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Background: Central-line associated bloodstream infections (CLABSI) are serious infections that have significant morbidity and mortality. Our institution tracks CLABSIs in all settings. Between February 2021 to March 2021, surveillance by our Infection Prevention and Control Department identified five Portacath (PAC) CLABSIs with methicillin susceptible Staphylococcus aureus (MSSA) in pediatric oncology patients. This was a significant increase from our baseline of 3 MSSA PAC CLABSI in the 12 months prior, initiating an outbreak investigation.
Methods: A line list was created and identified two epidemiologic links: all PAC were placed in interventional radiology (IR), and primary points of access were ambulatory oncology clinics. There was no common product used. Four of the five infections had identical antimicrobial susceptibility profiles. Pulsed-field Gel Electrophoresis (PFGE) was performed to discriminate between isolates. Observations in IR for line placement were performed with attention to skin preparation. Ambulatory oncology observations were performed to review skin preparation for PAC access and hand hygiene practices. We confirmed with the PAC manufacturer there were no recalls of the PAC lot numbers.
Results: All 5 isolates were unrelated by PFGE and, therefore excluded a true outbreak. Observations in IR revealed variabilities in skin preparation and recommendations were made to standardize practices to align with those in our operating rooms. Although no variations in practice were noted in ambulatory oncology this was used as an opportunity to re-educate staff on the attention to detail for PAC access.
Conclusions: Outbreak identification by traditional epidemiologic methods are complemented with technology such as PFGE to identify conclusive links between patients and can demonstrate when an apparent outbreak is not due to a single pathogen. Obtaining PFGE data supported broad-based interventions including observations of practice at the time of line insertion and access, as well as reeducation to providers performing these roles, to reduce CLABSI in our institution.

QAPI-23

Hidden Truth Uncovered: Compromised Environmental Cleaning Practices of Housekeeping Lead to Increased Hospital Acquired Infections in Lower Middle-Income Country

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Background: Environmental cleaning is a fundamental principle in prevention and control of hospital acquired infections (HAIs) and reducing the microbial burden on the surfaces. Pathogens like vancomycin-Resistant Enterococci (VRE), Methicillin-Resistant Staphylococcus Aureus (MRSA), Multi Drug Resistant Organisms (MDROs), gram-negative bacilli, etc. can survive on inanimate surfaces from hours-days-months in a health-care settings. Routine and terminal environmental cleaning/disinfection plays a vital role in minimizing the outbreaks in hospitals which are recognized as a major contributor to morbidity and mortality of hospitalized patients.
Methods: Pre and post intervention, environment cultures were taken anonymously, and data was analyzed utilizing descriptive statistics. Causes and effects were studied, housekeeping staff practices were observed through direct observations, camera, and secret shoppers. Environmental cleaning guidelines and checklists were developed in the light of Center for Disease Control (CDC) and Prevention guidelines (2020), hands on practice and sessions were taken for housekeeping staff. Housekeeping supervisors were trained as train the trainers (TOT) to ensure compliance in all shifts round the clock 24/7. Plan-Do-Study-Act (PDSA) quality improvement methodology was followed together with process and outcome key performance indicators.
Results: Our MDRO rates decreased significantly i.e., from 4.7 to 2.8, the overall compliance rate of environmental cleaning and disinfection went up from 53% to 87%, compliance increased in 10 (71.4%) out of 14 components in checklist. Number of dusters and buckets increased substantially. Knowledge and practice of all housekeeping staff increased from 65% to 97%. All 380 (100%) housekeeping staff were trained and the concepts of high/low touch surfaces, sequence of cleaning from clean to dirty, dilution of disinfectant improved drastically. Zero MDROs were identified on pre and post cleaning of occupied and unoccupied bed's side rails, doorknob, mattress, remote control, IV pole, cardiac monitor etc.
Conclusions: Cleaning and disinfection of environmental surfaces is essential to prevent transmission of hospital acquired infections particularly MDROs.

QAPI-24

Reduction of CAUTI Events in an ICU During the COVID-19 Pandemic Through Shared Governance and Using Process Improvement Strategies

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Background: Catheter Associated Urinary Tract Infections (CAUTIs) are associated with an increase in mortality, morbidity, length of stay, and hospital costs. Intensive Care Units (ICUs) have higher rates of CAUTIs than other hospital units. During the Coronavirus (COVID-19) pandemic, Hospital Associated Infections (HAIs) have increased, including a 30% increase in CAUTI events within ICUs nationwide. The aim of this project was to engage the frontline staff in reducing CAUTI rates in the ICU.
Methods: This project occurred on a 40 bed Intensive Care Unit (ICU) in a 350+ bed community hospital. The patient population included patients positive for COVID-19. The Shared Leadership Council (SLC), which comprised of both unit leadership and frontline staff, utilized Plan-Do-Check-Act (PDCA) framework to reduce the incidence of CAUTIs on the unit. Peri-care and catheter care was identified as a gap in recent CAUTI events. The SLC developed a 4-pronged approach to include: hand hygiene cues, peri-care and catheter care training, CAUTI prevention bundle and external device review, and Patient Care Assistants (PtCA) to champion and standardize catheter and peri-care in daily unit workflow.