside. Do competencies on the unit, talking with nurses one-to-one during the point prevalence assessments.

3. For more information
    - On nurse engagement click here. Select the Engaging Providers tab, and then Nurse Engagement.
    - On barriers and solutions click here. Select Engaging Providers tab, then Barriers and Possible Solutions.

4. Further Reading Suggestions
    - Krein SL, Kowalski CP, Harrod M, Forman J, Saint S. Barriers to reducing urinary catheter use: a qualitative assessment of a statewide initiative. JAMA Intern Med. 2013;173(10):881-6.
    - CAUTI Guide to Patient Safety (GPS) Q10Awww.catheterout.org2Last updated 10/3/2014oSaint 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;31:901-7.
    - Saint S, KowalskiCP, Banaszak-Holl J, Forman J, Damschroder L, Krein SL. How active resisters and organizational constipators affect health care-acquiredinfection prevention efforts. Jt Comm J Qual Patient Saf.2009;35:239-46.
    - Saint S, Kowalski CP, Forman J, et al. A multicenter qualitative study on preventing hospital-acquired urinary tract infection in US hospitals. Infect Control Hosp Epidemiol. 2008;29:333-41.

Questions 10B: Have you experienced substantial physician resistance?

Because the day-to-day operation of a quality improvement project requires the ability of staff to adopt new goals and practices, it is important that the physicians either embrace, or at a minimum do not resist the implementation of catheter-associated urinary tract infection (CAUTI) prevention activities at your site/unit.

1. If there are some physicians who are resisting the initiative
    - Educate them on the clinical and economic consequences of continuing the status quo.
        - Clinical consequences are both infectious and non-infectious. Click here for more information on clinical consequences. There are sections for both Infectious or Non-infectious Complications.
        - The CAUTI Cost Calculator estimates your hospital's costs due to CAUTI. It can be used to estimate both current costs and projected costs after a hypothetical intervention to reduce catheter use.
    - Provide data to physicians about Foley use highlighting
        - how often physicians have a patient with an indwelling urinary catheter and forget about it
        - monthly Foley incidence
        - CAUTI rates
    - Engage medical leadership support by discussing the issue of CAUTI with the chief of staff (or chief medical officer) who in turn can, as needed, have a frank conversation with physician resistors.
    - Involve the physicians as much as possible in the planning, education, and implementation of the project.
    - Identify and discuss specific reasons why catheter use might be of interest for a given type of physician.
        - For example, a geriatrician might be inclined to support catheter removal given that urinary catheters increase immobility and is a deconditioning risk for their already frail patients.
    - If you are still struggling with CAUTI efforts related to physician engagement, it may be useful to determine the type of people-related issues you may be confronting: active resistance, organizational constipation, and time-serving.
        - For more information related to this click here.

2. For more specific suggestions for engaging physicians, click here. Select Engaging Providers tab and then Physician Engagement.

3. For existing presentations, fliers, and pocket cards, click here. Select Educational Tools tab and then Presentations.

4. Further Reading Suggestions
    - Fakih MG, Rey JE, Pena ME, Szpunar S, Saravolatz LD. Sustained reductions in urinary catheter use over 5 years: bedside nurses view themselves responsible for evaluation of catheter necessity. Am J Infect Control. 2013;41(3):236-9.
    - Dyc NG, Pena ME, Shemes SP, Rey JE, Szpunar SM, Fakih MG. The effect of resident peer-to-peer education on compliance with urinary catheter placement indications in the emergency department. Postgrad Med J.2011;87(1034):814-8.
    - Kalra R, Kraemer RR. LESS IS MORE Urinary Catheterization—When Good Intentions Go Awry A Teachable Moment. JAMA Intern Med. Published Online: August 18, 2014.doi:10.1001/jamainternmed.2014.3806.
    - Kennedy EH, Greene MT, Saint S. Estimating hospital costs ofcatheter-associated urinary tract infection. J Hosp Med2013;9(9):519-522.oSaint S, Wiese J, Amory JK, et al. Are physicians aware of which of their patients have indwelling urinary catheters? Am J Med.2000;109:476-80.
    - Umscheid CA, Mitchell MD, Doshi JA,Agarwal R, Williams K, Brennan PJ. Estimating the proportion of healthcare-associated infections that are reasonably preventable and the related mortality and costs. Infect Control Hosp Epidemiol.2011;32(2):101-14.

5. For an example of one hospital's success at overcoming this barrier, click here.

Question 10C: Have you experienced patient and family requests for an indwelling urinary catheter?

Educating patients and their family members about the importance of urinary catheter risks can be an important way to reduce the unnecessary use of urinary catheters.

1. Patients and families may believe that the use of indwelling urinary catheters is in the patient's best interest, however we have found that this is often based on incomplete, and sometimes incorrect, information. It is important to educate your patients and their family members about the risks of a Foley, the benefits of early removal, and alternative toileting options.
    - Prepare and present a business case to help convince leadership that the time and resources for implementing the new practice will be worth it.
    - Written by members of our team, "What Patients and Family Members Need to Know About the Risks Associated with Urinary Catheters" is a brochure that offers information about urinary catheters, appropriate indications, and ways to discuss its use. This brochure can be tailored to your site.
    - Distributed by the Society for Healthcare Epidemiology of America, the one-page sheet, "FAQs about Catheter-Associated Urinary Tract Infections", provides patients with an overview of urinary catheters, catheter-associated urinary tract infections, and how patients can safely care for their urinary catheter.
    - It may be helpful to practice various scenarios. See "Script for patient or family requests for non-medically indicated indwelling urinary catheters" for suggestions of statements that we have found useful

2. For other resources, please visit:
    - http://www.ahrq.gov/professionals/systems/hospital/engagingfamilies/index.html
    - http://www.rwjf.org/en/research-publications/find-rwjf-research/2013/02/patient-engagement.html

3. Further Reading Suggestions
    - Krein SL, Kowalski CP, Harrod M, Forman J, Saint S. Barriers to reducing urinary catheter use: a qualitative assessment of a statewide initiative. JAMA Intern Med. 2013;173(10):881-6

Question 10D: Have you experienced indwelling urinary catheters commonly being inserted in the emergency department without an appropriate indication?

In the hectic and unpredictable environment of the emergency department (ED), physicians and nurses properly see themselves as serving on the front lines. Nurses and doctors are more concerned about whether their patients are still breathing than about whether they have a catheter. It takes a member of the catheter-associated urinary tract infection (CAUTI) prevention team to convince the ED that catheters count.

1. Indwelling urinary catheters are commonly placed automatically in the ED
    - The CAUTI prevention team should include emergency department personnel (e.g., emergency medicine physician and nurse) when the initiative moves to the ED.
    - With the emergency medicine physician leading the way, the ED staff should be convinced to ensure a patient's condition warrants an indwelling catheter, and to consider safer alternatives such as a condom catheter and bladder scanner with intermittent straight catheterization.
2. Upon hospital admission, the indwelling catheter often remains in place
    - The project leader can share the latest data from the medical unit(s), showing how many of the floor's Foleys started out in the ED, what percentage were for inappropriate indications, and what percentage led to infection.
    - It is helpful to establish clear guidelines for urinary catheter use in the ED and to educate the staff on the appropriate indications for the catheter and how to use aseptic insertion technique in those patients who truly need the catheter.
    - We have found that the most effective approach is for the project manager and/or the nurse champion (ideally in this case the nurse champion is an ED nurse) to spend a part of each day walking through the ED, reminding everyone they see about the intervention, asking a nurse or a physician whether the Foley they are about to insert is really necessary (i.e., whether it meets the appropriateness criteria). It is especially important to identify patients being admitted to the hospital from the ED to reassess if the indwelling urinary catheter is still appropriate.

3. For more information on urinary catheters and the ED, see "Appropriate urinary catheter placement in the emergency department" prepared by our team and funded by the Agency for Healthcare Research and Quality (AHRQ)

4. Further Reading Suggestions

- Fakih MG, Heavens M, Grotemeyer J, Szpunar SM, Groves C, Hendrich A. Avoiding potential harm by improving appropriateness of urinary catheter use in 18 emergency departments. Ann Emerg Med.2014;63(6):761-8.
- Fakih MG, Pena ME, Shemes S, Rey J, Berriel-Cass D, Szpunar SM, Savoy-Moore RT, Saravolatz LD. Effect of establishing guidelines on appropriate urinary catheter placement. Acad Emerg Med.2010;17(3):337–40.
- Gokula RM, Smith MA, Hickner J. Emergency room staff education and use of a urinary catheter indication sheet improves appropriate use of Foley catheters. AmJ Infect Control.2007;35(9):589-93.