Partnership Between Nursing and Infection Prevention to Reduce Healthcare-Associated Infections in a Medical Intensive Care Unit

Elissa Buck, BSN, RN, CCRN; Michelle Brown, BSN, RN; Ashley Burbey, BSN, RN-BC
Aurora St. Luke’s Medical Center

Introduction

• Healthcare-associated infections (HAIs) are associated with high morbidity and mortality (CDC, 2017)
• Approximately 1.7 million patients suffer a HAI and almost 100,000 die annually (Dick et al., 2015)
• Estimated direct annual cost of HAIs ranges from $28 to $45 billion (Dick et al., 2015)
• Patients who are chronically colonized may be identified with positive Clostridium difficile (C. diff) PCR testing due to the high sensitivity of the test (Furuya-Kanamori et al., 2015)
• Infection prevention has specialized expertise in the identification of infection risks and can effectively partner with nursing services to improve outcomes

Purpose

• The Medical Intensive Care Unit (ICU) was challenged with high-risk patients who experienced catheter-associated urinary tract infections (CAUTI) and hospital-acquired Clostridium difficile infections (HO-C. diff) and aimed to prevent patient harm through HAI reduction

Methods

• Sample and Setting: 24-bed Medical ICU in a quaternary acute care medical center
• Intervention: Beginning in April, 2018, infection prevention nurses began to conduct daily rounds on high-risk patients in inpatient units to ensure best practices are in place (Figure 1). The unit nurse clinician sends a list of patients identified as being high-risk to infection prevention who collaborates with the unit nursing leaders to conduct rounds on patients, audit practice and documentation, and coach nursing staff on infection prevention strategies. A testing algorithm designed to prevent over-testing of C. diff was implemented with dual nurse sign-off to effectively partner with nursing services to improve outcomes (Figure 2). Algorithms are reviewed daily by the unit nurse clinician and infection prevention nurse
• Methods of Evaluation: Outcomes are monitored and progress is tracked against benchmarks from the National Database of Nursing Quality Indicators (NDNQI) and the National Hospital Safety Network (NHSN)
• Analysis: Pre-post comparison of data from October 2017 through January 2019

Results

• When comparing baseline performance to data through January, 2019, the unit achieved a 35% reduction in CAUTI rates and a 63% reduction in HO-C. diff rates
• The unit sustained zero HO-C. diff infections for eight consecutive months
• When surveyed, nurses verbally reported the partnership with infection prevention and actively work together to improve practice

Discussion

• Daily partnership between nursing and infection prevention with the implementation of a C. diff testing algorithm was effective in reducing HAIs
• Continued efforts, including a focus on central line-associated bloodstream infections (CLABSI), are underway
• Sharing expertise between departments was verbally reported to be well-received by both teams

Implications for Practice

• The partnership between nursing and infection prevention may be implemented by other units to assist in identifying high risk patients, reducing HAI, and improving patient outcomes

References


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Figure 1. CAUTI Observation Tool

Figure 2. C. diff Dual Nurse Sign-off Checklist

Figure 3. Graph 1. CAUTI per 1000 device days

Figure 4. Graph 2. C. diff rates per 1000 patient days