“Room of Horrors”: Engaging Interprofessional Students in a Hazards of Hospitalization Simulation

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International Nursing Association for Clinical Simulation & Learning is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center’s Commission on Accreditation.
DISCLOSURES

Conflict of Interest
- Margie Molloy & Alison Clay report no conflict of interest
- Julia Greenawalt (INACSL Conference Administrator & Nurse Planner) reports no conflict of interest
- Leann Horsley (INACSL Lead Nurse Planner) reports no conflict of interest

Successful Completion
- Attend 100% of session
- Complete online evaluation
Learning Objectives

Upon completion of this educational activity, participants will be able to:

1. Identify the importance of and strategies for incorporating Interprofessional education in healthcare training.

2. Verbalize how a patient safety simulation experience can be used to teach medical and nursing students about the hazards of hospitalization.

3. Identify the benefits of caring for patients as a team versus caring for patients as individuals.
Background

• Hazards of hospitalization (HOH) are costly

• Hospital acquired infections (HAI), medication errors, pressure ulcers, and falls prolong hospitalizations, cause suffering and may result in death

• Medical and nursing students may not even be aware of HOHs
Implications for Educators

• IPE needs to be part of students’ training

• Students must be aware that HOH exist

• Students have a role in preventing/mitigating these HOH
JCAHO and Safety/HAC

• Falls
• Restraints
• High Alert Medications
• Other HAI
  – Surgical Site Infection
  – Ventilator Associated Events
  – Central line associated blood stream infection
  – Catheter associated urinary tract infections
# Importance: Costs Associated with HAI

<table>
<thead>
<tr>
<th></th>
<th>Mortality</th>
<th>Excess Total Cost</th>
<th>Attributable Cost</th>
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<tbody>
<tr>
<td>CLABSI&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Adjusted OR 2.27</td>
<td>$50,000</td>
<td>$32,000</td>
</tr>
<tr>
<td></td>
<td>(CI 1.14-4.46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAP&lt;sup&gt;2,3,4&lt;/sup&gt;</td>
<td>HR 1.25 (CI 0.7-2.24)&lt;sup&gt;3&lt;/sup&gt; OR 2.0 (1.16-3.56)&lt;sup&gt;4&lt;/sup&gt;</td>
<td>$50,000&lt;sup&gt;2&lt;/sup&gt;</td>
<td>$12,000&lt;sup&gt;2&lt;/sup&gt;</td>
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NB: CAUTI most common HAI cause 2°BSI, and are therefore are costly<sup>5</sup>
Importance of HAI: Reduced Reimbursement

1. Final Rule 2009: 2% penalty for not reporting data
2. 2011: Nonpayment for provider preventable events
3. Value Based Purchasing 2013: payment based on hospital performance against national standards
4. HAC program 2015: Reduced annual payments based on rates of Hospital Acquired Conditions

http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/Hospital-Acquired_Conditions.html (accessed 2-28-2015)
CAUTI Prevention

• Don’t use it unless necessary
• Only qualified people should put it in!
• Use a closed catheter system with
  – Distal ports for aspiration
  – Keep connected and draining (below level bladder)
• Take it out as soon as possible
VAP (VAC?)- Prevention

Feeding
Analgesic
Sedation (SAT)
Thrombophylaxis (DVT)
HOB elevated 30°
Ulcer Prophylaxis
Glucose control (<180)
(Early mobility)

http://www.charityfocus.org/blog/upload/image/helpothers/2010/hugs%20cartoon.jpg
(accessed 2-27-2015)
CLABSI Prevention

Insertion

• Hand Hygiene*
• CHG Scrub*
• Full Barrier Precautions*
• Site Selection (Subclavian or IJ with US)*
• Catheter Fewest Lumens
• CHG Dressing
• Checklist at Insertion
• CVC Cart

Maintenance

• Hand Hygiene
• Scrub the Hub >30 seconds
• Add Sterile Caps
• Change caps >72 hrs
• Check Dressing/Line for signs of infection
• Replace Tubing >96 hours <7 days or after blood/lipids
• No Routine Line Changes

Removal

• Assess Need for Line Every day!*


* Part of Original Central Line bundle
Team Skills in Health Care

• Shared Mental Model

• Situation Monitoring/Cross Monitoring

• Structured Communication
TeamSTEPPS

- Leadership
- Communication
- Situation Monitoring
- Mutual Support

Patient Part of Team
Room of Horrors Simulation

2 Part Patient Safety Simulation:

Part 1: Individual Walk-through- list
HOH observed in the simulation

Part 2: Team Walk-through- list
HOH observed in the simulation

Utilizes the Room of Horrors- “I Spy” Simulation Game
Part 1 ROH

Student walks through room independently
Records patient safety hazards (clipboard)
Transfer findings into a database

Participants:
School of Nursing n= 77 ABSN Students + 17 ACNP Student
School of Medicine n= 95
Part 2 ROH

Student walks through room as a team (team comprised of a mix of nursing and medical students)

Record patient safety hazards (clipboard)

Group transfers findings into a database

Total Teams Participating:
School of Nursing + School of Medicine Teams n=54
Methods

Mixed Methods Observational Study with a qualitative and quantitative component:
- Part 1: Identifies if nursing and medical students identify the same type of HOH
- Part 2: Identifies if teams are better at identifying HOH compared to individuals
Results: Part 1

Nursing students:
• more likely to describe that there were no orders for some therapies (i.e. medications, restraints)
• more likely to notice problems with emergency equipment

Medical students:
• more likely to notice reasons that certain therapies should not be given (i.e. patient was allergic to medication, restraints would make delirium worse and should not be ordered)
Room of Horrors- Infection Control

No Gowns/Gloves
Empy Hand Sanitizer
Shouldn't use Hand sanitizer

All Statistically Significant
Room of Horror: Other HAC

Soiled Bedding IV site red HOB not correct* No DVT
Results: Part 2

• Teams performed better than individuals at identifying HOH.
• Identification of ICU-related HOH were overall quite low, especially for prevention of:
  – Pressure Ulcers and Stress Ulcers
  – Ventilator-associated Pneumonia and
  – Delirium
• There was a “learning effect” between simulations
## Part 2 Survey Results

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<tr>
<th>Room of Horrors Team- (total teams, n=41)</th>
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<tbody>
<tr>
<td><strong>Infection Control</strong>&lt;br&gt;<em>No mask for droplet precautions</em></td>
<td>68% (n=28), p=0.0076</td>
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<tr>
<td><strong>Medications:</strong>&lt;br&gt;<em>Flagyl not ordered, but hanging</em></td>
<td>88% (n=36), p&lt;0.0001</td>
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<tr>
<td><strong>Skin:</strong>&lt;br&gt;<em>Pressure ulcers on heels/heels not floated</em></td>
<td>46% (n=19), p&lt;0.0001</td>
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<tr>
<td><strong>CLABSI</strong>&lt;br&gt;<em>Central line is dirty and should be removed/changed</em></td>
<td>73% (n=30), p&lt;0.0001</td>
</tr>
<tr>
<td><strong>VAP:</strong>&lt;br&gt;<em>HOB is &lt;30</em>&lt;br&gt;<em>No SSI or insulin drip despite high blood glucose</em>&lt;br&gt;<em>No spontaneous awakening or breathing trials</em>&lt;br&gt;<em>TV on ventilator is high</em></td>
<td>54% (n=22), p&lt;0.0001&lt;br&gt;49% (n=20)&lt;br&gt;15% (n=6)&lt;br&gt;10% (n=4)</td>
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<tr>
<td><strong>Stress Ulcer</strong>&lt;br&gt;<em>No H2 blocker or PPI</em> (n=4)</td>
<td>10% (n=4) ND</td>
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<tr>
<td><strong>Delirium</strong>&lt;br&gt;<em>No orders for restraints</em>&lt;br&gt;<em>Restraints are tied incorrectly to bed rails</em>&lt;br&gt;<em>Patients glasses are not being worn</em></td>
<td>63% (n=26), p&lt;0.0001&lt;br&gt;32% (n=13), p=0.007&lt;br&gt;92% (n=38)</td>
</tr>
<tr>
<td><strong>Other</strong>&lt;br&gt;<em>All four bed rails are down</em>&lt;br&gt;<em>IV needs to be changed</em>&lt;br&gt;<em>NG not secured</em></td>
<td>68% (n=28), p&lt;0.0001&lt;br&gt;78% (n=32), p&lt;0.0001&lt;br&gt;38% (n=12)</td>
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Recommendations

• Because graduating nursing and medical students are not able to identify many hazards of hospitalization, the health system should incorporate HOH as part of orientation and offer this learning as an interprofessional team experience.
Limitations

- Single institution study involving only 2 groups of professional students
- ROH Part 2 was not randomized to detect the “learning effect” from ROH Part 1
- A tool for documenting faculty observations during ROH Part 2 needs to better capture students’ teamwork interactions
Conclusions

• SON/SOM Faculty collaborated and implemented the ROH simulations for graduating nursing and medical students.
• The simulation exposed students to the similarities and differences in each other’s roles and responsibilities in patient care.
• Allowed students to engage in dialogue about HOH.
• Overall, the students identified the simulation experience to be engaging and informative as a safety initiative and suggest repeating it for future cohorts.
What’s one thing you learned?

There are a lot of things you must remember to assess....almost too many to remember

The devil is in the details.
The horror is real
Special thanks to the IPE Team

Alison Clay, MD
Saumil M. Chudgar, MD, MS
Kathleen M. Turner, DNP, RN
Jacqueline Vaughn, BSN, RN, CHSE

Thanks for your participation!
Questions?

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References


