Effects of interprofessional mass casualty incident simulation on role perception and communication between medical, physician assistant, and nursing students

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The Issue

During the didactic portion of health professional schools, students report:
- Little opportunity to experience their role in the healthcare team
- Little opportunity to practice communication in the healthcare team
- Lack of confidence in applying themselves in their future role

The Solution

A voluntary, half-day, interprofessional Mass Casualty Incident (MCI) simulation
I.T.E.A.M. Day
Interprofessional Triage, Emergency Assessment, and Management

- **Saturday, Nov 12th**
- **Personnel**
  - Faculty: 14
  - Participants: 36
    - 18 Medical Students
    - 10 PA Students
    - 8 Nursing students
  - Volunteers: 6
  - Standardized Patients: 24
- **6** skill stations, **1** mass causality scenario

<table>
<thead>
<tr>
<th>Station</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Primary Survey/Triage</td>
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<tr>
<td>B</td>
<td>IV/IO</td>
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<tr>
<td>C</td>
<td>Hemorrhage Management</td>
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<tr>
<td>D</td>
<td>Burn Management</td>
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<tr>
<td>E</td>
<td>Basic Airway</td>
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| F       | Surgical Interest Group Situation  
  - Needle decompression and chest tubes |

Mass Casualty Scenario and debrief: Live Actor Triage Simulation
Learning Objectives

• Students will **learn** how to implement triage algorithms for the evaluation and management of patients in a disaster situation
• Students will **practice** emergent interventions indicated for variable disaster-related injuries
• Participants will **demonstrate** core competencies of interprofessional teamwork, including working with individuals and students of other professions to maintain a climate of mutual respect and applying leadership practices that support collaboration and team effectiveness
Methods

- Pre-event and Post-event survey
- 10 Likert scale questions
- 6 qualitative short-answer questions

Evaluating:
- Perceived confidence of roles within the healthcare team
- Knowledge of healthcare team dynamics and communication
- Perceived benefit of interprofessional simulation training
• I understand my role within the healthcare team (p-0.038)

• I am confident functioning in my role on the healthcare team (p-0.034)
Results - Communication

- I am confident in my communication skills to other members of the healthcare team (p=0.001).

- I can identify reasons for communication breakdown within the healthcare team (p=0.005).
Results - MCI

- I have knowledge of skills I can implement in a mass casualty event (p=0.0005)
- I feel confident implementing skills in a mass casualty event (p=0.004)
What did you learn from this simulation?

chaotic  communication  placement  learned  skills  casualty

What surprised you the most about working with students from other disciplines?

education  student  work  practice  discipline
Results – Unsignificant

- I understand the roles of others (RN, PA, MD) on the healthcare team ($p=0.0552$)
- I feel comfortable working with others as a member of the healthcare team ($p=0.101$)
Challenges and Limitations

- Space and personnel limitations
- Date limitations
- Program designed by students in single profession
- Limited post survey responses
- Results are perceived
  - No measure of direct learning
Lessons

- Simulated MCI improves
  - **Knowledge** of individual *roles*
  - **Confidence** in *role* functioning
  - **Ability** to *communicate* with others
- The activity should be voluntary
- Nursing and PA student involvement in the future development
  - Longitudinal - perceived improvements translation into clinical practice
Acknowledgements

- ECU Office of Clinical Simulation
- ECU Department of Physician Assistant Studies
- ECU College of Nursing
- ECU School of Theater and Dance
- ECU Health Physicians, Physician Assistants, and Nurses
- Office of Clinical Skills Assessment and Education – Standardized Patient Program
- Institute for Healthcare Improvement
- ECU
- ECU Student Government Association