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ST. VINCENT SETON HOSPITAL

HONORABLE MENTION GOLDBERG AWARD - NALTH

Dana Altman, RN
Infection Control Practitioner,
St. Vincent Seton Specialty Hospital

Cathy Blackwell, RN, CWOCN
Wound Care,
St. Vincent Seton Specialty Hospital

Edmond Hooker, MD, PhD,
Associate Professor,
Xavier University, Cincinnati, OH

Troy Reiff, RN
Chief Operating Officer,
St Vincent Seton Specialty Hospital

Kevin Webb, CHSP/CHCM
Safety Manager/Facility Manager,
St. Vincent Seton Specialty Hospital

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BACKGROUND:

1) 1 in 25 will get an HAI, of that amount 1 out of 10 will die
2) C.diff now one of top three pathogens representing urgen threat
3) Terminal Cleaning process cleans 50% of room surfaces
4) Disinfectants cause damage to mattress surface and cause them to leak
5) Bacteria on surfaces can re-colonize back to 42% of pre-treatment level with 6.5 hours of disinfection process
6) 38% of CDI come from previous patients
7) FDA warned hospitals to check mattresses

OBJECTIVES:

To determine if using a launderable cover can decrease the incidence of hospital acquired *clostridium difficile* infections.

METHODS:

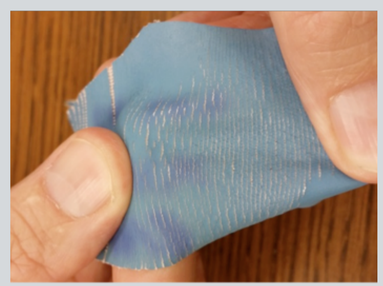
Seton operates two LTAC facilities in Indiana. Covers were applied to most beds in both facilities. Hill-Rom Clinitron beds were not covered. A launderable barrier cover was applied prior to patient admission. The cover was changed every 30 days. The cover was laundered in a healthcare laundry using chlorine bleach, standard detergents and 160 degree water. The covers were dried at temperatures exceeding 160 degrees.

RESULTS:

- Using a baseline of four months of data prior to the use of the cover compared to ten months after the use of the cover CDI's have been reduced by 49% from a four month average pre-cover use of 13.42 (+/- 4.22) infections per 10,000 patient days to 6.81 (+/- 4.81) infections per 10,000 patient days (p=0.034) (Figure 2).
- Both facilities have experienced a drop in CDI's, 45% in one and the other 52% in the other.
- There was no other on-going initiatives in place to reduce c-diff infections in either facility[1].
- An unexpected result of the use of the covers was a reduction in pseudomonas infections evidenced by a reduction in the use of Dakins solution. Dakins is used exclusively to treat pseudomonas infections and the prescriptions written for Dakins is down by 34% or 7.85 units / 1000 patient days to 5.25 / 1000 patient days.

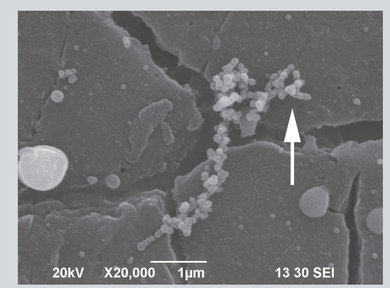
OTHER BENEFITS:

1) Consistently cleaner mattress
2) Cover inspected after each use to keep patient safe
3) Fresh appearance for family



Through the aging process the polymers in the polyurethane shrink causing cracks in the surface resulting in leaking mattress (shown above).

hear liner inside mattress traps fluids between mattress surface and core



SEM of cleaned mattress surface showing cracking and bacteria

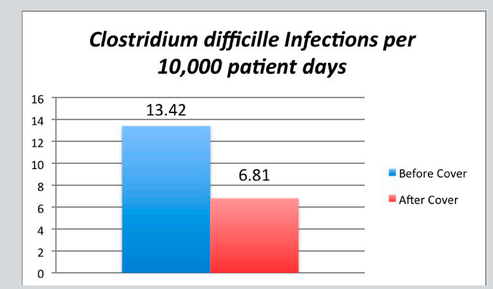


Figure 2

* Savings are based on national average cost for treating a c-diff infection (Zimlichman, 2013) representing costs absorbed by provider. Savings may vary depending on payor mix.

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Bed Cover Manufacturer:
Trinity Guardion