As The Hospital Turns: The Continuing Saga Of Environmental Cleaning & Disinfection

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Issue

• Vancomycin-resistant *Enterococcus* (VRE) outbreak
  o Regina General Hospital, 2013
  o Medical inpatient unit
  o 8 months duration
  o Environmental sampling
    - Extensive contamination
    - Patient charts, hand rails, pyxis machine, nursing station, storage room, staff kitchen

• Policies, procedures, improvement program
Project

- Environmental Services (EVS) Dept., Infection Prevention & Control Dept, 2014:
  - Analyzed practices, procedures, products
  - Improvement projects
  - Surveys regarding performance
  - Best evidence-based practices evaluated
Results

• Analysis protocols and surveys
  o Standardizing cleaning procedures
  o Changing cleaning products
  o Incorporating technological tools
  o Increasing staff accountability
  o Focusing patient care areas

• Improvement projects 2015 - 2017
Improvement Projects

1) Updating work standards
**Name of Activity:** Scripts for EVS Worker/Client Interaction

**Role Performing Activity:** EVS Employee

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**Electronic Location:** EVS Supervisor Shared Drive

**Hard Copy Location:** EVS Supervisor Office

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**Work Standard Summary:**

<table>
<thead>
<tr>
<th>Essential Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. EVS Employees may find themselves uncomfortable with conversing with clients – the following scripts are in place to ease any discomfort.</td>
</tr>
<tr>
<td>2. Clients do want to know who is coming into their room. All EVS workers will introduce themselves and their purpose upon entering a patient’s room, when the patients are awake.</td>
</tr>
<tr>
<td>3. The following are examples of” scripted conversation:</td>
</tr>
<tr>
<td>• Hello, my name is ________. I am an Environmental Service Worker; I am here to clean your room today.</td>
</tr>
<tr>
<td>• Hello, my name is ________. I am an Environmental Service Worker. I have to come in to clean your room today. I see that you have quite a few visitors, but I need to disinfect your room, would it be alright if I start now, or come back in 10 minutes.</td>
</tr>
<tr>
<td>4. You may have visitors in an area that you need to clean.</td>
</tr>
<tr>
<td>Hello, my name is ________. I am an Environmental Service Worker. I have to clean this area, and would ask that you move to the ________ to allow me to complete my job (when addressing patient visitors).</td>
</tr>
</tbody>
</table>
Improvement Projects

1) Updating work standards

2) Microfibre cleaning system and accelerated hydrogen peroxide

3) Portable hydrogen peroxide disinfection system
4) “Sticky Note” Exercise

- Colour coded
- Patient rooms, exam rooms, nursing stations, equipment

Outcomes:
- Cleaning locations
- Schedules
- Areas and equipment not being cleaned
5) Conducting audits

Overall Cleaning Results - Quarterly

- 76% (n=4) in 2015
- 78% (n=25) in 2015
- 79% (n=30) in 2016
- 83% (n=48) in 2016
- 83% (n=44) in 2017
- 86% (n=48) in 2017
- 84% (n=64) in 2018
- 90% (n=56) in 2018

Legend:
- Red: < 70%
- Yellow: 70%-80%
- Green: >= 80%
# Heat Map Progress and Trend Report

<table>
<thead>
<tr>
<th>High Touch Object</th>
<th>Baseline</th>
<th>Q4 2017</th>
<th>Q1 2018</th>
<th>Change Over Baseline</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathroom Handrail by Toilet</td>
<td>65%</td>
<td>95%</td>
<td>93%</td>
<td>28%</td>
<td>↓</td>
</tr>
<tr>
<td>Bathroom Inner Door Knob</td>
<td>61%</td>
<td>85%</td>
<td>87%</td>
<td>26%</td>
<td>↑</td>
</tr>
<tr>
<td>Bathroom Light Switch</td>
<td>74%</td>
<td>98%</td>
<td>89%</td>
<td>15%</td>
<td>↓</td>
</tr>
<tr>
<td>Bathroom Sink</td>
<td>83%</td>
<td>85%</td>
<td>88%</td>
<td>5%</td>
<td>↑</td>
</tr>
<tr>
<td>Bed Rail/Controls</td>
<td>69%</td>
<td>78%</td>
<td>84%</td>
<td>15%</td>
<td>↑</td>
</tr>
<tr>
<td>Bedside Table Handle</td>
<td>93%</td>
<td>91%</td>
<td>87%</td>
<td>-6%</td>
<td>↑</td>
</tr>
<tr>
<td>BR Hand Hygiene Dispenser</td>
<td>58%</td>
<td>67%</td>
<td>90%</td>
<td>32%</td>
<td>↑</td>
</tr>
<tr>
<td>Call Button</td>
<td>76%</td>
<td>90%</td>
<td>95%</td>
<td>19%</td>
<td>↑</td>
</tr>
<tr>
<td>Chair</td>
<td>57%</td>
<td>79%</td>
<td>86%</td>
<td>29%</td>
<td>↑</td>
</tr>
<tr>
<td>IV Pole (Grab Area)</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PR Hand Hygiene Dispenser</td>
<td>59%</td>
<td>89%</td>
<td>89%</td>
<td>30%</td>
<td>→</td>
</tr>
<tr>
<td>Room Inner Door Knobs</td>
<td>58%</td>
<td>89%</td>
<td>91%</td>
<td>33%</td>
<td>↑</td>
</tr>
<tr>
<td>Room Light Switch</td>
<td>50%</td>
<td>96%</td>
<td>91%</td>
<td>41%</td>
<td>↓</td>
</tr>
<tr>
<td>Room Sink</td>
<td>80%</td>
<td>87%</td>
<td>90%</td>
<td>10%</td>
<td>↑</td>
</tr>
<tr>
<td>Telephone</td>
<td>69%</td>
<td>100%</td>
<td>83%</td>
<td>14%</td>
<td>↑</td>
</tr>
<tr>
<td>Toilet Bedpan Cleaner</td>
<td>75%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilet Flush Handle</td>
<td>86%</td>
<td>90%</td>
<td>98%</td>
<td>12%</td>
<td>↑</td>
</tr>
<tr>
<td>Toilet Seat</td>
<td>78%</td>
<td>79%</td>
<td>87%</td>
<td>9%</td>
<td>↑</td>
</tr>
<tr>
<td>Tray Table</td>
<td>80%</td>
<td>88%</td>
<td>92%</td>
<td>12%</td>
<td>↑</td>
</tr>
<tr>
<td>TV</td>
<td>73%</td>
<td>73%</td>
<td>89%</td>
<td>NaN</td>
<td>↑</td>
</tr>
<tr>
<td>Total Patient Bathroom</td>
<td>73%</td>
<td>85%</td>
<td>90%</td>
<td>17%</td>
<td>↑</td>
</tr>
<tr>
<td>Total Patient Room</td>
<td>68%</td>
<td>85%</td>
<td>89%</td>
<td>21%</td>
<td>↑</td>
</tr>
<tr>
<td>Total</td>
<td>71%</td>
<td>86%</td>
<td>90%</td>
<td>19%</td>
<td>↑</td>
</tr>
</tbody>
</table>
6) Seasonal Cleaning Program, 2017
   a) Patient room shut down 24 hours
b) Room decanted
c) Repairs
d) Equipment maintenance
d) Room cleaned
Lesson Learned

• Understanding current processes & activities, opportunities for improving practices & patient safety

• Engaging patients & staff, initiatives introduced & implemented

• Implement strategies 2018
  o Updating orientation manual
  o Enhance training methods
  o Wipeable privacy curtains
Acknowledgements

• Patients
• EVS Staff
• Infection Prevention & Control
• Support Services
• Clinical Staff
• Facilities Management
• Clinical Engineering
Thank you

Questions?

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Regina Qu'Appelle Health Region, healthcare-associated infection and colonization rate per 10,000 patient-days, 2015 - 2017

Between 2015 - 2017:
- MRSA decreased 44%
- ESBL decreased 43%
- VRE decreased 22%

Year | Methicillin-resistant Staphylococcus aureus | Extended-Spectrum Beta-Lactamase | Vancomycin-resistant Enterococci |
---|---|---|---|
2015 | 6.8 | 3.5 | 6.6 |
2016 | 6.2 | 2.5 | 3.7 |
2017 | 9.1 | 2.0 | 2.0 |
From 2015 to 2017:
  o 60 fewer MRSA cases at Regina General Hospital and Pasqua Hospital, cost savings of **$530,460**
  o 24 fewer VRE cases at Regina General Hospital and Pasqua Hospital, cost savings of **$430,776**
Total number of outbreak days, Vancomycin-Resistant *Enterococcus*, Regina General Hospital and Pasqua Hospital, 2015 - 2017

- 2015: 100 outbreak days
- 2016: 89 outbreak days
- 2017: 69 outbreak days

Decrease of 31%