

A SPECIAL

On the CUSP: Stop CAUTI

SUPPLEMENT



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Meet the *Stop CAUTI* national faculty

Developing a CAUTI prevention plan

Success stories from around the U.S.

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MISSION

APIC's mission is to create a safer world through prevention of infection. The association's more than 14,000 members direct infection prevention programs that save lives and improve the bottom line for hospitals and other healthcare facilities. APIC advances its mission through patient safety, implementation science, competencies and certification, advocacy, and data standardization. Visit APIC online at www.apic.org.





Barbara S. Edson, RN, MBA, MHA
Vice President of Clinical Quality
Health Research and
Educational Trust
American Hospital Association

“Hospital units that participated in the 18-month program reduced CAUTI rates by an average of 16 percent.”

Welcome to the *On the CUSP: Stop CAUTI* supplement

THE NATIONAL *On the CUSP: Stop CAUTI* project is proud to take part in this special supplement to *Prevention Strategist* magazine. Infection preventionists have played a vital role in the success of the project to date. *On the CUSP: Stop CAUTI* is working with APIC, state hospital associations, professional societies, and more than 900 hospital units in 41 states across the country to reduce one of the most common healthcare-associated infection (HAI). We’re doing this through a powerful combination of both evidence-based protocols for use of urinary catheters and improvement of unit safety culture through the Comprehensive Unit-based Safety Program (CUSP).

Catheter-associated urinary tract infections (CAUTI) have been called “the infection that gets no respect,” and that perception obscures an important opportunity. While CAUTI does not result in as many deaths as other HAIs do, the prevalence of CAUTI makes it the perfect “lab” for testing whether a particular culture-change model is effective.

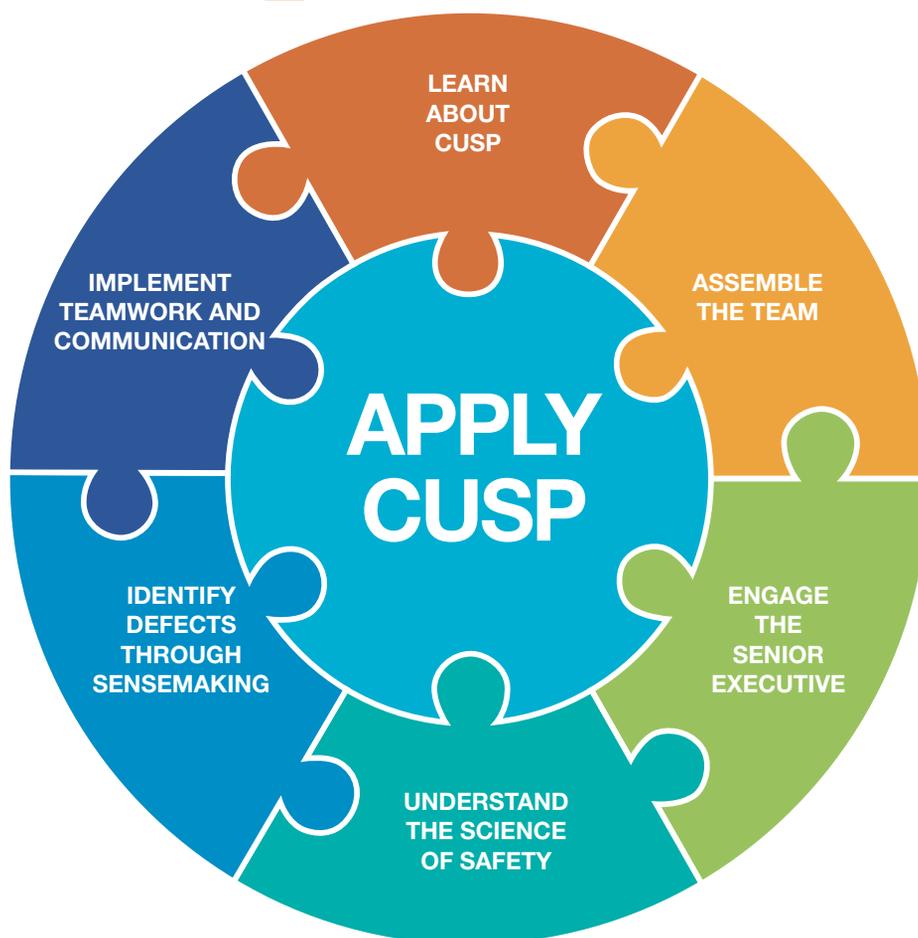
The fact remains that HAIs are costly, deadly, and persistent in the field. The results of *On the CUSP: Stop CAUTI* are promising, however. In September 2013, the program funder, the Agency for Healthcare Research and Quality (AHRQ), released an interim report of data from the project. Hospital units that participated in the 18-month program reduced CAUTI rates by an average of 16 percent.

Checklists and protocols are essential tools for improving safety, but successful incorporation of these tools into “the way we do things”

in hospitals and organizations will happen only if open communication and effective working relationships exist on the unit. In *On the CUSP: Stop CAUTI*, we’ve observed the units that really succeed in reducing their HAIs are those committed to working on culture for the long haul. Sustained improvement is only possible within a culture that ensures the technical work can be delivered to every patient, every time. The Health Research & Educational Trust and the *On the CUSP: Stop CAUTI* project would like to extend thanks to AHRQ for its support of this national initiative, as well as partnering organizations for their tireless commitment to the project. Thanks go to the Michigan Health & Hospital Association Keystone Center for Patient Safety & Quality, the University of Michigan Health System, St. John Hospital and Medical Center, and the Johns Hopkins Medicine Armstrong Institute for Patient Safety and Quality. *On the CUSP: Stop CAUTI* also thanks APIC, Emergency Nurses Association, Society for Healthcare Epidemiology of America, and Society of Hospital Medicine, the organizations that provided extended faculty support. And most of all, thank you to the many facilities across the country for their dedication to the project and commitment to safer patient care.

We think you’ll enjoy this special supplement, where you’ll read how lasting improvement has taken place at diverse facilities, as well as perspectives of national thought leaders and faculty on the project. We hope you’ll visit the project soon at www.onthecuspstophai.org.

A Brief History of *On the CUSP: Stop CAUTI*



IN 2007, the MHA Keystone Center implemented a project to reduce catheter associated-urinary tract infection (CAUTI), one of the most common of all HAIs, in 163 inpatient units in 71 Michigan hospitals. The project implemented two separate bundles—one of which emphasized the timely removal of nonessential catheters and the proper care of necessary catheters, while the other addressed the insertion of catheters, including appropriate indications and proper insertion technique. Participating hospitals achieved a reduction in indwelling catheters from 19 percent to 14 percent between January 2007 and December 2010, resulting in an estimated 26 percent reduction of patients with urinary catheters and a 30 percent improvement in appropriate catheter use.

The national *On the CUSP: Stop CAUTI* effort began in 2009 with Agency for Healthcare Research and Quality (AHRQ) support and with

the goal of reducing mean rates of CAUTI in participating clinical units by 25 percent. Like the *Stop BSI* initiative, *Stop CAUTI* looks to the work of the MHA Keystone Center as a model and uses the CUSP framework developed at Johns Hopkins to address culture change. *On the CUSP: Stop CAUTI* was expanded nationwide, and since the launch of the first cohort of participating states in late 2010, more than 1,300 units in approximately 850 hospitals in more than 36 states have joined the initiative. AHRQ released an interim report of data from the project in September 2013. Overall, preliminary outcome data show a 16 percent average decrease in CAUTI rates among hospital units that have participated in the program for at least 14 months. View the report online to learn more at www.ahrq.gov/professionals/quality-patient-safety/cusp/using-cusp-prevention/cauti-interim/index.html.

Meet the *On the CUSP: Stop CAUTI* national faculty

THE *On the CUSP: Stop CAUTI* program's national faculty are integral in providing support to stakeholders participating in the *On the CUSP: Stop CAUTI* national collaborative. They coach project leads and hospital teams and participate in content and coaching calls, in-person learning sessions, consultation on both technical and socio-adaptive aspects of CAUTI prevention for participating hospitals and hospital units, and more. The extended faculty consists of three groups: the leaders, the national faculty, and the regional champions. Together these groups form the national extended faculty network that supports the national project team. Each faculty member contributes their unique expertise and perspectives and unites for one common goal—to stop CAUTI via *On the CUSP*.

APIC had the chance to hear from many of the national faculty members about their roles, common questions they receive about CAUTI, the importance of becoming part of the project, and much more.

Q: WHAT ARE SOME OF THE MOST FREQUENT QUESTIONS OR CONCERNS YOU RECEIVE ABOUT THE PROGRAM?



Olmsted: “I’ve not received concerns about the program/initiative per se, rather more directed at this site of healthcare-associated infection (HAI). Frequently asked questions involve efficacy of antimicrobial urinary catheters, application of NHSN [National Healthcare Safety Network] CAUTI criteria, use of urinary catheters for ICU patient population and difference in extent of reduction in CAUTIs compared to central line-associated bloodstream infections [CLABSIs]. More broadly, concerns often center on balancing competing priorities and new demands on the infection preventionist [IP] with notable increase in awareness of the morbidity/mortality of HAIs and growing importance of prevention under value-based purchasing/population health.”



Greene: “Frequent questions include how to get senior leaders involved, how to achieve sustainability, and how to manage multiple priorities and keep team members engaged and enthusiastic.”



Koll: “I am asked how to assure senior leadership buy-in, how to assure continued team approach, and how to incorporate this into a culture of safety.”



Felix: “Most frequent questions include how to implement nurse-driven protocols, how to implement and sustain change with all the other initiatives that take time, and how to get frontline staff to buy-in to the need to get the catheter out as soon as they are no longer medically necessary.”

ON THE CUSP: STOP CAUTI NATIONAL FACULTY— APIC REPRESENTATIVES



Kristina K. Felix, BA, RN, CRRN, CIC
Infection Prevention Coordinator
Madonna Rehabilitation Hospital



Linda R. Greene, RN, MPS, CIC
Manager of Infection Prevention
University of Rochester, Highland Hospital



Brian Koll, MD, FACP
Chief of Infection Control
Beth Israel Medical Center



Russell N. Olmsted, MPH, CIC
Director, Infection Prevention and
Control Services
Saint Joseph Mercy Health System

Q. WHAT ARE SOME OF THE MOST COMMON MISCONCEPTIONS ABOUT CAUTI PREVENTION?



Koll: “Misconceptions include that reduction in Foley use will create more work for staff and will lead to development of skin breakdown and increase incidence of falls. Other misconceptions include that CAUTI prevention is only a physician responsibility and that CAUTIs are relatively harmless with minimal morbidity and mortality.”



Olmsted: “‘It’s just a Foley so what’s the big deal?..’ is another misconception. In the broader context of patient safety, people believe that the Foley catheter is associated with other risks to safety (e.g., reservoir of multidrug-resistant organisms, immobility-pressure ulcers, fall risk, and venous thromboembolism).”



Felix: “Common misconceptions: UTIs are not as important as other infections; UTIs don’t really cause a problem for patients; and CAUTI cannot be prevented.”



Greene: “Misconceptions include the following: All ICU patients need a catheter, and CAUTIs are not necessarily associated with adverse outcomes.”

Q. WHAT ARE SOME OF THE MOST PREVALENT MISCONCEPTIONS ABOUT CATHETER PLACEMENT?



Olmsted: “[They are] often used under the indication of ‘prolonged immobility,’ which originally was supposed to track to a patient with unstable spine. Others include, ‘all my patients are critically ill and, therefore, need a Foley catheter,’ or ‘I don’t have time to use alternatives to the Foley.’”



Koll: “Some think that all ICU patients require a Foley or that the use of intermittent straight catheterization is not good for patients. Another misconception is that Foleys are the only tool to monitor input and output in heart failure patients.”



Felix: “Misconceptions include that all long-term care residents come to the emergency department with a catheter; all immobile patients or patients who are difficult to move need a catheter; indwelling catheters make it easier for the patient so they don’t have to get up at night; straight catheterization is too traumatic to do all the time; taking a catheter out will cause skin breakdown; taking a catheter out will make more work for frontline staff; and an indwelling catheter is the only way to measure output accurately.”

Q: HOW IS THE *ON THE CUSP: STOP CAUTI* INITIATIVE DIFFERENT FROM NORMAL PERFORMANCE IMPROVEMENT PROJECTS?



Greene: “Although it is similar, it focuses on both the cultural as well as the technical aspects of performance improvement. Cultural assessment, engaging frontline staff and leaders, using specific tools such as the team check-up tool, etc., are all part of this work. Research tells us that people have to be engaged in order to get ‘buy-in.’ CUSP really is bi-directional—it really relies on the wisdom of the frontline staff while also providing strong leadership support and engagement. Staff can identify where gaps occur. Often, for example, they know why or where catheters are being inserted for inappropriate reasons, or why nurses or physicians are reluctant to remove catheters.”



Olmsted: “[The initiative features] broad engagement across a wide spectrum of not only providers but organizations as well. For example, state hospital associations have been instrumental in providing infrastructure and support for member hospitals. APIC, the Society for Healthcare Epidemiology of America, Society for Hospital Medicine, and the Emergency Nurses Association have provided subject matter expertise, and the American Hospital Association’s Health Research & Educational Trust coordinates the project. The Agency for Healthcare Research and Quality [AHRQ] provides key funding that is built on experience with prior performance improvement collaboratives. Last, a hallmark of *On the CUSP* is the fusion of technical elements of HAI prevention with socio-adaptive aspects of providing patient care. [Reference: Fakhri MG, et al. *Infect Control Hosp Epidemiol* 2013;34:1048-54.] CUSP is a good methodology for reducing CAUTIs because it addresses the *why* and *how* to improve care that builds on safety culture at the unit level. Frequently the strategies that are effective in prevention (e.g., hand hygiene) are known, but it’s the behavioral aspects of getting the teams to use these that is the ‘Achilles heel’ of infection prevention and control.”



Koll: “It focuses on a culture of safety and changing practices to ensure sustained gains and includes many types of caregivers across the spectrum of care on the inpatient and outpatient side and the ED.”



Felix: “Any facility can take a study or a guideline, teach the technical aspects of that guideline to direct care staff, and then monitor for change/outcomes. CUSP adds the element of *why* we need to follow the best practice. It also brings the team approach to prevention of infection and a greater chance of sustaining positive changes.”

Q: HOW CAN THE *ON THE CUSP: STOP CAUTI* INITIATIVE BE INTEGRATED WITH OTHER PATIENT SAFETY ACTIVITIES?



Felix: “Many aspects of the CUSP activities can be adapted to other initiatives to prevent harm to the patients we care for. If you bring the technical aspects of a task and bring the ‘*why*’ or the behavioral aspects of a task together you will have better compliance and better outcomes.”



Olmsted: “The model can address ‘all harms’ and is currently demonstrated by the work of the HHS Partnership for Patients Hospital Engagement Networks [HENs]. The foundational components (technical and socio adaptive) work well for addressing improvements in patient safety—infection-associated and non-infectious.”



Greene: “The CAUTI work is based upon a quality improvement framework that can be applied in many projects. Clearly, the evidence supports frontline engagement to have sustainable results. Also, the conceptual framework using the four Es (Engage, Educate, Execute, and Evaluate) can be a template for several performance improvement activities. This program really is a safety program and because culture is local, frontline staff are the best people to identify safety risks in their area. It often starts with the question, ‘How will the next patient be harmed?’”



Koll: “[*Stop CAUTI*] can be integrated into hourly rounding for toileting, fall prevention, pain management, and pressure ulcer prevention.”



**SHANNON DAVILA,
MSN, RN, CIC, CPHQ**

*Clinical Quality Improvement Manager
New Jersey Hospital Association
New Jersey state lead for On the CUSP: Stop CAUTI*

“As both an IP and a state lead for this project, I believe the support and resources offered [via this initiative] are above and beyond most quality improvement projects I have participated in before. Here at New Jersey Hospital Association, we have had the privilege to host CUSP national faculty including experts in the field of infection prevention like Dr. Brian Koll, Dr. David Pegues, and Linda Greene.”



**SARAH KREIN,
PhD, RN**

*Research Associate Professor,
Division of General Medicine
Department of Internal Medicine
University of Michigan*

“I believe that one difference is the extent to which CAUTI prevention is important hospital-wide, which can be both a challenge and an opportunity. Indeed, *On the CUSP: Stop CAUTI* can span multiple units, including medical-surgical floors and ICUs, and also includes an emergency department program for those who choose to participate.”



**JENNIFER MEDDINGS,
MD, MSC**

*Assistant Professor of Internal Medicine
University of Michigan
On the CUSP: Stop CAUTI faculty member
and representative of the Society for Healthcare
Epidemiology of America*

“Preventing CAUTI is a team sport. Everyone is responsible for prevention of CAUTIs—nurses, physicians, patient-assistants, the patient, and family. Everyone who requests and/or touches urinary catheters plays an important role in avoiding unnecessary and inappropriate urinary catheter use.”



**KATHY ALLEN-BRIDSON,
RN, BSN, CIC**

*Nurse Epidemiologist
CDC's National Healthcare
Safety Network*

“One of the compelling aspects of the program is the breadth of inpatient settings in which indwelling catheters are used to which these prevention efforts can be applied—from the emergency department, to the rehabilitation unit, and even in some instances in the operating room. They can also be used on medical, surgical, obstetrical, and pediatric units.”



How to join

On the CUSP: Stop CAUTI

STATE LEVEL COORDINATORS initiate and manage participation of hospital teams in *On the CUSP: Stop CAUTI*. If you are a member of a hospital team and have an interest in joining the initiative, contact the coordinator for your state. A list of state coordinators can be found at www.onthecuspstophai.org/on-the-cuspstop-cauti. If you are with a state organization such as a state hospital association, state health department, or a quality improvement organization, contact Deborah Bohr at dbohr@aha.org to learn more about how to get involved.



WHO IS ELIGIBLE TO PARTICIPATE?

All adult and pediatric acute care, critical access, and long-term acute care hospitals are eligible to participate. A primary goal of the initiative is to

improve safety culture, which is specific to individual units. Therefore, all participating teams should be unit-based, and cross-unit team formation is discouraged.

DOES THE NATIONAL ON THE CUSP: STOP CAUTI PROJECT TEAM COLLECT DATA, OR DOES EACH PARTICIPATING STATE COLLECT DATA AND SUBMIT RESULTS?

Each participating hospital unit team is responsible for data collection on their unit. Data is then submitted to the MHA Care Counts database on a monthly basis.

IN WHAT FORMAT ARE DATA COLLECTED?

Monthly data elements are entered into the web-based data portal, MHA Care Counts. At the start of the project, a readiness assessment is administered through SurveyMonkey. Data collection tools are available to help unit teams streamline and organize data collection and submission processes.

HOW MUCH TIME IS REQUIRED FOR PARTICIPATION?

Approximately 10 percent of a project team leader's time should be committed to the initiative. Team leaders are usually nurse managers, but may also be frontline nurses, physician champions, or quality and safety improvement leaders. Two to four hours per month of a physician champion's time and 5 percent of a data coordinator's time should be committed to the project as well. All unit team members should participate in on-boarding calls, regular monthly content and coaching calls, and in three one-day learning sessions that occur at the beginning, middle, and end of the project.

WHO SHOULD BE ON OUR UNIT TEAM?

At a minimum, all hospital unit teams should include a physician champion, nurse champion (if the project leader is not a nurse), data coordinator, and hospital executive champion.

HOW MANY PEOPLE FROM EACH HOSPITAL TEAM SHOULD TRAVEL TO THE STATE-HOSTED, FACE-TO-FACE EDUCATIONAL MEETINGS?

A minimum of two or three members from each hospital unit team should attend the state-level, face-to-face learning sessions, as the learning sessions are intended to support team development and interaction. It is recommended that at least one physician, one nurse, and one infection preventionist attend from each team.

Visit www.onthecuspstophai.org/on-the-cuspstop-cauti/about-the-project for more information, including frequently asked questions.

Using the four “E”s

BY MARILYN HANCHETT

General activity	Essentials of CAUTI prevention (evidence-based)	Adaptation of interventions for this organization
<p>Engage</p> <p>Explain why the interventions are important.</p>	<p>Rationale presented to all stakeholders.</p> <p>Case for prevention is clear, concise, compelling.</p> <p>Rationale is part of Patient Safety Program.</p> <p>Active, visible participation by senior leaders and institutional champions (all levels).</p>	<p>Determine which groups are already engaged, if others need greater involvement.</p> <p>Verify that CAUTI prevention has a high-profile/priority within the organization’s safety program.</p> <p>Consider novel, creative ways to showcase the involvement of senior leaders including medical staff.</p>
<p>Educate</p> <p>Share evidence supporting the interventions.</p>	<p>Share CAUTI data, including morbidity, mortality, cost data.</p> <p>Educate regarding use of prevention techniques.</p> <p>Describe need for thorough, accurate medical record documentation.</p>	<p>Teach and reinforce correct indications for catheter use, insertion, maintenance.</p> <p>Reinforce previous practices that should be discontinued.</p> <p>Teach, reinforce organization standards for documentation.</p>
<p>Execute</p> <p>Design an intervention toolkit.</p>	<p>Implement CAUTI bundle.</p> <p>Provide staff/patient/family education.</p> <p>Conduct rigorous monitoring and offer frequent feedback.</p>	<p>Consider use of a CAUTI checklist as part of a CAUTI bundle approach.</p> <p>Determine need for alerts to physician and nurses re: potential catheter removal.</p> <p>Add catheter review to daily rounds. Consider nurse removal protocols to support timely discontinuation.</p>
<p>Evaluate</p> <p>Regularly assess performance measures and unintended consequences.</p>	<p>Identify measures of success, report progress per schedule.</p> <p>Investigate errors, lapses as opportunity to improve.</p> <p>Include patients/families in evaluation process.</p> <p>Communicate, celebrate success.</p>	<p>Describe both process and outcome measures for CAUTI.</p> <p>Share progress toward goals at least once per month.</p> <p>Compare progress to other local, regional, national measures. Show how results demonstrate the organization’s commitment to patient safety, overall safety culture.</p>

• Adapted from Pronovost PJ, Berenholtz SM, Needham DM. Translating evidence into practice: a model for large scale knowledge translation. *BMJ*. 2008 Oct 6;337:a1714

• Additional reference: Saint S, Howell J, Krein SL, *Implementation Science: How to Jumpstart Infection Prevention Infect Control Hosp Epidemiol*. 2010 November; 31(Suppl 1): S14–S17.

• Fields have been completed using examples and are not intended as a comprehensive list.

of implementation science* to develop a CAUTI prevention plan

Identified gaps (knowledge, skills, behavior, resources, etc.)	Measures to address gaps	Key resources for implementation
<p>Check to see whether all stakeholders are involved. Groups often overlooked include the lab, environmental services, patient transport. Determine if gaps may be associated with misperceptions (e.g., CAUTI is primarily a nursing issue, use of antibiotics easily mitigates any larger clinical risks, etc.).</p>	<p>Full engagement is required for the remaining three general activities (educate, execute, evaluate) to be successful.</p> <p>Address any gaps with a targeted plan, include time frames.</p>	<p>National Action Plan to Prevent HAIs (2013)</p> <p>See also CDC HAI incidence data, progress reports at www.cdc.gov.</p>
<p>Compare new content to what may have been used in the past. Address discrepancies, including practices no longer used. Verify accurate baseline knowledge among staff before proceeding.</p>	<p>Do not assume that care staff familiar with catheters know current best practices. Outdated information can be difficult to eradicate; long-standing care routines are often resistant to change.</p>	<p>HICPAC Guideline for the Prevention of CAUTI (2009).</p> <p>SHEA/IDSA Compendium of Strategies to Prevent HAIs in Acute Care Hospitals (2008). [updated version to be published in 2014]</p>
<p>Bundles and checklist are important but must be analyzed in terms of attitude and behavior. Determine that the structural, programmatic, as well as behavioral elements are aligned for successful implementation.</p>	<p>Encourage care staff to suggest improvements to the implementation plan. Small adjustments can offer large benefits in the overall success of the program.</p>	<p>APIC Implementation (formerly Elimination) Guide, CAUTI (2014).</p> <p>AHRQ CAUTI Toolkit (2013).</p>
<p>Evaluate both program statistics as well as procedural compliance. Include students if appropriate. Do not overlook the opportunity for ongoing understanding and use of correct aseptic technique. Anticipate the need for follow up and periodic reminders.</p>	<p>Use statistics wisely; do not overwhelm staff with data. Follow up on any complaints or adverse events in a non-punitive measure. Consider use of RCA as needed. Combining quantitative and qualitative information may be helpful when evaluating program impact.</p>	<p>Compare organizational results to state, regional, and national data, as available.</p> <p>Consider use of CDC NHSN.</p> <p>Include CAUTI SIR reporting in results.</p> <p>Include trend data from staff competency based education and training activities as available.</p>

***Implementation science:** the use of scientifically valid methods to promote the integration of research findings and other best practices into the evolving standard of care. In this way, research not only moves from the laboratory to the bedside, but also results in improved, safer, and more cost effective healthcare.

Marilyn Hanchett, RN, MA, CPHQ, CIC, is APIC senior director, Professional Practice.

CAUTI bundles

CREATED BY GEORGE ALLEN, PHD, CIC, CNOR
 Infection Preventionist, Director Infection Control,
 Downstate Medical Center, Brooklyn, New York,
 Clinical Assistant Professor, SUNY,
 College of Health Related Professions

CAUTI insertion bundle

Verification of need prior to insertion.	Insert urinary catheter using aseptic technique.	Maintain urinary catheter based on recommended guidelines.
Urinary retention/obstruction Severely ill/immobility Lack bladder control Patient request/end of life Perioperative—selected surgical procedures Assisting with pressure ulcer healing for incontinent patients	Hand hygiene Catheter insertion kit with sterile gloves, drape, cleaning supplies, sterile lubricant, sterile urinary catheter attached to a drainage bag	Secure catheter to prevent irritation of the urethra Maintain an unobstructed flow, maintain the drainage bag below the level of the bladder and off the floor Perform hand hygiene before and after each patient contact Provide individual labeled collection container at the bedside Review urinary catheter necessity daily, remove catheter promptly when not needed

CAUTI maintenance bundle

DATE	BUNDLE CRITERIA							
	Daily documented assessment of need	Tamper evident seal is intact	Catheter secured-securement device in place	Hand hygiene performed for patient contact	Daily meatal hygiene performed with soap and water	Drainage bag emptied using a clean container	Unobstructed flow maintained	Action Remove or continue
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE
	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	REMOVE CONTINUE

Small steps led to big success at Ozarks Medical Center

BY VICKY UHLAND



CUSP focuses on identifying and reporting problems and then planning and implementing corrections. It is designed to improve the safety culture by frontline staff identifying risk before harm reaches the patients and integrating safety practices into the daily work of a clinical area. Most importantly, it embraces discussions about improving communication and teamwork.

Pictured are members of the 2 North nursing team. Front row, from left: Shannon Hamilton, certified nursing assistant; Debra Brown, unit secretary; Jackie Hurlbut, RN; Tammy Fox, RN; Shannon Watson, RN; Angela Nettles, RN; Brandi Harrison, RN; Stephanie Brimm, nursing assistant; and Bonnie Sanders, RN, nurse manager. Back Row, from left: Jodi Greer, certified nursing assistant; Rhonda Lincicum, unit secretary; Mindi McCullough, RN; Charie Eagle, certified nursing assistant; Amanda Cox, RN; Heather Wood, RN; Beverly McDaniel, RN; Shirley Bunch, unit secretary; Chuck Koehler, LPN; Donna Rhoades, RN; Carolyn Danahy, LPN; and Monica Neiland, RN.

STARTING OUT SMALL was one of the keys to implementing a successful *On the CUSP: Stop CAUTI* program throughout the 114-bed Ozarks Medical Center (OMC) in West Plains, Missouri.

Not only was OMC's CUSP team small, but its initial outreach was equally modest. Led by Director of Quality Mary Fine, RNC, QMHP, and Infection Prevention Coordinator Torrance Hughes, RN, CIC, the CUSP team included two frontline nurses and a nurse manager. The program, which began in the second quarter of 2011, initially focused on OMC's 2 North surgical floor but was so successful that it eventually spread throughout the hospital, covering six nursing units.

"It took a solid year to work out the bugs and get the program stable before we started teaching others and rolling it out," Hughes said.

The results have been spectacular. 2 North's CAUTI rate before CUSP implementation was 4.06 per 1,000 patient days. Soon after the CUSP program began, the rate dropped to zero and has remained at zero through 2013. In addition, there was only one CAUTI for the entire rest of the hospital in 2013.

Fine and Hughes attribute their CUSP success to several factors. First of all, they reduced indwelling urinary catheter use. "We began by maximizing use of Foley catheter tracking, looking at whether the patient had appropriate indications, and started flagging charts, looking to see if there was any issue with complications," Hughes said. Because only nursing staff inserts catheters at OMC, the CUSP team didn't focus on indwelling urinary catheter insertion practices as much as it would have if other personnel were involved.

The CUSP team then began a campaign to limit indwelling urinary catheter use to only when indicated. "The physicians began joking that 2 North was the 'no Foley floor' because they would call and clarify or ask for indications," Fine said. "We still have Foleys on the floor, but it was a joke that stuck."

Hughes said there was some initial physician pushback because the Foley catheter insertion program was new and different, but CUSP helps

empower nurses and gives them tools to deal with doctors' concerns. Creating laminated cards that listed the appropriate indications for Foley insertion helped show best practices and gave nurses an opening to communicate the CUSP ideals with physicians. It also helped that the hospital's CEO supported the CUSP program, she said.

Along with the CUSP team, 23 staff members and a physician champion were part of OMC's CAUTI reduction program. "Frontline involvement was key," Fine said, "because they could brainstorm solutions, identify issues, and come up with ways to implement things that same day."

One way Fine and Hughes achieved satellite staff buy-in was to make the CUSP program personal. "For each floor, we put together a case study of one of the patients with a Foley catheter-related infection, and when staff saw that, they realized it related directly to them—that an infection might occur because they didn't do something that should have been done," Hughes said.

Fine and Hughes began the CUSP project with a two-hour workshop that included a video about a child who died as a result of medical errors, a brief outline of the CUSP program, and a Science of Safety video by Peter Pronovost, MD. Unit staff also completed the CUSP Staff Safety Assessment tool.

After the program was underway, the CUSP team celebrated small successes, including each time a nurse asked about the indications for inserting an indwelling urinary catheter or every time an unnecessary catheter was removed.

To keep all of the hospital staff in the loop, the CUSP team created "huddle boards" that are still used today. These informational boards are placed at each nurses' unit and include notations on every patient who has a urinary catheter, the indications, and reason for insertion. There is also information on topics like service excellence and operations. Huddle boards are updated every morning and night, so both nursing shifts get current information.

Today, three years after they began OMC's *On the CUSP: Stop CAUTI* initiative, Fine and Hughes remain fans of the program. And, they're not alone. "The big thing was empowerment and increasing the culture of safety throughout the organization," Hughes said. "Every floor that has started a CUSP program has really liked it."

Vicky Uhland is a medical writer for Prevention Strategist magazine.

"Frontline involvement was key because they could brainstorm solutions, identify issues, and come up with ways to implement things that same day."

—Director of Quality Mary Fine, RNC, QMHP

Making CAUTI reduction a goal for everyone at Saint Clare's Health System

BY VICKY UHLAND



Saint Clare's employees review outcomes and processes during CAUTI team meetings.

SAINT CLARE'S HEALTH System in Den-
verville, New Jersey, is a pioneer in CAUTI reduc-
tion. Over the last five years, it has instituted
measures throughout its three hospitals that
have been so effective, it has seen CAUTI rates
frequently hit zero for months on end.

Saint Clare's is a member of the Catholic
Health Initiatives (CHI), and in 2009, it began
implementing CHI's evidence-based, bundled
CAUTI reduction practices. These practices
are similar to those of the *On the CUSP: Stop
CAUTI* program.

The results of Saint Clare's CAUTI initiatives
have been dra-
matic. In 2008,
before the pro-
gram began,
there were 55
CAUTIs throug-
hout Saint Clare's
three campuses.
That number
dropped to 29,
or 2.2 infec-
tions per 1,000
patient cath-
eter days, in
2009, after the
program was implemented. In 2010, there were
only 14 CAUTIs (0.96 per 1,000 patient cath-
eter days), and in 2011, the number of CAUTIs
across all three campuses dropped to six, or 0.40
per 1,000 patient catheter days. In 2012, the rate
fell even lower—0.30 CAUTIs per 1,000 patient
catheter days.

In addition, since the program was imple-
mented, 80 percent of all patient care units
reported zero CAUTIs for six months, and 60
percent hit zero for 12 months or longer. Two
intensive care units had zero CAUTIs for 24
months. Overall, the reduction in CAUTIs has
saved Saint Clare's an estimated \$192,000 in
patient treatment costs.

How did Saint Clare's achieve this? It started
with a team of about 10 to 12 people, spear-
headed by Executive Director of Quality and
Patient Safety Norma Atienza, MPA, RN, CIC,
CPHQ, and Infection Control Coordinator
Laura Anderson, MSN, RN, CIC. "Basically,
infection control monitored the team and nurs-
ing drove it," Anderson said. Along with nurses,
the team also included an infection prevention
physician and hospital marketing and educa-
tion staff.

"Norma headed an evidence-based-practice
steering committee, and that helped us recruit
people in different departments," Anderson said.
Because CAUTI reduction was a major CHI

focus, the team had strong administrative sup-
port as well.

The team decided to institute an "all or noth-
ing" approach, rolling out the CAUTI-reduction
program across all departments on all three cam-
puses. "Because nurses travel from campus to
campus, it would have been more confusing if we
weren't preaching the same thing to everybody
at the same time," Atienza said.

One of the first efforts was the development
of a standing, written order form for use of Foley
catheters that included a two-day, automatic
discontinuation authorization for nursing staff
without a physician's order. Although the initia-
tive was eventually well received, "we could have
rolled it out better," Anderson said. "We had
to reassure physicians—we should have gotten
more physician buy-in before rollout."

The CAUTI-reduction team also worked with
the Saint Clare's information technology depart-
ment to develop appropriate indwelling urinary
catheter documentation. And they created both
English and Spanish language educational and
communication tools not only for the nurs-
ing staff, but also the physicians, other hospital
employees, patients, and their families.

To further engage stakeholders, the team
began sharing outcomes about urinary catheter
infection rates with nursing staff, physicians,
and patients. It instituted a nursing scorecard
that is updated every two to three months, and
implemented reviews of all CAUTI cases by
infection prevention staff.

Despite these efforts, full staff buy-in didn't
happen overnight. "It took a year of daily round-
ing and daily reminders," Atienza said. "They
needed to see that we were working with them
and making CAUTI reduction a goal for every-
one."

The CAUTI reduction team also provided
moral support when infection rates weren't
what staff had hoped for. Anderson believes
this is a key point for other facilities looking to
implement a CUSP program. "It's easy to get
frustrated if numbers spike again, but you have
to be patient, realize it's not going to happen
overnight, and don't get discouraged," she said.

Today, Saint Clare's CAUTI reduction pro-
gram is more ad hoc but no less important.
Recent initiatives include a secondary educa-
tion rollout complete with poster boards and
CAUTI-reduction practices in every nursing
orientation. The result is an inherent, staff-wide
focus on CAUTI reduction that mirrors the
successes and commitment of the *On the CUSP:
Stop CAUTI* initiative.

*Vicky Uhland is a medical writer for Prevention
Strategist magazine.*

**"[The CAUTI-reduction team] created
both English and Spanish language
educational and communication tools
not only for the nursing staff, but also the
physicians, other hospital employees,
patients, and their families."**



Working together to get results— University Medical Center of Southern Nevada

BY VICKY UHLAND

On the CUSP: Stop CAUTI team members in the SICU/NSCU unit smile proudly in front of the CUSP information board displayed on the unit. From top left: Aprille Custodio, Berna Escolar Ngo, Susan Albrecht, Ashley Komacsar, Malou Tabeta, Julia Lapitan. From bottom left: Nora Mirabueno, Carmen Padiernos, Sandra Landrito, Joan SanSebastian, and Marlon “Jon” Medina.

ASHLEY KOMACRSAR, BSN, RN, was still in orientation at her new job in the surgical intensive care unit and neuroscience care unit (SICU/NSCU) at University Medical Center of Southern Nevada (UMC) when her interim manager suggested she attend a presentation about catheter-associated urinary tract infections (CAUTIs). “I figured it was a conference learning session—I didn’t realize it was getting on board for an 18-month commitment,” Komacsar said with a laugh.

Komacsar eventually became the team leader for UMC’s *On the CUSP: Stop CAUTI* program, under the direction of Clinical Manager Marlon “Jon” Medina, RN, BSN. In a hospital that faces particular infection control challenges, Komacsar and Medina came to welcome the solutions that comprehensive unit-based safety program (CUSP) offered.

Located in Las Vegas, the 564-bed UMC is the only level-one trauma center in Nevada, and frequently receives transfer patients from Arizona, California, and Utah. It’s also a nonprofit operated by Clark County, and thus serves a diverse population that includes the transient and indigent. Finally, UMC is a teaching hospital for University of Nevada medical students.

Both Medina and Komacsar believe staff buy-in was key to the success of their CUSP program. “In another unit with a very high CAUTI rate that was supposed to be involved in the program, they had a fractious team member and it didn’t work out,” Komacsar said.

But in Komacsar’s and Medina’s SICU/NSCU unit, the charge nurses took the lead in helping other nurses get on board. The executive champion, UMC Chief Financial Officer Stephanie Merrill, brought in the hospital administration and the physician champion, Matthew Schreiber, MD, who was key in communicating the value of the program to residents.

“It was so important to find people who were going to be invested and committed in the program, and to not just make them do it,” Komacsar said. Added Medina: “It was particularly important to get buy-in from the charge nurses, especially the ones on the night shift, because they collect the data.” Medina helped accomplish this by juggling the census and staff ratio to clear time for CUSP team members to participate in monthly meetings, national content calls, and state coaching calls.

There were 10 people on UMC’s CUSP team: Medina and Komacsar, Schreiber, four charge nurses, an infection preventionist, and two staff nurses. They relied on the CUSP toolkit to help organize and define team members’ roles.

Komacsar said CUSP helped them recognize how much indwelling urinary catheter use can increase CAUTIs, so the team focused on reducing Foley catheter use and on proper insertion when the catheters were deemed necessary. They began by reviewing current catheter and physician order sets, and established care bundles for the nurses to follow. “We also refined rules like ‘Every ICU patient needs a Foley,’” Komacsar said.

The CUSP team then conducted a hospital-wide Foley training session. The future goal is to do these two-hour sessions quarterly, over a three-day period, to help ensure all staff can participate. “We don’t have yearly competencies, so this makes sure our skills are up to par,” Komacsar said.

The CUSP team also created a PowerPoint presentation on Foley use that is mandatory for all medical staff and placed Foley Decision Trees in every patient room, listing the insert date, catheter indications, and maintenance.

For staff, the team created CUSP information boards, along with printed CAUTI alerts, listing the date and reason for the incident.

The CUSP team also reinforced the use of catheter alternatives. They educated staff on the proper application technique for condom catheters and conducted a pilot program with a female urinal. “We female nurses realized we didn’t even know how to use it, so we made it a CUSP team project to figure it out,” Komacsar said. “Then we did a 220-employee in-service on it for the other floors. The nurses appreciated us teaching them, and as a result of that education, other units ordered female urinals.”

While UMC’s CAUTI rates have actually risen since the CUSP program began, (from 4.16 in 2012 to 9.08 in the first three quarters of 2013), Foley device utilization has decreased from 73 percent of patient days to 62 percent during that same time frame. “As the [Foley usage] numbers decrease, the infection rate increases because there is less of a sample size. This phenomenon is seen nationwide in this project as we use less Foley catheters,” Medina said.

Overall, Medina and Komacsar view their CUSP program as a success. “We want to use the CUSP methodology on other projects because it makes a program comprehensive,” Komacsar said. “It brings in everyone and bridges departments from the executives to the staff nurses. It uses the hospital system to its advantage.”

Vicky Uhland is a medical writer for Prevention Strategist magazine.

“We want to use the CUSP methodology on other projects because it makes a program comprehensive. It brings in everyone and bridges departments from the executives to the staff nurses. It uses the hospital system to its advantage.”

—Ashley Komacsar, BSN, RN

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Trends in catheter-associated urinary tract infections among a national cohort of hospitalized adults, 2001-2010, Kelly R. Daniels, Grace C. Lee, Christopher R. Frei [January 2014 (volume 42 issue 1 Pages 17-22 DOI: 10.1016/j.ajic.2013.06.026)]

A multifaceted intervention to reduce rates of catheter-associated urinary tract infections in a resource-limited setting, L. Gayani Tillekeratne, Darren R. Linkin, Mariah Obino, Afua Omar, Mary Wanjiku, David Holtzman, Jennifer Cohn [January 2014 (volume 42 issue 1 Pages 12-16 DOI: 10.1016/j.ajic.2013.07.007)]

Analysis of the distribution of bacteria within urinary catheter biofilms using four different molecular techniques, Hyun-Sop Choe, Su-Wan Son, Hyun-Ah Choi, Hyun-Jung Kim, Sun-Gook Ahn, Jun-Ho Bang, Seung-Ju Lee, Ji-Youl Lee, Yong-Hyun Cho, Sang-Seob Lee [November 2012 (volume 40 issue 9 Pages e249-e254 DOI: 10.1016/j.ajic.2012.05.010)]

Designing a protocol to reduce catheter-associated urinary tract infections among hospitalized patients, Murthy Gokula, Dianne Smolen, Phyllis M. Gaspar, Sandra J. Hensley, Mary C. Benninghoff, Mindy Smith [December 2012 (volume 40 issue 10 Pages 1002-1004 DOI: 10.1016/j.ajic.2011.12.013)]

Indwelling urinary catheter management and catheter-associated urinary tract infection prevention practices in Nurses Improving Care for Healthsystem Elders hospitals, Regina Fink, Heather Gilmartin, Angela Richard, Elizabeth Capezuti, Marie Boltz, Heidi Wald [October 2012 (volume 40 issue 8 Pages 715-720 DOI: 10.1016/j.ajic.2011.09.017)]

A performance improvement project taking the prevention of catheter associated urinary tract infections into the 21st century, Jennifer A. Fritz, Margaret Pace, Tamara F. Persing, Lisa Esolen, Gordon Cole, Judith Santo, Andrew Schmid [June 2013 (volume 41 issue 6 Page S121 DOI: 10.1016/j.ajic.2013.03.242)]

Nurse-directed interventions to reduce catheter-associated urinary tract infections, Kathleen S. Oman, Mary Beth Flynn Makic, Regina Fink, Nicolle Schraeder, Teresa Hulett, Tarah Keech, Heidi Wald [August 2012 (volume 40 issue 6 Pages 548-553 DOI: 10.1016/j.ajic.2011.07.018)]

Adoption of policies to prevent catheter-associated urinary tract infections in United States intensive care units, Laurie J. Conway, Monika Pogorzelska, Elaine Larson, Patricia W. Stone [October 2012 (volume 40 issue 8 Pages 705-710 DOI: 10.1016/j.ajic.2011.09.020)]

Successful reduction in catheter-associated urinary tract infections: Focus on nurse-directed catheter removal, Michael F. Parry, Brenda Grant, Merima Sestovic [December 2013 (volume 41 issue 12 Pages 1178-1181 DOI: 10.1016/j.ajic.2013.03.296)]

Clinician practice and the National Healthcare Safety Network definition for the diagnosis of catheter-associated urinary tract infection, Fadi Al-Qas Hanna, Oksana Sambirska, Sugantha Iyer, Susanna Szpunar, Mohamad G. Fakh [December 2013 (volume 41 issue 12 Pages 1173-1177 DOI: 10.1016/j.ajic.2013.05.024)]



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