

A SPECIAL

AHRQ Safety Program for Long-Term Care: CAUTI

SUPPLEMENT



INSIDE:

**Long-term care CAUTI
prevention success stories**

**Antibiotic stewardship and
CAUTI management**

**Meet the AHRQ Safety Program for
Long-Term Care: CAUTI national faculty**

CONTENTS

ABOUT AHRQ SAFETY PROGRAM FOR LONG-TERM CARE: CAUTI

3 Welcome to the AHRQ Safety Program for Long-Term Care: CAUTI supplement

The HRET is very pleased that the winter supplement of *Prevention Strategist* is focusing on the AHRQ Safety Program for Long-Term Care: CAUTI.
By Barbara S. Edson

4 Meet the AHRQ Safety Program for Long-Term Care: CAUTI national faculty

The AHRQ Safety Program for Long-Term Care: CAUTI program's national faculty is integral to providing support to participating stakeholders of this national collaborative.
A Q&A article with Deborah Burdsall, Kristina K. Felix, Dr. Irena L. Kenneley, James F. Marx, and Steven J. Schweone

SUCCESS STORIES

12 Exceeding expectations at St. Anne's Nursing Center

In the first six months after this 220-bed facility joined the first cohort of the AHRQ Safety Program for Long-Term Care: CAUTI, St. Anne's reduced its CAUTI rates from an average of 7 percent to 4.1 percent.
By Vicky Uhland

14 Collaborating to reduce CAUTI at Veteran's Victory House

When it comes to infection prevention, Veteran's Victory House in Walterboro, South Carolina, faces challenges that aren't typical in LTC facilities. First of all, the 220-bed facility is state owned and caters exclusively to military veterans in South Carolina—some of whom aren't keen to take infection prevention orders from nurses.
By Vicky Uhland

CAUTI PREVENTION TOOLS

10 Remember the C.A.U.T.I. mnemonic to prevent CAUTI: Infographic

This infographic can assist in remembering certain indicators for preventing CAUTI, including appropriate indications and other resources.

16 Improving antibiotic stewardship and CAUTI management in LTC facilities using SBAR communication

Consistent use of the SBAR format may greatly enhance physician-nurse communications. LTC nurses may consider laying the groundwork for SBAR communication with physicians prior to a situation with an actual resident.
By Steven J. Schweone and Dr. Robin L. P. Jump

19 Additional resources on CAUTI in LTC

Access more tools, articles, research, and guidance on preventing on CAUTI in LTC.

19 New infographic

The Power of 10: Your Role in Preventing Catheter-Associated Urinary Tract Infections in Nursing Homes

PUBLISHER

Katrina Crist, MBA
kcrist@apic.org

MANAGING EDITOR

Janiene Bohannon, MS
jbohannon@apic.org

ASSISTANT EDITOR

Julie Blechman, MPH
jblechman@apic.org

GRAPHIC DESIGN

Dan Proudley
proudleycom@naylor.com

PRODUCTION

Heather Williams
hwilliams@naylor.com

EDITORIAL PANEL

George Allen, PhD, CIC, CNOR
Megan Crosser, BS, MPH, CIC
Charles Edmiston Jr., PhD, CIC
Mary L. Fornek, RN, BSN, MBA, CIC
Brenda Helms, RN, BSN, MBA/HCM, CIC
Linda Jamison, MSN, RN, CIC, CCRC
Irena Kenneley, PhD, APRN-BC, CIC
Kari L. Love, RN, BS, MSHS, CIC
May M. Riley, RN, MSN, MPH, ACNP, CCRN, CIC
Steven J. Schweone, RN, MPH, MSN, CIC

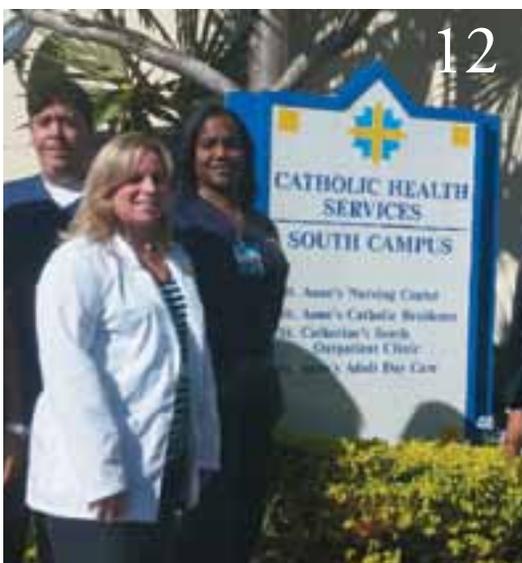
MISSION

APIC's mission is to create a safer world through prevention of infection. The association's more than 15,000 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.

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By **Barbara S. Edson, RN, MBA, MHA**, National Program Director
AHRQ Safety Program
in Long-Term Care: CAUTI

Welcome to the *AHRQ Safety Program for Long-Term Care: CAUTI* supplement

“With generous funding from the AHRQ, staff in both short-stay nursing facilities and nursing homes are able to participate in a year-long safety program to learn how to prevent CAUTIs and improve safety culture.”

THE HEALTH RESEARCH & EDUCATIONAL TRUST (HRET) is very pleased that the winter supplement of *Prevention Strategist* is focusing on the *AHRQ Safety Program for Long-Term Care: CAUTI*. APIC has been a critical partner in this program from its inception, providing subject matter expertise on both strategic and tactical levels. We are excited to present this important information to APIC members.

Research tells us that the rate of healthcare-associated infections in long-term care (LTC) facility residents is between one to three million annually. This contributes to nearly 400,000 deaths per year. In addition, re-hospitalizations from LTC facilities are increasing, with urinary tract infections (UTIs) being the second most common reason. HRET is currently in a third of the states, and by the end of next year seek to have facilities participating in the remaining states, the District of Columbia, and Puerto Rico.

With generous funding from the Agency for Healthcare Research and Quality (AHRQ), staff in both short-stay nursing facilities and nursing homes are able to participate in a year-long safety program to learn how to prevent catheter-associated urinary tract infections (CAUTIs) and improve safety culture. While these are the main goals of the AHRQ initiative, HRET and others on the National Project Team (NPT) understand that for some nursing homes, CAUTI prevention is not a high priority because of the minimal use of indwelling catheters. To provide as much value to all participating facilities, the NPT has designed this safety program to support expanded infection prevention efforts beyond the important CAUTI prevention aim.

HRET and its national partners are educating nursing home teams to implement interventions to

reduce *C. difficile*, other multidrug-resistant organisms (MDROs) and UTIs by providing education that promotes appropriate indwelling catheter placement, maintenance and removal; improves hand and environmental hygiene practices; promotes the judicious use of antibiotics only when indicated, and promotes the use of appropriate alternatives to indwelling catheters. And in addition to advancing evidence-based technical interventions, the program has a strong emphasis on safety culture to improve resident safety and to improve resident, family, and staff satisfaction.

Residents and their families benefit when a facility participates in this program. By avoiding unnecessary indwelling catheters, residents experience less discomfort or reduced morbidity and even mortality from CAUTI infections. Through the training this program provides residents also experience reduced morbidity and mortality from UTIs, *C. difficile* and other MDROs through improved infection prevention practice and appropriate and judicious antibiotic prescribing.

Facilities benefit in multiple ways, too. The training that licensed and non-licensed staff members receive can result in fewer state and federal penalties for infection prevention citations. Another benefit is a reduced staff workload in caring for infected residents, including the burden of admitting, readmitting, and caring for residents with infections.

None of this would be possible without our dedicated partners: APIC, University of Michigan, Abt Associates, Qualidigm, the Society of Hospital Medicine, and Baylor College of Medicine. For more information about the initiative, please contact ltcsafety@aha.org.

**AHRQ SAFETY PROGRAM
FOR LONG-TERM CARE:
CAUTI NATIONAL FACULTY—
APIC REPRESENTATIVES**



Deborah Burdsall, MSN, RN-BC, CIC
Infection Preventionist
Lutheran Home/Lutheran Life Communities



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



Irena L. Kenneley, PhD, RN, APRN-BC, CIC
Associate Professor
Case Western Reserve University



James F. Marx, PhD, RN, CIC
Consultant
Broad Street Solutions



**Steven J. Schweon, RN, MPH, MSN,
CIC, HEM, FSHEA**
Infection Prevention Consultant

Meet the *AHRQ Safety Program for Long-Term Care: CAUTI* national faculty

THE AGENCY FOR HEALTHCARE RESEARCH AND QUALITY'S (*AHRQ*) *Safety Program for Long-Term Care: CAUTI* national faculty is integral to providing support to participating stakeholders of this national collaborative. The national faculty is made up by volunteer member leaders of partnering associations, such as APIC. They coach participating long-term care (LTC) teams and participate in content and coaching calls, in-person learning sessions, and consult on both technical and socio-adaptive aspects of catheter-associated urinary tract infection (CAUTI) prevention and resident safety. Faculty members contribute their unique expertise and perspectives and unite for one common goal—to improve the health and safety of LTC residents by preventing CAUTI. APIC had the chance to hear from its national faculty members about their roles, common questions they receive about CAUTI in LTC, the importance of becoming part of the project, and much more.



WHAT ARE SOME CHALLENGES IN PREVENTING CAUTI IN LTC, AND HOW IS IT DIFFERENT THAN ACUTE CARE CAUTI PREVENTION?



Felix: Historically, LTC facilities have followed regulations that discourage the use of indwelling urinary catheters. When a resident needs one, it is often needed for chronic medical issues. So the catheter is in use for as long as the resident resides in the facility. Preventing urinary tract infections (UTIs) in a resident with a chronic need for a catheter is difficult. It can also set the resident up for overuse of antibiotics.



Schweon: We know that an estimated 5–10 percent of all LTC residents will have urinary catheters, including 12 percent of all new admissions at the time of transfer from acute care facilities to LTC facilities (Meddings, final evidence report). In LTC, the facility is considered the resident's home. It is important to maintain their highest level of functioning while providing optimal medical and nursing care in a home-like setting. Some residents may need prolonged urinary catheterization due to bladder obstruction or a severe sacral wound. The catheter may need to remain in place for months to years, in some cases. It is critical for staff to be properly educated to correctly maintain the catheter and prevent infection. Unfortunately, the staff educational background/preparation/training/education may not be as advanced when compared to acute care.



Kenneley: Within LTC facilities, there is generally a high prevalence of risk factors for infection among residents. For example, there are high colonization rates of multidrug-resistant organisms (MDROs) in skilled care units, and there are frequent reports of LTC facility infectious disease outbreaks. These factors and more present challenges for the prevention of infections, underscoring the need for appropriate infection control in the LTC setting. A unique infection control challenge for the LTC facility is the mobile resident, who may be confused or incontinent and can serve as a possible source for infectious diseases.



Burdsall: Probably one of the most challenging issues surrounding long-term catheter care is the leg bags used to enhance dignity and mobility. In order to use a leg bag, the integrity of the tubing is broken, sometimes multiple times a day, when bags are changed. There is insufficient research and evidence to help guide best practices for connecting, reconnecting, cleaning, and disinfecting the main bag and the leg bag when not in use. This is why continued research into best practices is important.

Acute care uses urinary catheters to manage acute conditions. LTC may have a few individuals who have urinary catheters for years, and may not be candidates for intermittent catheterization or suprapubic catheters.

LTC is a continuum of support services. An assisted living or supportive living may have a “wellness nurse” or minimal nursing services. If a person has a long-term urinary catheter, the expectation is probably that they provide their own catheter care, or the care may be provided by a companion or unlicensed caregiver.

In a traditional nursing home where there are long-term residents, the LTC community has done a good job of eliminating unnecessary “convenience catheters,” that is, long-term catheters used for no good reason other than to perhaps decrease the number of times a person needs to go to the toilet, or for prolonged intake and output. What LTC is dealing with now is the influx of post-acute rehab patients. If hospitals are not focused on discontinuing convenience catheters upon discharge to the LTC facility, then LTC may find itself dealing with a significant increase in the number of catheters. Anecdotally, I have also noticed a shift in the post-acute population. We are receiving more patients who are being followed by urologists for chronic retention issues. These patients are frequently on some sort of antimicrobial treatment program along with chronic catheter use. I would like to see more research on how best to help these patients manage their conditions.

Q: WHAT ARE SOME OF THE CHALLENGES TO STAFF RELATED TO LTC CAUTI PREVENTION?



Felix: We need to educate staff about the symptoms of UTIs. We also need to give them the skills to talk with physicians about the symptoms they are seeing and how to discuss these symptoms with the physician to determine if a urinalysis is really needed, especially when we notice a change in mental status.



Schweon: The overwhelming majority of LTC staff enjoys working with the residents and comes to work wanting to help. They want to prevent CAUTI but may encounter several challenges:

- A lack of knowledge with correct catheter care and maintenance techniques;
- A lack of resident familiarity may obscure clues to a new infection;
- A staffing shortage may lead to a reduced amount of time being spent with the resident, leading to suboptimal care, including catheter care;
- Staff may not know why the resident has a catheter; and
- Staff may be afraid to voice their concerns about a change in the resident's condition, due to fear, feeling embarrassed, not wanting to create trouble, etc.



Kenneley: Staff education and training is imperative for optimal patient outcomes. Staff adherence to best practices is imperative, but the unique environment of care in LTC facilities can present challenges. For example, residents remain in a LTC facility for extended periods of time, and the LTC facility becomes 'home' to the resident. An atmosphere of community is promoted, as residents share common eating and living areas, and participate in various activities including physical therapy. Incontinence can be a source of isolation for residents and the psychosocial consequences of isolation have to be balanced with infection prevention benefits. This can be challenging for staff when placing or discontinuing a urinary catheter.

Current best practices for CAUTI infection prevention include these basics:

- 1) Recommendations for who should receive indwelling urinary catheters (or, for certain populations, alternatives to indwelling catheters);
- 2) Recommendations for catheter insertion;
- 3) Recommendations for catheter maintenance;
- 4) Quality improvement programs to achieve appropriate placement, care, and removal of catheters;
- 5) Administrative infrastructure required; and
- 6) Surveillance strategies.



Burdsall: LTC generally has minimal resources dedicated to in-service training or education. Even though perineal care and catheter care are part of most annual in-service programs, the quality of the training varies widely. If staff is rushed (LTC staff may care for between 6–50 people on a shift), they may take shortcuts in proper hand hygiene, proper glove use, or in care and positioning of the catheter or catheter bag.

Q: WHAT SOLUTIONS DOES PARTICIPATION IN THE PROGRAM PROVIDE?



Marx: [It can provide] support to change processes when an organization is resistant to change. [It also allows for] sharing ideas and evidence-based science.



Felix: The program reviews the technical aspects of the care of a catheter, how to determine the need for a catheter, and offers tools and resources to monitor these aspects. The program also offers tools to engage staff in the changes that they make and help to affect the safety of the residents in their facilities.



Schweon: The program already has a national quality improvement structure in place, manned by very talented and dedicated staff, to support the LTC facilities. Participating facilities have the opportunity to improve resident safety and enhance job satisfaction by simply aligning their organizational goals with the project goals of:

- Developing and adapting evidence-based CAUTI elimination and safety practices for LTC facilities;
 - Reducing CAUTI rates; and
 - Improving safety culture through improved teamwork and communication.
- Additionally, participating facilities may see secondary improvements with:
- Improving hand and environmental hygiene practices;
 - Reducing overprescribing of antibiotics and helping to ensure 'the right drug for the right bug';
 - Promoting appropriate placement and maintenance of indwelling catheters; and
 - Reducing hospitalizations.



Burdsall: This program provides a place for LTC facilities to meet on a regular basis, and discuss problems and possible solutions.

Q. HOW DOES THE MORE SOCIAL SETTING OF LTC FACILITIES IMPACT CAUTI PREVENTION EFFORTS?



Marx: In social activities, a resident with a urine catheter may be perceived as being sicker.



Felix: There are risks involved in having a urinary catheter. The increased risk of infection and MDROs, falls, and pressure sores that can occur due to the use of the catheter may affect the resident's ability to participate in social activities.



Schweon: Residents residing in LTC facilities who have urinary catheters may be more visible and at a higher level of functioning when compared to their hospitalization. It is key that an educated nursing staff maintain the resident's dignity and minimize the appearance of the urine collection tubing and bag. Using infection prevention strategies such as hand hygiene, glove use, etc., prior to implementing leg bags for urine collection, dignity covers over the urine collection bags, and positioning the urine collection bag obscurely on the wheelchair will support this quest and prevent infection.



Burdsall: Back to the leg bags. To encourage social participation in a dignified manner, some residents prefer leg bags, which is understandable. We need better evidence on how to manage these bags.

Q. CAN YOU ELABORATE ON THE PROCESS RELATED TO CAUTI PREVENTION IN TRANSITIONS OF CARE?



Marx: Communicating the need for any invasive device, medication, or condition that puts the resident at risk of infection, including recent antibiotic use, can help prevent CAUTI.



Schweon: Transitions of care refers to the transfer of patients from one healthcare setting to another. An example would be the hospital discharge of a resident to a LTC facility. We know that 12 percent of all new admissions at the time of transfer from acute care facilities to LTC facilities will have a urinary catheter in place (AHRQ Safety Program for LTC: CAUTI). At times, urinary catheters may be inserted for inappropriate reasons (e.g., urinary incontinence, reduced staffing). It's critical that the transferring facility inform the receiving facility the medical indication for the urinary catheter. The receiving LTC facility can then carefully assess if the urinary catheter can be justified; if not, it should be removed. Assessing if the catheter is truly needed is the first step with preventing CAUTI.



Felix: Acute care facilities are working to decrease the use of indwelling catheters. It is important to know the reason for the catheter, and to discontinue the use as soon as it is no longer necessary any time a resident transfers from one facility to another.



Kenneley: The presence of MDROs in the LTC facility has implications beyond the individual facility. Because residents of LTC facilities are hospitalized frequently, they can transfer pathogens between LTC facilities and receiving hospitals; transfer of patients colonized with MDROs between hospitals and LTC facilities has been well documented.



Burdsall: Acute care has really focused on discontinuing catheters before discharge in recent years, which has been helpful in reducing CAUTI. I've been in LTC for about 40 years, and in the past, if a resident was hospitalized, they almost always came back with a catheter, which was generally promptly discontinued by nurses focused on minimizing catheter use.

Q. WHAT IS THE ROLE OF INFECTION PREVENTIONISTS (IPs) IN ENHANCING RESIDENT SAFETY IN THE CONTEXT OF CAUTI PREVENTION?



Marx: The IP educates the staff, family, residents, and physicians on the risks and benefits of urinary catheters in LTC residents.



Schweon: The IP is an integral member of the LTC facility's multidisciplinary project team, with the goal of reducing infections towards zero. The IP has the knowledge to teach CAUTI prevention to the nursing staff, rehabilitation team, housekeeping members, etc., and promote resident safety. Additionally, the IP assures ongoing data collection and performs the surveillance to monitor prevention strategies. The IP can monitor process measures such as ensuring correct catheter care, validating that the ordered catheter and balloon size matches what's been placed in the resident, hand hygiene compliance, etc. The IP can also educate the residents and their families about the project.



Felix: The person responsible for infection prevention needs to be aware of best practice guidelines and how they translate to the LTC facility and the residents they care for in their own facility. Each resident has individual needs that must be evaluated to determine what is best for them. The IP can help to apply the guidelines to those specific needs. They can help to educate the staff, residents, and families on proper care and monitoring of the indwelling catheter and the symptoms of UTIs.



Burdsall: The IP can enhance resident safety in three ways:

1. Ensure that staff know how properly to perform basic care.
2. Perform the "High 'C's of Infection Control"—Clean hands and gloves, clean clothes, clean equipment, contained drainage, covered wounds (keeps organisms from spreading to the environment), careful use of antimicrobial agents, communication, and collaboration.
3. Remove unnecessary lines and tubes to enhance safety.

Q. WHAT ARE SOME IMPLICATIONS OF CAUTI ON THE QUALITY OF LIFE OF RESIDENTS?



Marx: Fewer tubes means more mobility, safer conditions during transfers, and dignity preservation.



Schweon: Preventing CAUTI in the resident will optimize the resident's functional status and prevent suffering, disability, and possible death. It will also prevent family pain and suffering, as well as additional medical expenditures for medications, treatments, hospitalizations, etc. It will enhance staff job satisfaction and improve morale and reduce antibiotic resistance in the LTC facility.



Felix: Indwelling catheters are an invasive medical device. They can cause illness/infection and injury to the resident, which can change their quality of life.



Burdsall: UTIs make you feel miserable and can lead to sepsis. Infections lead to personal and economic loss. They are expensive to treat, and any extra expense can deplete a person's resources.

Q. IN LTC FACILITIES, WHO DOES CAUTI SURVEILLANCE IF THERE IS NO DESIGNATED IP?



Marx: This could be done by a medication nurse, wound care nurse, or care coordinator.



Schweon: Ideally, it's a staff member who is interested in infection prevention and promoting resident safety. This staff member could be the assistant director of nursing, clinical educator, performance improvement coordinator, etc. It's key for this staff member to receive basic and ongoing education to fully leverage his/her ability to thwart infection. The person must like infection prevention; otherwise, it may result in suboptimal efforts to prevent infection and potential resident harm. A daily challenge for this individual would be the multiple competing priorities that may detract from focusing on infection prevention.



Burdsall: The same person who is charged with infection prevention. That person may wear many other "hats" (e.g., director of nursing, assistant director of nursing, wound nurse, charge nurse, in-service training, MDS/care plan coordinator). CAUTIs may not be identified until much later if there is not a daily alert system, which can be a 24-hour report or night report.

Q. WHY SHOULD LTC FACILITIES BECOME INVOLVED IN THIS PROGRAM?



Marx: To demonstrate a commitment to resident safety and to promote resident health.



Kenneley: [LTC facilities should become involved to] promote the appropriate use of indwelling catheters; improve the culture of safety, teamwork, and communication; and improve proper placement technique and care of the catheter.



Burdsall: LTC facilities are being charged with the responsibility of taking care of not only residents and clients, but now post-acute patients. These people are the patients who I took care of on hospital med-surgery floors when I worked as a hospital staff nurse in oncology and cardiac step-down. It is a whole new aspect to LTC. The focus on rehabilitation, wellness, and preventing readmissions requires that LTC step up and work to establish infection prevention and control programs to improve safety and quality of care.



Felix: This program helps facilities review their practices related to indwelling catheter use and to ensure the proper use for the safety and health of every resident who needs an indwelling catheter. It can also help facilities develop processes to assess safety in many areas of care and make needed changes that will be sustained over time.

Infections are a leading cause of illness and death in nursing homes.

REMEMBER C.A.U.T

C A U T

Catheter Removal

- Think about catheters in any of your residents. Are the catheters really necessary?
- Remove the catheter if there is no good indication for it. (See below.)
- Every resident deserves a chance to be catheter-free and infection-free.



Aseptic Insertion

- Only trained personnel should insert catheters.
- Use hand hygiene, and insert using aseptic technique.
- Use the smallest catheter size that will work for the resident.
- Avoid contamination of the catheter.
- Use catheter securement devices.

Use Re Assess

- Insert new catheters if there is an indication.
- Consider alternatives using a urinary catheter.
- Use a bladder ultrasound to manage.
- Implement a protocol to see whether need ca

Appropriate Indication

To assist healing of stage III or stage IV perineal and sacral wounds in incontinent residents



Would you like to know more? Participation in the AHRQ Safety Program for Long-Term Care: state-level training sessions that will help you to provide safer care for your residents. Talk to t

The AHRQ Safety Program

These infections include catheter-associated urinary tract infections (CAUTIs).

HOW TO PREVENT CAUTI

Regular Assessments

Remove urinary catheter only when there is a good alternative to urinary catheter.

Use bladder scan to guide voiding.

Use a process to assess residents with catheters.

Training for Catheter Care

Train staff, resident, AND family.

Maintain a closed drainage system, and maintain unobstructed urine flow.

Use routine hygiene. Do not clean the periurethral area with antiseptics.

Routine catheter changes, urinalysis, and cultures are not required.

Incontinence Care Planning

Consider alternatives to using a urinary catheter when developing a individual resident care plans and behavioral interventions.

Consider timed and prompted voiding and use of a voiding diary.

**Remember:
No catheter
means no
CAUTI!**

Indications for a Urinary Catheter

Chronic and acute urinary retention or obstruction

Hospice or palliative care associated with intractable pain



CAUTI gives you access to informative resources and events such as educational webinars and the project lead in your facility, or visit www.ltcsafety.org (login and password: ltcsafety).

Indications for Long-Term Care: CAUTI

Exceeding expectations at St. Anne's Nursing Center

BY VICKY UHLAND



PICTURED LEFT TO RIGHT: Jennifer Espinosa, LPN, Barbara Orcel, RN, Frank Benitez, RN, Chandra Hill, RN, Julia Shillingford, MSN, Kelly Austin, LPN, and Vanessa Santana, RN

HOW EFFECTIVE HAVE ST. ANNE'S NURSING CENTER'S catheter-associated urinary tract infection (CAUTI) reduction techniques been? In the first six months after this 220-bed facility joined the first cohort of the *Agency for Healthcare Research and Quality (AHRQ) Safety Program for Long-Term Care: CAUTI*, St. Anne's reduced its CAUTI rates from an average of 7 percent to 4.1 percent. Even more impressive, St. Anne's accomplished this despite the fact that more than 75 percent of its patients are admitted with a catheter, and most also have a healthcare-associated infection.

St. Anne's is part of the Catholic Services South Campus in Miami. It's an atypical long-term care (LTC) facility in that it also provides assisted living, inpatient and outpatient rehabilitation services, and a sub-acute care clinic. This offers some advantages for CAUTI prevention: Staff can take patients or residents who develop urinary retention issues directly to the clinic rather than automatically inserting a Foley catheter. But there are also disadvantages: Patients are admitted from a variety of facilities with differing catheter protocols, leaving it up to St. Anne's staff to develop its own standards for when and how Foleys should be inserted and removed.

St. Anne's Executive Director Rosemarie Bailey, MBA, and Director of Nursing Julia Shillingford, RN, BSN, said along with achieving better CAUTI outcomes, their facility joined the LTC CAUTI cohort to reduce antibiotic use and increase awareness of infection prevention in general. "Everybody here knew that the basic way to prevent infections is by handwashing, but we didn't have much more education than that," Shillingford said.

Bailey and Shillingford have since found that becoming part of the LTC CAUTI cohort has accomplished even more than they had hoped for, including increasing staff communication, reducing infections caused by multidrug-resistant organisms, and improving St. Anne's patient admission process.

"We feel really fortunate to be able to participate in this clinical program," Shillingford said.

One of the first things St. Anne's did after it joined the LTC CAUTI cohort was to develop a definition of when a Foley catheter should be used. It was decided that a Foley should only be inserted when there is a physician order and diagnosis of either obstruction, neurogenic bladder, stage III/IV perineal or sacral ulcer, or terminal illness/hospice. That meant that staff needed to become more vigilant in looking for and identifying urinary retention issues and possible UTIs. "We started monthly education programs emphasizing more about protecting against UTIs rather than just infections in general," Bailey said. CAUTI program information was also included in orientation materials for all new hires.

"Becoming part of the LTC CAUTI cohort has accomplished even more than [Bailey and Shillingford] had hoped for, including increasing staff communication, reducing infections caused by multidrug-resistant organisms, and improving St. Anne's patient admission process."

Bailey and Shillingford also implemented Stop and Watch, an infection early-warning tool developed by Florida Atlantic University. Stop and Watch is a simple, one-page sheet with a list of changes nurses should watch for in their patients. The first letter of each item on the list corresponds to the first letter of the words **Stop and Watch**, including:

- S**eems different than usual;
- T**alks or communicates less than usual;
- O**verall needs more help than usual;
- P**articipated in activities less than usual;
- A**te less than usual (not because of dislike of food);
- N**
- D**runk less than usual;
- W**eight change;
- A**gitated or nervous more than usual;
- T**ired, weak, confused, or drowsy;
- C**hange in skin color or condition;
- H**elp with walking, transferring, or toileting more than usual.

If any St. Anne's patient exhibits any of these symptoms, nurses circle the relevant item and then discuss it with the charge nurse before the end of their shifts.

Bailey and Shillingford also worked to develop staff liaisons with each facility that admits patients to St. Anne's. Now, a St. Anne's staff member does a pre-screening process on each patient, including reviewing records and discussing a patient's catheter

status with the patient's physician or charge nurse. "We ask them to take out the Foley prior to the patient arriving," Bailey said. If that isn't possible, St. Anne's goal is to remove the Foley within the first 24 hours after a patient is admitted.

This step, along with the new CAUTI insertion protocols and UTI symptom education, quickly and dramatically reduced St. Anne's CAUTI rates. And as those rates began dropping, Bailey and Shillingford started posting each unit's monthly CAUTI numbers. "Units began comparing themselves with other units," Bailey said. "It's been interesting to see how competitive and enthusiastic they've become."

Both Bailey and Shillingford believe these measures have increased staff buy-in in the CAUTI project across the board. "People have such a sense of pride in the reduced CAUTI numbers," Shillingford said. "They can't wait until they're posted—it's like waiting for final exam results."

Overall, staff and administration have been so pleased with the changes and improvements that the LTC CAUTI cohort has brought to their facility that "we think the CAUTI program is going to be a lifer for St. Anne's," Shillingford said.

Vicky Ubland is a medical writer for Prevention Strategist.

Collaborating to reduce CAUTI at Veteran's Victory House

BY VICKY UHLAND



Sue Musumeci, RN.

WHEN IT COMES TO INFECTION PREVENTION, Veteran's Victory House in Walterboro, South Carolina, faces challenges that aren't typical in long-term care (LTC) facilities. First of all, the 220-bed facility is state owned, through the South Carolina Department of Mental Health, and managed by Advantage Veteran's Services, LLC, and caters exclusively to military veterans in South Carolina—some of whom aren't keen to take infection prevention orders from nurses. Secondly, an electronic record-keeping system has not been fully implemented, so patient records are, for the most part, kept manually. And finally, communication with frontline staff is challenging when services are provided 24/7, 365 days a year.

In May 2014, Veteran's hired Sue Musumeci, RN, to serve as an infection control nurse and director of quality assurance. Musumeci joined Veteran's as part of a sweeping safety awareness program that the facility implemented in 2014, focusing on fall prevention, infection control, and overall resident safety.

Prior to Musumeci's arrival, Veteran's didn't track its catheter-associated urinary tract infection (CAUTI) rates. Recognizing that this needed to change, the facility signed up for the first cohort of the *Agency for Healthcare Research and Quality (AHRQ) Safety Program for Long-Term Care: CAUTI*.

"We used the AHRQ study as a jumping-off point to implement a full infection prevention program," Musumeci said.

She began this daunting task with some creative infection prevention education methods for frontline staff. The AHRQ LTC CAUTI cohort had avid, across-the-board buy-in from administration, but the staff was less enthusiastic. "People just didn't feel engaged in any sort of infection prevention discussion," Musumeci said.

A big part of this was because staff meetings are held once a month, during the afternoon. It's no surprise that they aren't well attended, considering that Veteran's is a three-shift facility. And because the majority of staff doesn't have access to computers at work, there wasn't a quick, easy way to notify employees about what occurred during meetings.

One of the first things Musumeci did was to feature infection prevention topics at the monthly staff meetings. "Typically, I come bearing hand sanitizer and candy to the meetings, and we get staff engaged by having prizes and drawings for units that have the best infection control," she said. Units keep track of their infection prevention efforts through a facility-wide map that identifies where infections occur. "We started it with our falls program and it's been very successful," Musumeci said. "It elicits a good-natured, competitive spirit."

Along with the expanded meetings, Musumeci delivers an infection prevention presentation to each new employee. She has also formed a team of unit clerks to disseminate infection prevention information in a peer-to-peer manner. "The unit clerks are CNAs and are the go-to people for the unit staff, so they can do things like be mentors to new employees, and push employee handwashing and patient hydration in an informal way," she said. So far, the unit clerk initiative is only underway in Veteran's dementia unit, but Musumeci plans to implement it facility wide.

"From a staff standpoint, we're slowly and surely getting people a little more engaged in infection prevention," she said. "Are we where we want to be? Absolutely not. But we're moving in the right direction. People are feeling more engaged in the discussion, and more staff are talking to me about infection prevention. They want the information."

Musumeci doesn't limit her infection prevention measures to frontline staff, either. She regularly communicates with housekeeping staff, residents, and family members. "We've really become an infection prevention team," she said.

As of October, Veteran's had a 2 percent Foley catheter usage rate, which accounts for residents with long-term physical conditions that require a urinary device be in place. Musumeci said being part of the LTC CAUTI cohort has also had other measurable benefits. For instance, it has reinforced catheter insertion best practices for staff. "Our process of evaluating when a catheter should be inserted has always been evidence based, but the CAUTI cohort has justified it and proved that it's the best practice. It highlights that we've been doing the right thing," she said.

"Our process of evaluating when a catheter should be inserted has always been evidence based, but the CAUTI cohort has justified it and proved that it's the best practice. It highlights that we've been doing the right thing." —Sue Musumeci, RN

That's important when dealing with Veteran's residents, Musumeci said. While evidenced-based practice has shown changing catheters at regular intervals is not necessary to prevent infections, the protocol at Veteran's is to change urinary catheters once a month. Some residents demand new catheters regardless of indications, such as obstruction, leaking, or routine changes, which puts medical staff in a quandary. "Some residents you just cannot tell any differently—they believe they know best," Musumeci said. But now staff members have medical data to back up their decisions. As part of the CAUTI cohort, Musumeci also educates staff about cleaning catheters every shift and recognizing the signs and symptoms of infection.

"Very few things have changed in the way we expect a Foley catheter to be used and cared for, but what has changed is the method and frequency of education about it," she said.

Musumeci and the frontline staff have also implemented an innovative, cost-saving measure for catheter bags. Some residents use a belly or leg bag during the day and a bed bag at night. The standard is that the bag is replaced each time it's changed, but this isn't cost effective. So Musumeci came up with a plan to use sterile caps and plugs on the bags, meaning the staff only has to replace the cap and not the bag. This allows bags to be reused rather than thrown away. The procedure is still in the trial process, but Musumeci said so far, the results have been positive.

Musumeci said Veteran's ultimate goal in participating in the LTC CAUTI cohort is to limit Foley catheter usage and subsequently reduce CAUTIs. "And our overarching goal is to improve resident safety."

Vicky Umland is medical writer for Prevention Strategist.

Improving antibiotic stewardship and CAUTI management in LTC facilities using SBAR communication

BY STEVEN J. SCHWEON, RN, MPH, MSN, CIC, HEM, FSHEA, AND ROBIN L. P. JUMP, MD, PHD

A COMMON CLINICAL SCENARIO:

P.D. is an 80-year-old female residing in a long-term care (LTC) facility due to her inability to manage her health issues. She is confused to time, date, and location, but she is able to voice concerns regarding her health. She has had a chronic indwelling urinary catheter due to a neurogenic bladder. The LTC facility does not routinely change her catheter, based on guidelines from Centers for Disease Control and Prevention (CDC).¹

One night, P.D. complains of sudden substernal chest pain, which is not relieved by oxygen and nitroglycerin. She offers no other complaints. She is rushed to the emergency department (ED) for advanced medical intervention.

The ED physician, in addition to treating the chest pain, notes cloudy yellow urine in the urinary catheter tubing and orders a urinalysis (UA) and urine culture and sensitivity. He acknowledges in his notes that she denies any urinary discomfort or flank pain and is afebrile.

The UA is positive for nitrates, indicating bacteria, and leukocyte esterase, indicating white blood cells. The laboratory reports 35 white blood cells per high-powered field. The ED physician informs P.D. that she

has a catheter-associated urinary tract infection (CAUTI). He orders a 10-day course of ciprofloxacin; the first dose is given in the ED.

When P.D. returns to the nursing home with a diagnosis of unstable angina and a CAUTI, the nurse notifies the attending physician. Using the facility SBAR (Situation, Background, Assessment, and Recommendation) tool, she informs him that:

Situation: P.D. has returned from the ED

Background: While in the ED, she received additional cardiac medications was diagnosed with a CAUTI, and prescribed ciprofloxacin.

Assessment: P.D.'s chest pain has abated. She denies any urinary tract symptoms, both in the ED and currently, and remains afebrile.

Recommendation: The nurse requests additional medication orders for the facility.

The physician orders the new cardiac medications as well as ciprofloxacin to ensure 10 days' worth of treatment, pending the urine culture results. The nurse confirms the medications with the physician and then updates the resident's family.

Three days later, the urine culture grows *E. coli* (sensitive to ciprofloxacin), *P. mirabilis* (resistant to ciprofloxacin, sensitive to ampicillin) and *Enterobacter aerogenes* (sensitive to ciprofloxacin). The nurse informs the attending physician of the results and that P.D. continues to deny urinary tract symptoms and remains afebrile. The physician adds ampicillin to the treatment regimen. P.D. completes 10 days of antibiotic therapy without difficulty.

Two weeks later, after completing her full antibiotic course, P.D. complains of abdominal pain with frequent loose stools. Her stool tests positive for *Clostridium difficile* (*C. difficile*) and the physician orders metronidazole. She is placed on isolation precautions for the next several days and loses six pounds due to the *C. difficile* infection. She continues to deny urinary tract symptoms.

WAS THERE A MISSED OPPORTUNITY FOR IMPROVEMENT?

P.D. went to the ED with chest pain, a symptom completely unrelated to the genitourinary system, yet was diagnosed and treated for a CAUTI. Unfortunately, the ED provider responded to a "positive" laboratory test without interpreting it in the appropriate clinical context.

Older adults commonly have abnormal UA findings and a positive culture and yet have no symptoms suggestive of infection. This condition is termed asymptomatic bacteriuria and affects about one-third of LTC residents.² In fact, the definition for UTI, CAUTI, and asymptomatic bacteriuria all include a positive urine culture with $\geq 100,000$ bacteria per milliliter of urine.³ Laboratory tests alone are insufficient to determine if someone has a UTI or CAUTI.

In order to diagnosis a UTI or CAUTI, the patient must have signs of an acute infection (fever, increased white blood cell count) with symptoms that localize to the genitourinary tract (pain, new or a marked increase in frequency or urgency, gross hematuria). A fever and acute change in mental status suggest a CAUTI *only* if other infections have been ruled out. In other words, a CAUTI is a diagnosis of exclusion.

Recognizing the difference between asymptomatic bacteriuria and a true UTI or CAUTI is important because it offers an opportunity to avoid unnecessary antibiotics. LTC residents with asymptomatic bacteriuria do not suffer from increased morbidity or mortality.⁴ They should not receive antibiotic therapy, as this promotes antimicrobial resistance and increases the risk of *C. difficile* infection.⁵ This issue is so critical that both the American Geriatric Society and the American Medical Directors Association stress avoiding antimicrobials in older adults with asymptomatic bacteriuria in the Choosing Wisely consumer education campaign (www.choosingwisely.org).

As an advocate for the resident, the nurse could have gingerly questioned the antibiotic order. Using SBAR, perhaps the original conversation with the attending physician could have gone like this:

Situation: P.D. has returned from the ED.

Background: While in the ED, she received additional cardiac medications, was diagnosed with a questionable CAUTI, and prescribed ciprofloxacin.

Assessment: P.D.'s chest pain has abated. She denies any urinary tract symptoms, both in the ED and currently, and remains afebrile.

Recommendation: The nurse requests additional medication orders for the facility.

The physician orders the new cardiac medications and also prescribes ciprofloxacin to ensure 10 days' worth of treatment, pending the urine culture results.

Upon confirming the physician's order for ciprofloxacin, the nurse gently reminds the physician that P.D. has no fever or other urinary symptoms. She states her concern about the ED physician having responded to a laboratory value rather than the resident. She also voices her concerns about possible adverse effects from antibiotics like *C. difficile* infection or increasing antibiotic

resistance. As a potential alternative to antibiotics, she asks if the physician would consider a plan to encourage oral hydration and carefully monitor P.D. over the next 24 hours. The nurse also assures the physician that if P.D. develops a fever or other concerning signs, the nurse will notify the physician promptly to request an antibiotic order. If the physician still wants to give 10 days' worth of treatment, the nurse can consider asking if seven days of treatment can be given instead, based on national guidelines.⁶

Another opportunity to discuss the treatment plan arises

“LTC nurses can help reduce unnecessary antibiotic exposure. One way to achieve this is to express their concerns to the attending physician when an asymptomatic resident has been diagnosed with a urinary tract infection based solely on laboratory results.”

when the urine culture results come back. Typically, urine cultures that grow more than two kinds of bacteria indicate a poorly collected specimen. For people with long-term urinary catheters, it suggests the urine came either from the collection bag or from tubing that has become colonized with bacteria. For residents in whom a true CAUTI is suspected (i.e., symptoms suggestive of infection localized to the genitourinary tract), if the catheter has been in place longer than two weeks, it should be changed prior to collecting a urine sample. Since P.D.'s urine culture grew three different kinds of bacteria, the urine sample obtained in the ED was probably not collected appropriately.

When the nurse informs the physician of the urine culture results, she might suggest that since it grew more than two kinds of bacteria, it indicates a poorly collected sample and is not clinically meaningful. However, if the physician should choose to add ampicillin, the nurse might also consider suggesting, gently, that because the resident has done well without it so far, perhaps it is not necessary.

Regardless of the outcome from the conversations with the physician, the nurse should update the treatment team with P.D.'s status and the conversation with the attending physician. The nurse may consider using the LTC facility's chain of command to involve the director of nursing and medical director for additional guidance.

DISCUSSION

LTC nurses can help reduce unnecessary antibiotic exposure. One way to achieve this is to express their concerns to the attending physician when an asymptomatic resident has been diagnosed with a urinary tract infection based

solely on laboratory results. Two sets of guidelines from the Infectious Disease Society of America offer evidence-based recommendations about not only preventing CAUTI,⁶ but also avoiding antibiotics for asymptomatic bacteriuria.^{6,7} They may be accessed at no cost here: www.idsociety.org/Organ_System (click on Genitourinary).

Conversations with physicians about antibiotic use can be challenging. Immediate, direct adverse consequences of antibiotic use are rare. The appearance of antibiotic resistant organisms may not be recognized

“Consistent use of the SBAR format may greatly enhance physician-nurse communications.⁸ LTC nurses may consider laying the groundwork for SBAR communication with physicians prior to a situation with an actual resident.”

until weeks later. As in this case, even *C. difficile* infection may appear days to weeks after an antibiotic exposure, making it easy to overlook the connection between the two events. Furthermore, it can be difficult for physicians not to treat when looking at positive laboratory tests. It may feel safer to act, especially if this is their established practice pattern and supports their training. Physicians may also fear being sued for failure to treat or respond to the urinalysis and urine culture. Finally, some physicians may resent being questioned about their medication orders.

Consistent use of the SBAR format may greatly enhance physician-nurse communications.⁸ LTC nurses may consider laying the groundwork for SBAR communication with physicians prior to a situation with an actual resident. Role-playing different scenarios with colleagues may enhance communication skills and build confidence. The primary goal is to improve communication with physicians and promote the culture of safety.

By initiating conversations with physicians and other providers, LTC nurses may help avoid unnecessary antibiotic prescriptions and improve resident outcomes by reducing the potential for:

- Allergic reactions to medications (e.g., rash or anaphylaxis);
- Drug-drug interactions (e.g., increased INR for residents on warfarin);
- Adverse drug effects (e.g., yeast infection);

- Acquisition of antibiotic resistant bacteria; and
- *C. difficile* infection.



Steven J. Schweon RN, MPH, MSN, CIC, HEM, FSHEA, is a board-certified infection prevention consultant. He is a faculty member with the AHRQ Safety Program for Long-Term Care: CAUTI project.



Robin L. P. Jump MD, PhD, is an infectious disease physician with an interest in improving the care of older adults with infections. Her research program seeks to develop effective strategies to augment antimicrobial stewardship practices in LTC facilities.

POTENTIAL CONFLICTS OF INTEREST

1. SJS: GOJO Industries, OpGen, Crothall Healthcare, Rubbermaid, Touchpoint, APIC Consulting
2. RLPJ has previously worked as a paid consultant for GOJO Industries (Akron, OH; 2009-2010) and for Pfizer (New York, NY; 2010). RLPJ is currently the Principal Investigator on a grant from Pfizer (2014–2016).

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Long-term care resource page

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