Improving precaution adherence at BMC

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Under the Guidance of
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Introduction

MRSA, Clostridium Difficile are primary causes of health care associated infections at Boston Medical Center. They are also associated with higher mortality and morbidity rate. Health care associated infections are responsible for complication of estimated 1 in every 20 patients. We observed the protocols to be followed under different precautions such as Standard, Contact, Droplet, Contact plus (Clostridium Difficile infections) and Air borne infections at the intensive care unit.
Guidelines

For standard precautions – Follow hand washing prior to entering the room and hand washing while exiting the room.

For contact precautions one must wear the gown first and fasten it accordingly followed by wearing a mask (if necessary) and don the gloves last.

While exiting a room with contact precautions one must remove the gloves first followed by gown followed by mask.

For a room with contact plus precautions one must follow the protocol for contact precautions but must wash their hands with soap and water instead of alcohol rub.
Methods

Four blocks of three rooms were observed randomly.

Every room was observed for a duration of 15 minutes regardless of the precaution.

Entry and exit were viewed as two separate observations.

We excluded EMT’s, correctional officers and visitors.

We also excluded emergency situations and procedures.

We also observed if any personal equipments were used and whether they were sanitized before exiting the room.
# Results

<table>
<thead>
<tr>
<th></th>
<th>RN</th>
<th>MD</th>
<th>OVERALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry hand washing</td>
<td>60/134 (44.8%)</td>
<td>14/55 (25.5%)</td>
<td>87/219 (39.7%)</td>
</tr>
<tr>
<td>Standard precaution</td>
<td>42/90 (47.7%)</td>
<td>11/28 (39.3%)</td>
<td>59/132 (44.7%)</td>
</tr>
<tr>
<td>Contact precaution</td>
<td>11/33 (33.3%)</td>
<td>2/26 (7.7%)</td>
<td>20/70 (28.6%)</td>
</tr>
<tr>
<td>Exit hand washing</td>
<td>106/138 (76.8%)</td>
<td>29/51 (56.9%)</td>
<td>150/216 (69.4%)</td>
</tr>
<tr>
<td>Standard precaution</td>
<td>73/92 (79.3%)</td>
<td>14/26 (53.8%)</td>
<td>95/134 (70.9%)</td>
</tr>
<tr>
<td>Contact precaution</td>
<td>23/32 (67.6%)</td>
<td>12/21 (57.1%)</td>
<td>41/63 (65.1%)</td>
</tr>
</tbody>
</table>
Hand washing before entering the room under any precaution

Handwash bar graph while going in

<table>
<thead>
<tr>
<th>Role</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>1</td>
</tr>
<tr>
<td>MD</td>
<td>40</td>
</tr>
<tr>
<td>NA</td>
<td>5</td>
</tr>
<tr>
<td>O</td>
<td>10</td>
</tr>
<tr>
<td>PT</td>
<td>10</td>
</tr>
<tr>
<td>RN</td>
<td>120</td>
</tr>
<tr>
<td>RT</td>
<td>10</td>
</tr>
</tbody>
</table>

Handwash: 0, 1
Hand washing while exiting room under any precautions
Gown donning while entering room under contact precautions

Gown donning bar graph while going in for contact precaution
Gown doffing while coming out of room with contact precautions
Proposed Interventions

We must educate health care professionals to increase the hand hygiene practice and compliance.

To ensure the availability of alcohol-based rub and gloves at the point of care.

Health care professionals must be regularly monitored to ensure that hand hygiene is followed and intervention must be put in place if required.
Proposed Interventions: “Safe Zone"

“Safe Zone” would be an area, approximately the first 3 feet of entering a room, marked on the floor

Pros

• Has been performed with some success at other institutions
• Allows HCW to “poke their head in” to check a monitor or briefly chat with patient
• Serves as a reminder not to touch patient or environment if precautions have not been taking
• Serves as a reminder to take the necessary precautions if passing beyond marked zone

Cons

• Requires alteration of floor
• Easily ignored
Proposed Interventions: Communication Campaign

Would involve signs and ideally an easy-to-remember catch phrase to associate with transmission-based precautions

- “Wash In, Wash Out” (or “Wash it In, Wash it Out”, “Gown In, Wash Out” et cetera) or some other phrase

Could add simple visual or color associations

**Pros**
- Simple
- Minimally invasive
- Relatively low cost

**Cons**
- Easily ignored or forgotten
- Would need buy in from HCW