Point of Care Stations: A Novel Way To Improve Stethoscope Hygiene

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Introduction

- Stethoscopes are known to be highly contaminated multise use equipment that carry the potential to transmit pathogens within clinical settings (1).
- North American infection prevention groups recommend low-level disinfection between patients; however, adherence remains low (2).
- Lack of access to disinfection materials is the most reported barrier to stethoscope hygiene across the literature.
- Previous interventions have used the provision of cleaning supplies and/or education to increase compliance.
- Here, we examine a novel initiative to implement permanent stations that combine stethoscope and hand hygiene.

Objective

We studied a multimodal intervention focused on the implementation of W.A.S.H. stations tied to a hand hygiene campaign to improve stethoscope hygiene compliance in cardiac critical care units.

Methods

- Study Design, Setting & Participants
  - Prospective, pilot quality improvement study using convenience sampling of healthcare providers in two cardiac critical care units at Toronto General Hospital

- Pre-intervention Observations
  - 12, one-hour observation intervals were conducted in each ICU to capture stethoscope disinfection events per opportunities between February and April 2019

- Intervention
  - 14 WASH stations were installed at patient room entrances accompanied by educational lectures/infographics during UHN’s hand hygiene campaign roll-out (March–September 2019)

- Post-intervention Observations
  - 12, one-hour observation intervals were conducted in each ICU to capture stethoscope disinfection events per opportunities between April and December 2019

- Qualitative Feedback
  - Stethoscope hygiene knowledge and behavior feedback was collected during 2 weeks before and 2 weeks after the intervention using gift card draw incentives

- Data Analysis
  - All data was collected aggregately and anonymously; stethoscope hygiene compliance observations were analyzed using Fisher’s Exact Test

Results

- A total of 144 observations revealed a significant increase in overall stethoscope hygiene compliance from 38% to 65% (\(p=0.0026\))
- Stethoscope hygiene compliance increased by 37% among physicians (\(p=0.0284\)), 19% among nurses, and 20% among respiratory therapists
- Hand hygiene compliance remained unchanged at 75%
- 74 completed feedback forms revealed a 32% increase in awareness of stethoscope hygiene policies/recommendations
- 74 completed feedback forms revealed a 16% increase in self-reports of stethoscope hygiene compliance

Conclusions

- This novel and multimodal intervention successfully increased stethoscope hygiene awareness and compliance by addressing the most common barrier to stethoscope hygiene: lack of access to materials.
- Unchanged hand hygiene rates may be attributable to previous findings that visual reminders are ineffective (3).
- This quality improvement initiative ultimately lead to a 25% increase in stethoscope hygiene compliance among ICU healthcare providers.
- The iterative installation process and the overlapping observation and intervention stages across the ICUs is the main limitation.
- W.A.S.H. stations have since expanded to other medical settings and could be adapted for disinfection of other multi-use equipment.

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References