# The Nurse Leader's Role in Decreasing Hospital Associated Infections St. Christopher's Hospital for Children – Philadelphia, PA Diana Colonna MSN, RN; Heather Perkins DrPH, MSN, RN, NPD-BC, CIC, CCRN; Claire Alminde MSN, RN, CPN, NEA-BC

#### INTRODUCTION

- A Pediatric Intensive Care Unit (PICU) in an urban pediatric hospital had an increase in Hospital Acquired Infections (HAI) in 2024. The Nursing Director identified 11 different HAIs from January to June including respiratory, bloodstream, and urinary tract infections. HAIs are considered a leading cause of morbidity and mortality and of the reported 1.7 million HAIs, 99,000 have led to death.
- PICU developed a plan to decrease HAIs through various methods including observations of practices, education, policy review, and process changes. It was found through observation that the use of personal cellphones for many patient-related needs had increased. Staff were using the cellphones as flashlights, translation devices, and for communication with providers within a patient's room.
- Hand hygiene compliance was near 100% but it was rarely observed that a cellphone was cleaned. Contamination of high touch surfaces can facilitate the transmission of microbes to other patients and healthcare workers. The unit Director posed whether the unit's lack of personal cellphone disinfection affected the units HAI rates. Electronic wipe cleaners were available but underutilized which is consistent with research that has shown that 96.7% of the healthcare workers never disinfected their phones during their shift. • The Nursing Director, Director of Professional Development, and Chief Nursing Officer (CNO) developed an action plan to help empower Registered Nurses (RN) and other disciplines to disinfect personnel cellphone devices regularly.



The aim of the project was to:

- decrease HAI through the developed campaign and
- empower RN from nursing leadership to the bedside registered nurse.

**Post-Cleaning CFUs** 



RN Leadership within the hospital wanted to test the effectiveness of the electronic wipe cleaners that were available to staff. Through collaboration with the hospital's microbiology lab, personnel cellphones were tested for colony forming units to show staff how cleaning cellphones could lead to decrease transmission of potentially harmful pathogens.

### **METHOD**

Five RN's personnel cellphones were tested before and after cleaning for colony forming units (CFUs). CFUs are a measure of the number of viable bacteria or fungi in any given sample.

- Each phone was swabbed with the provided agar from the hospital's microbiology lab in May of 2024. The cellphones were swabbed from participating RNs during their working shift at a random time.
- Phones were then cleaned according to manufacturing guidelines with the supplied electronic cleaning wipes and then swabbed again with a new agar from the hospital's microbiology lab.
- The growth was monitored in the hospital's microbiology lab with a final read at the 7-day mark. On average, 80-90 CFUs were found precleaning, decreased to 0-20 CFUs post cleaning.

The growth information was used to set up the Clean the Screen Campaign which included:

- 1. Infection prevention policy review.
- 2. Cleaning cell phones at the beginning of the shift and after each cellphone use.
- 3. Strategic placement of electronic cleaning wipes through the unit.
- 4. Decreasing the use of cell phones within patient rooms.
- 5. Cleaning the staff workstation prior to the start of their shift.



**Pre-cleaning CFUs** 



The PICU Nursing Director, through guidance and support of the hospital **CNO** and Director of Professional Development, reported out results and campaign plans to multiple hospital committees including Nursing Leadership Committee, Nursing Quality Committee, Patient Safety Committee, Infection Prevention Committee, and Hospital Quality committee. The Director of Professional Development coordinated education efforts with the unit-based educators to provide

6. Washing their hands prior to getting report each shift.

## RESULTS

It was shown that cleaning personal cellphones with electronic wipe cleaners decreases the CFUs.





education in June of 2024.

HAI rates have decreased, and the program will expand to all inpatient areas. Using the data collected for the personal cellphone CFU, the Nursing Leadership team was able to design and roll out effective education and process improvement to decrease HAI. Project timeline: May 2024 cellphones were swabbed, June 2024 education was rolled out, July 2024 had 1 HAI and 0 HAI in August of 2024.





#### ACKNOWLEDGEMENTS

Collaboration from nurse leaders within the pediatric hospital helped guide, shape, develop, and roll out an effective process improvement that not only empowers nurses but also impacts the health and well being of the staff and patients. Strategic placement of the electronic wipe cleaners throughout the unit increased the use of the wipes of staff. Electronic wipe cleaners were placed at:

- Employee time clock
- Three nursing stations
- Outside of staff bathrooms

Increased availability of the electronic wipe cleaners for staff increased usage which in turn aided in decreasing HAI.

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