

**Quality Improvement of Hospital Acquired Catheter Associated Infections**

Jessica Tillman

Lakeview College of Nursing

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Instructor: Katie King

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## **Quality Improvement of Hospital Acquired Catheter Associated Infections**

Providing evaluations to improve healthcare quality is often the subject of research and a hot topic in healthcare boardrooms nationwide. Creating an environment that is proactive in providing proper catheter care to prevent unnecessary infections is a standard of care that would eliminate a percentage of the client's physical discomfort and financial strain across the board and would eliminate a portion of time-consuming nursing tasks that focus on treatments for infection related to care for urinary tract infections (UTIs). According to the *Centers for Disease Control (CDC) 2019 National and State Healthcare-Associated Infections Progress Report*, urinary tract infections are the most common healthcare-associated infections reported in the United States; 75% of UTIs reported are catheter-related infection causes (CDC, 2019). The purpose of quality improvement to the QSEN Competency of Quality improvement focuses explicitly on the research of patient-centered care, quality improvement, and safety which allows nursing staff to obtain an education that can assist in improving the quality of care for clients in need of proper catheter care and strives to provide improvement for the health care system (QSEN Institute, 2020).

### **Article Summary**

#### **Introduction**

Evaluating healthcare standards in hospitals, acute care, and long-term care facilities happens when research is necessary to confirm that a specific healthcare improvement needs evaluation or that an observational study is factual and trustworthy. Results must be obtained and presented to create a valuable source of information that allows the research study to be considered non-biased. *Quantitative Results of a National Intervention to Prevent Hospital-Acquired Catheter-Associated Urinary Tract Infection (Meddings, 2019)* provides research for

preintervention and postintervention methods for catheter-associated infections and directly addresses the nursing-specific topic of infection prevention with catheter use. Research has focused on preventative versus postintervention care for catheter care to evaluate healthcare-associated infections (HAIs) acquired from catheter use. Research shows that when the participating hospitals utilized preintervention infection prevention methods, outcomes of HAIs were less likely to occur. The research also confirms that when participating hospitals chose to utilize postintervention methods, outcomes of HAIs were more likely to occur. Healthcare facilities are striving to avoid HAIs because insurance companies are no longer paying for treatments for infections acquired while in a hospital setting. If a client is admitted to the hospital without infection and acquires an infection while in the hospital's care, the infection is deemed HAI, and the hospital is liable to absorb the treatment cost for that infection diagnosis.

### **Overview**

The purpose of quality improvement to the QSEN Competency of Quality improvement focuses explicitly on the research of specific nursing topics and how to improve patient-centered care, quality improvement, and safety which allows nursing staff to obtain an education that can assist in improving the quality of care for clients in need of proper catheter care within a hospital, acute care, or long-term care facility. Quality improvement includes designing and testing changes to improve the quality of care by using knowledge, skill, and attitudes within the QSEN competencies methods (QSEN Institute, 2020). Knowledgeable sound nursing staff can provide strategies to improve the client's care. It can educate the client and their family to explain the cause and effect of catheter related UTIs. The nursing staff's skill level and abilities to think outside of the box can assist the facility by helping to create experimental changes to identify the contributing factors and identify a way to correct them. Attitudes within the nursing staff and

during client contact can affect the outcome of care; attitudes when engaging with clients or other staff members should be professional and positive to create a healthy caring environment for clients and staff.

### **Quality Improvement**

When quality improvement changes occur in these settings, proper resources are available for testing, hygiene, and catheter care during pre- and intra-implementation stages. The quality of improvement and patient-centered care reach a new level of safety and care for the client. For post-implementation settings, the nursing staff would need medications and education services to ensure proper care and the elimination of the infection. The impact of catheter-associated urinary tract infections can be changed drastically if more healthcare settings implement the goal of improving the quality-of-care pre-implementation rather than waiting until the UTI has occurred. Then the focus is shifted to healing instead of prevention. These changes could assist the institution financially because they would not have to absorb the costs associated with the HAI and provide the nursing staff and supplies to treat the HAI. By increasing patient safety by not acquiring HAI, institutions can also increase nursing safety from exposure and nursing satisfaction. Nurses can utilize those treatment times for other tasks to prevent burnout. Patient satisfaction is the most important because they avoid the discomfort and frustration of an HAI and additional out-of-pocket healthcare costs associated with their diagnosis (*Meddings, 2019*).

### **Application to Nursing**

#### **Practice**

Prevention is the preferred nursing practice when faced with HAIs, specifically UTIs from catheter use. Providing proper care for individuals that currently have an indwelling

catheter in place is a crucial component of preventing catheter related UTIs. Proper cleaning of the bag and tubing, paired with ensuring the client's pubic area is clean, is a crucial step in preventing UTIs within a healthcare setting. When performing an indwelling catheter procedure, the nurse must follow a sterile procedure periodically to ensure that an HAI does not occur (*Meddings, 2019*). Urinary tract infections are the most common healthcare-associated infections reported in the United States; 75% of UTIs reported are catheter-related causes of infection (CDC, 2019).

### **Education**

The current guidelines for educating staff about the prevention of HAIs, specifically catheter related UTIs, includes utilizing the preferred nursing practice of providing proper care for clients currently with an indwelling catheter and when performing the procedure for inserting an indwelling catheter (*Meddings, 2019*). Facilities are now recommending that nursing staff not place an indwelling catheter unless there is a specific indication to do so, to assist with a urinary incontinence issue, convenience, or to collect a clients output of urine; doing so could lead to severe illness or death (Cagle, 2022). "Healthcare-associated infections (HAIs) are a significant source of morbidity and mortality in the United States, with approximately 687,000 infections and 72,000 deaths annually, leading to costs in the billions, and it is estimated that up to one in 25 patients will develop an HAI (Cagle, p 262, 2022).

### **Research**

Further studies associated with HAIs from catheter use include diagnostic testing that can assist in earlier diagnosis and will assist in antibiotic accuracy. Currently, the industry is working on the development of preventative catheter coatings, vaccinations, and bacterial interference methods. The healthcare industry is striving to create new antibiotic classes and molecule

inhibitor alternatives to assist in the treatment of infections related to catheter use (Werneburg, 2022)

## **Conclusion**

The ability to care for a client during postintervention experiencing an infection associated with an indwelling catheter is significantly affected by ensuring proper education for all nursing staff, procedures, and policies. Proper education for nursing staff to prevent catheter-related infections can be the difference between an infection occurring, treatment of an infection, and the death of a patient.

The purpose of quality improvement to the QSEN Competency of Quality improvement focuses on improving patient-centered care, quality improvement, and safety, allowing nursing staff to provide clients with infection prevention methods, proper infection diagnosis, proper infection treatment, and proper catheter care. By focusing on the knowledge of prevention and postintervention, the skills to provide client care during prevention and postintervention phases, and the ability to maintain a professional attitude during interactions with staff and the client, quality improvement is at an advantage to be maintained.

The significance of providing proper prevention and postintervention care to clients specifically related to HAIs associated with catheter insertion and care can directly be the difference between becoming one of the approximately 687,000 infections or 72,000 deaths annually associated with a healthcare-associated infection (Cagle, 2022). Prevention and proper client care can assist in reducing the 75% of UTIs reported that are catheter-related causes of infection (CDC, 2019) within the United States of America, drastically allowing nursing staff to see a drastic decrease in HAIs.



## References

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