



Disaster Simulation: A Method to Educate and Evaluate Disaster Training for Undergraduate Nursing Students

Donna Guerra EdD, RN

Melissa Foster DNP, RN, IBCLC

Objectives

1. Understand the importance of exposing baccalaureate nursing student to mass casualty events in order to help students appreciate the concepts and care constraints inherent to disaster nursing.
2. Recognize the process of designing and executing a full-scale disaster simulation in baccalaureate nursing education.
3. 3. Discuss simulation evaluation methods and the inherent challenges associated with evaluating student performance in a disaster event.

Disaster response... A different focus

- Disaster response not common among nurses
- Requires knowledge and application of Utilitarianism
- Skills to manage situation to minimize mass casualty

(Busby & Witucki-Brown, 2011)

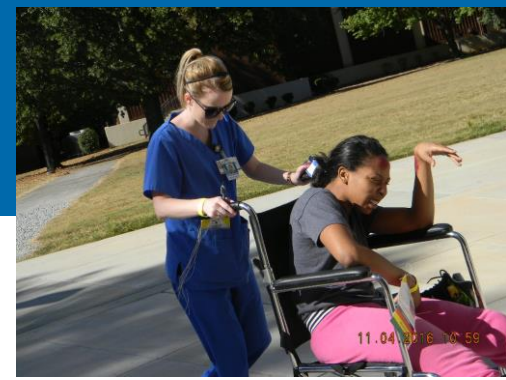


Evidence supporting inclusion of disaster response

- Nurses comprise most of health care work force
- Important nurses be prepared to respond to disasters using best practices- ideally undergraduate curriculum
- Avoid negative impacts on patient care
- Equip nurses to deal with personal feelings of decision-making required during disaster situations

(Alim, Kawabata, & Nakazawa, 2015; Busby, Witucki-Brown, 2011; Jose & Dufrene, 2014; Oztekin, Larson, Altun-Ugras, & Yuksel, 2014; Unver, et al., 2018)

- Annual event- 2006 to present
- Full-scale disaster simulation (one day)
- University support
 - Tabletop drill with Risk Management
 - University Police Department participation
 - CON support: administrative/financial
 - Faculty evaluators
 - Purchase of supplies
 - Professional grade moulage



General student preparation

- Prep begins on first day of class
- FEMA online courses/certificates
- Didactic instruction
- Textbook readings
- Students given survey to request management team or victim role in simulation

Emergency Management Institute



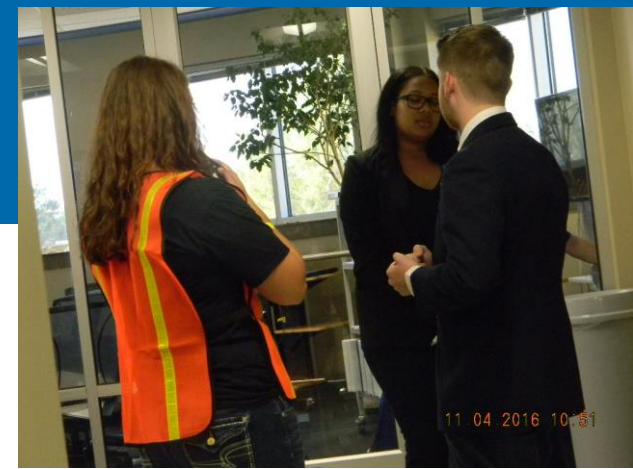
FEMA

This Certificate of Achievement is to acknowledge that

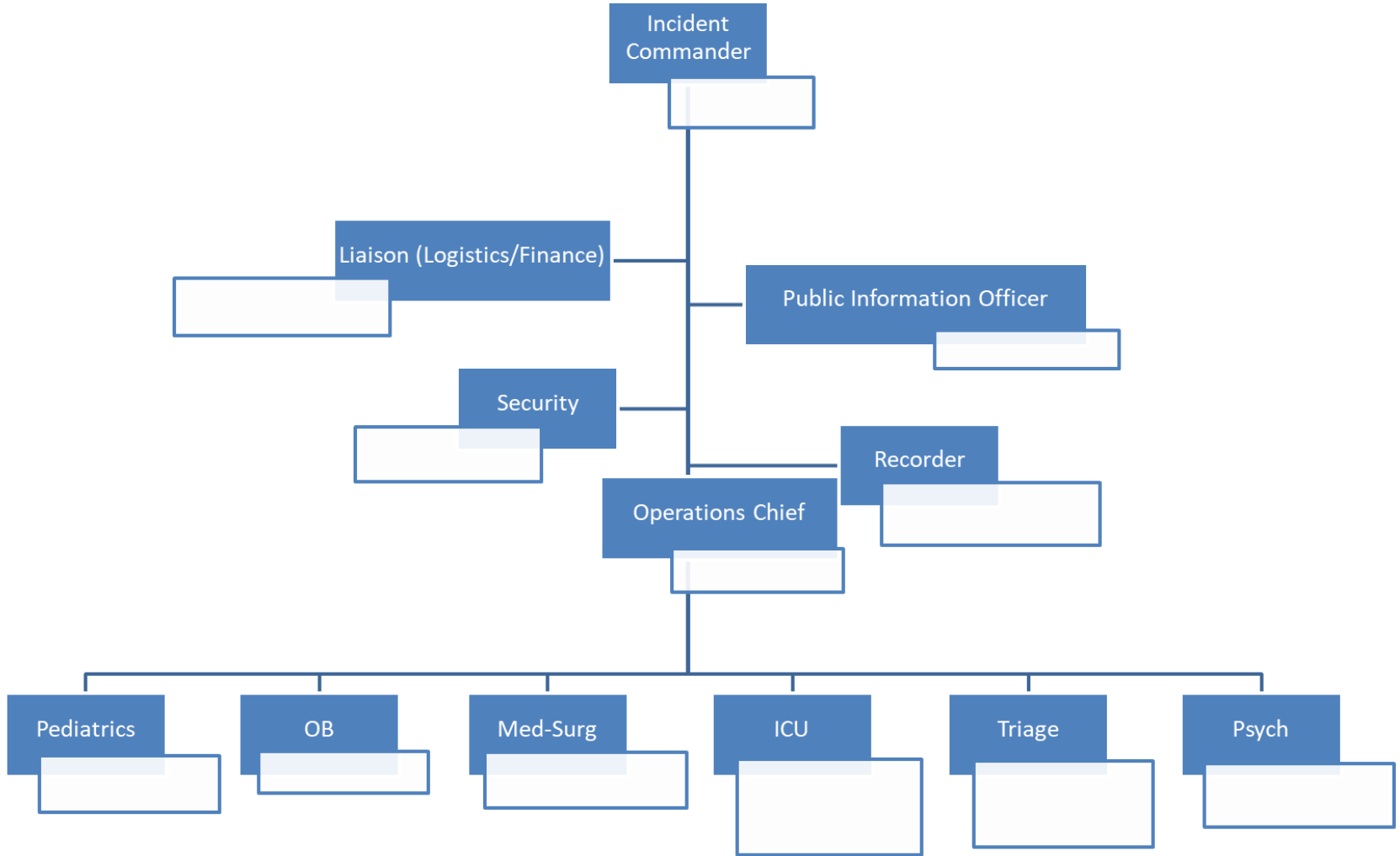
has reaffirmed a dedication to emergency management through continued professional development and completion of the independent study course:

IS-00042
Social Media in Emergency Management

Issued this 23rd Day of January, 2023



- Incident Command System (ICS)
 - Component of National Incident Management System (NIMS)
- Student application for desired management position
- Once selected, students meet with faculty and peers to discuss roles and expectations for preparation for simulation
 - Present plan for assigned area/role



- Randomly assigned to students
- Students responsible for:
 - “back story” of victim
 - Knowledge of injury/illness
 - Treatment options and appropriate response to treatment provided
- Students turn in “victim cards” at conclusion of simulation



Disaster Day

- Simulated Catastrophic event affecting our community
- Local hospitals on diversion- CON activated as Mass Casualty Unit (MCU)



Victim prep

- Victims responsible for costuming
 - Student creativity
- Moulage team
 - Enhanced realism
- Victim release scheduling



Examples of moulage

- Extensive
 - Gunshot wounds
 - Impalements
 - Other traumatic injuries
- Minor
 - Scrapes
 - Bruises





COLLEGE OF NURSING
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Victim Triage

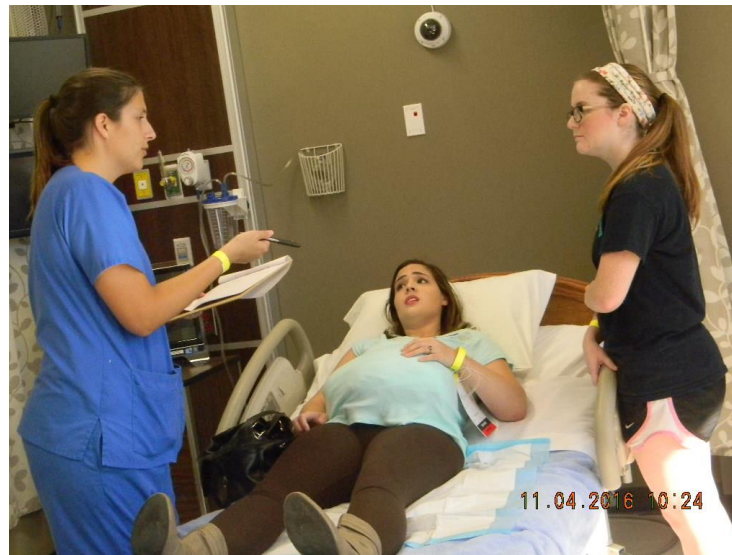
- Triage staff performs triage of victims using **START**

Simple
Triage
And
Rapid
Treatment

The image shows two examples of START Triage Tags. The top tag is a 'TRACE-ABC TRIAGE TAG' with fields for patient information, vital signs, and medical history. The bottom tag is a color-coded 'DECEASED IMMEDIATE DELAYED MINOR' tag.



- ICU
- Med/Surg
- OB
- Pediatrics
- Psychiatry



Other areas of interest

- ICS Headquarters
- Detention area
- Morgue



During the simulation

- Realistic chaos
- Triage activities
- Nursing care within the confines of disaster resources
- Police enforcement simulation

- Best practices in debriefing
 - INACSL Standards
 - Reflective process
 - Understanding of all aspects of simulation
 - Develop students' professional roles in disaster response

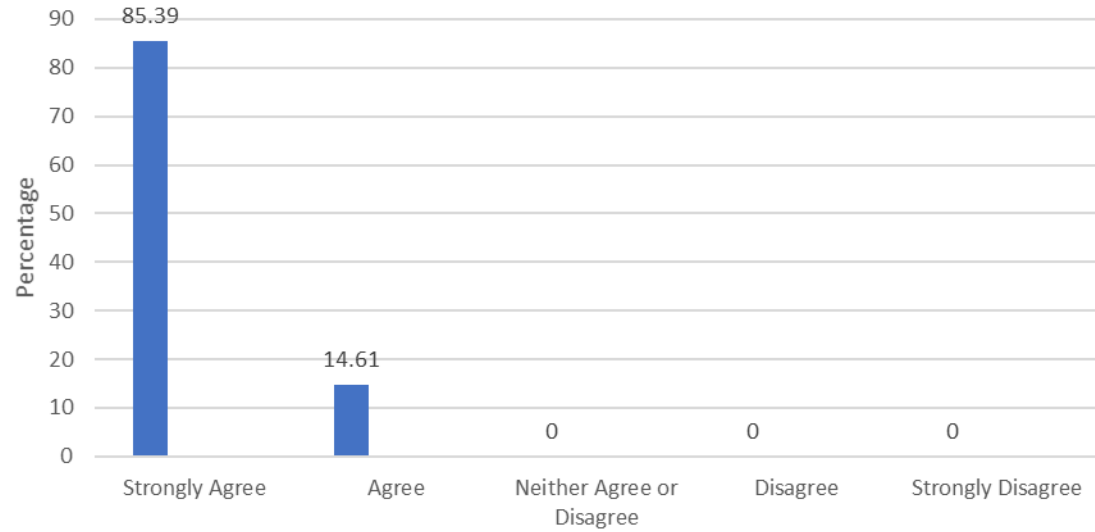
- Students provide feedback using NLN Simulation Design Scale as a template for Students
 - Adapted to capture simulation-specific data
- Faculty evaluate student performance using Creighton Competency Evaluation Instrument (CCEI)
- Students also provide anecdotal feedback following the simulation and after graduation



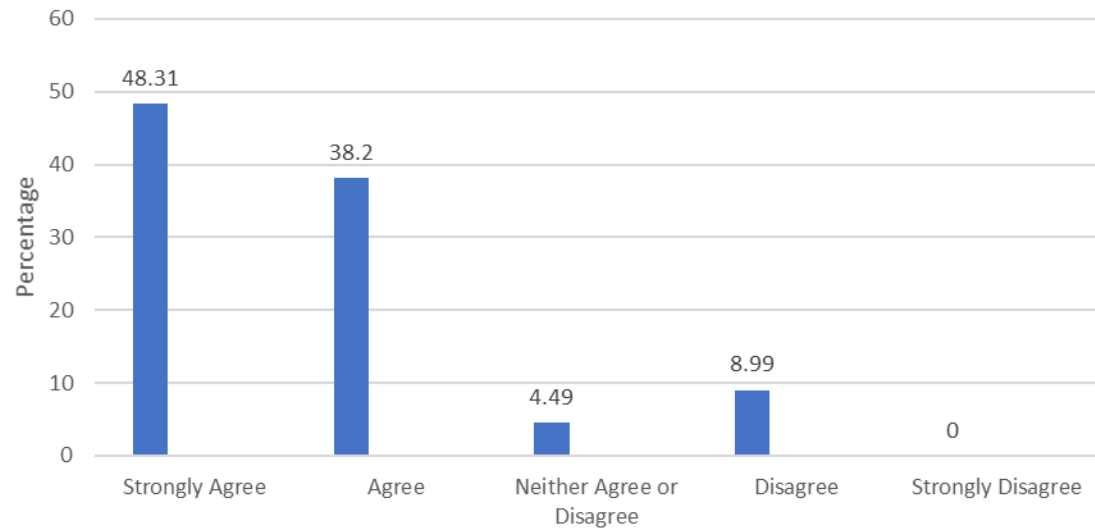
Evaluation Results

NLN Simulation Design Scale (adapted)
Creighton Competency Evaluation Instrument (CCEI)
(adapted)
Anecdotal comments

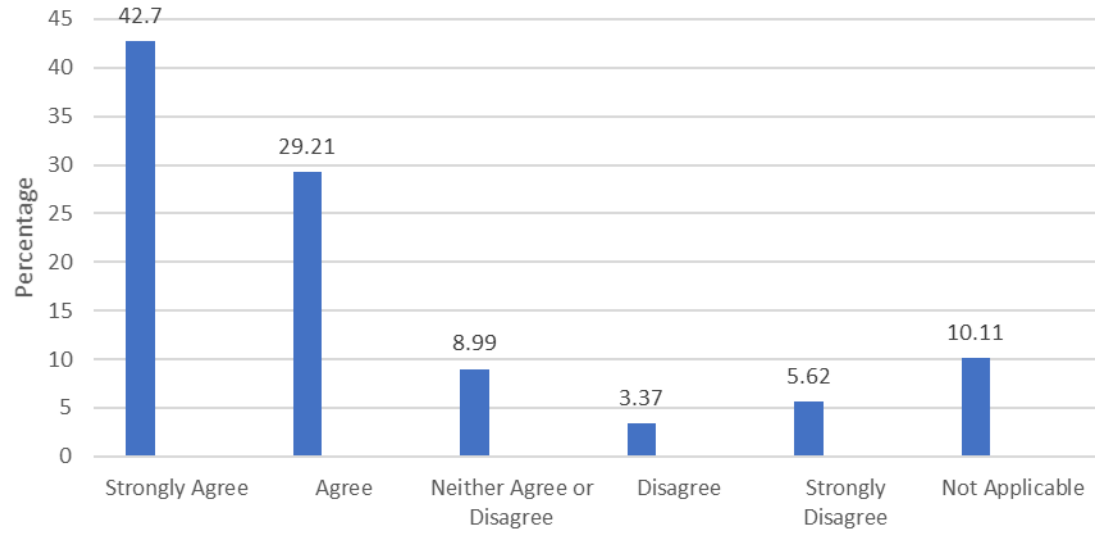
I clearly understood the purpose and objectives of the simulation.



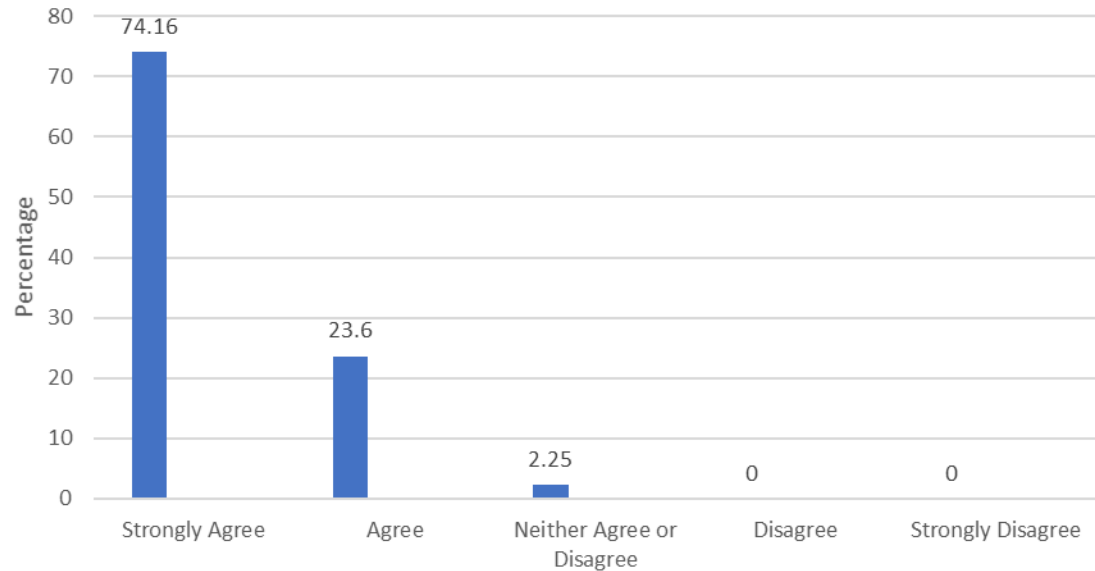
There was enough information provided prior to the simulation to provide direction and encouragement.



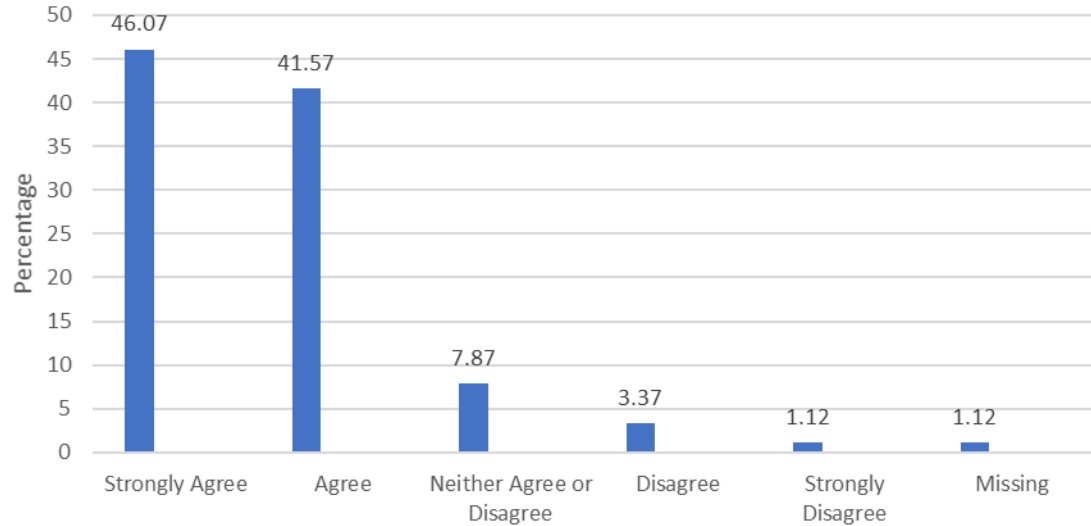
I was provided enough information to develop my victim character.



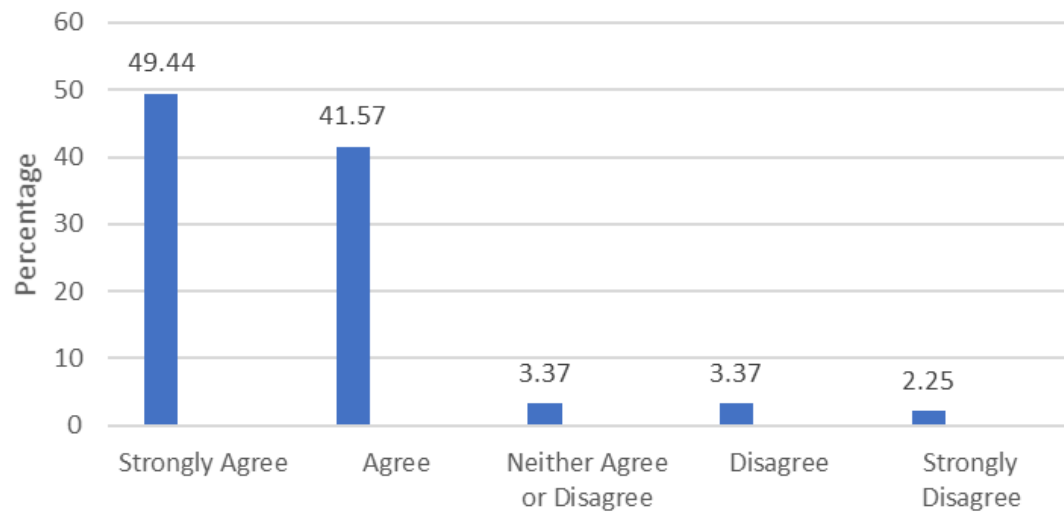
I understood my role within the disaster simulation.



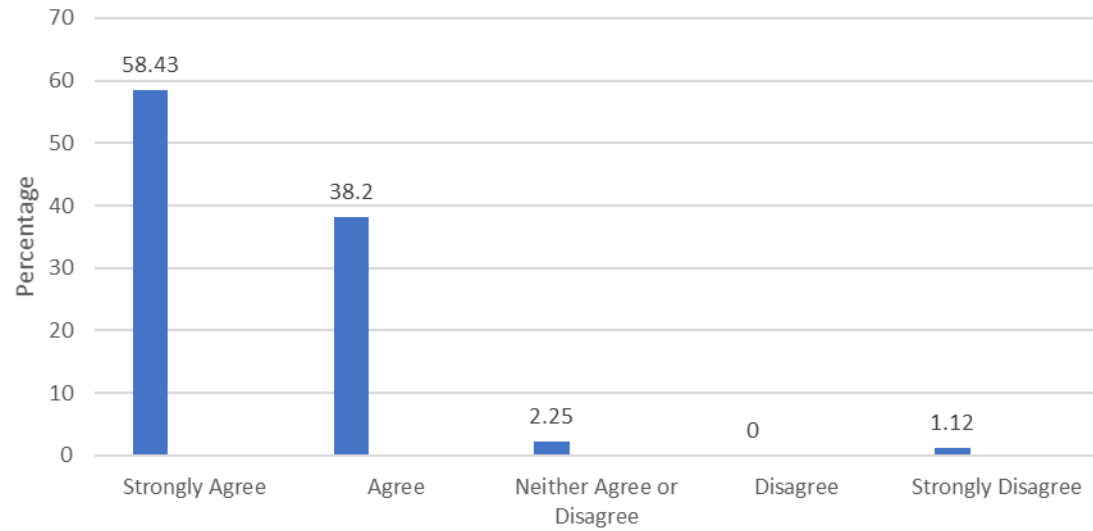
Management team members communicated effectively with the victims



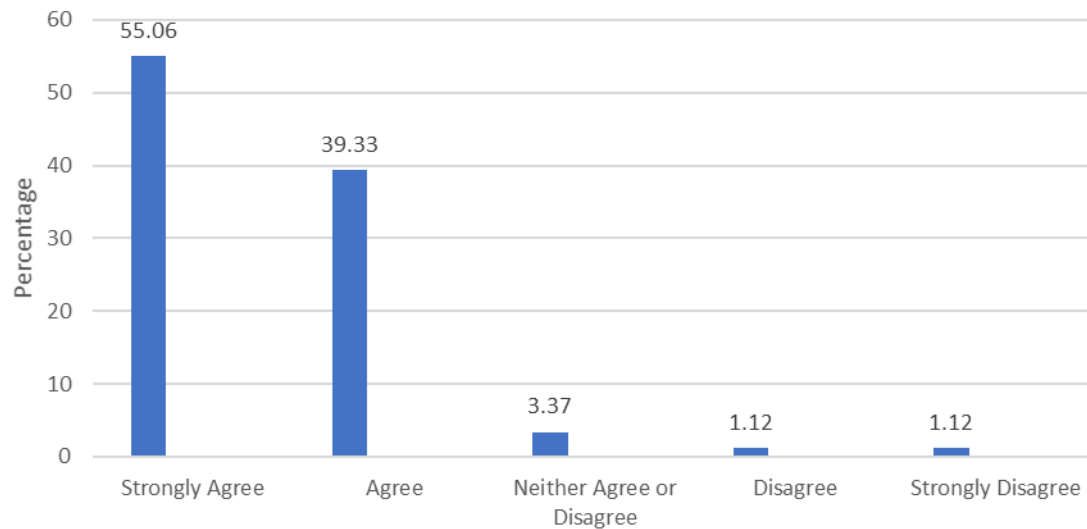
Management team members communicated effectively with each other.



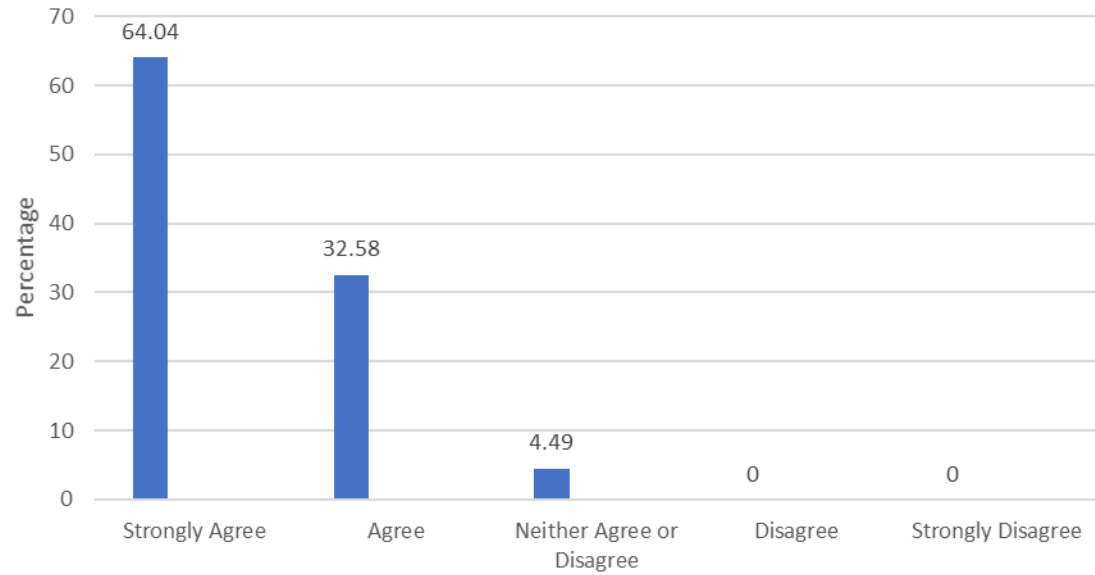
Management team members' actions during the simulation were patient-focused.



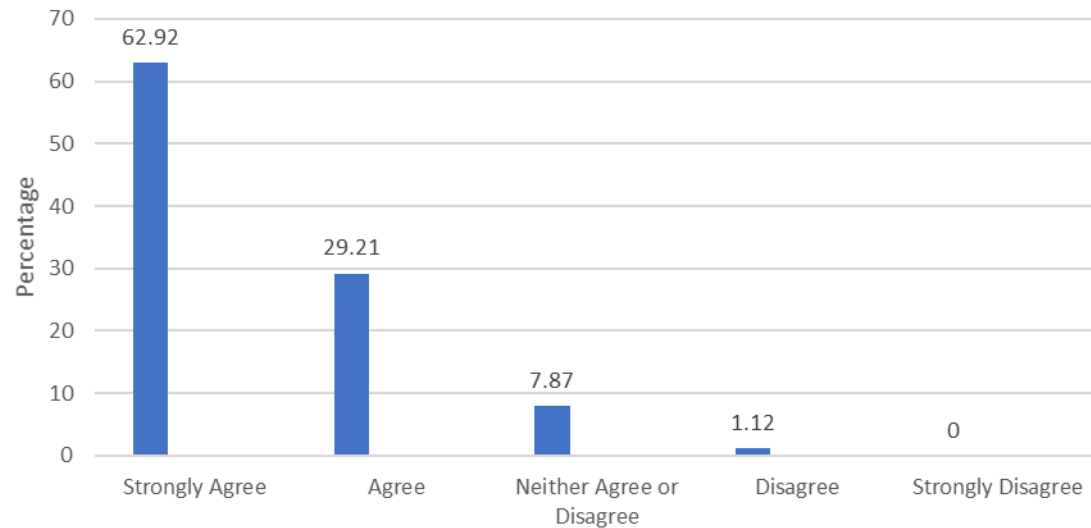
Management team members performed appropriate interventions within disaster guidelines.



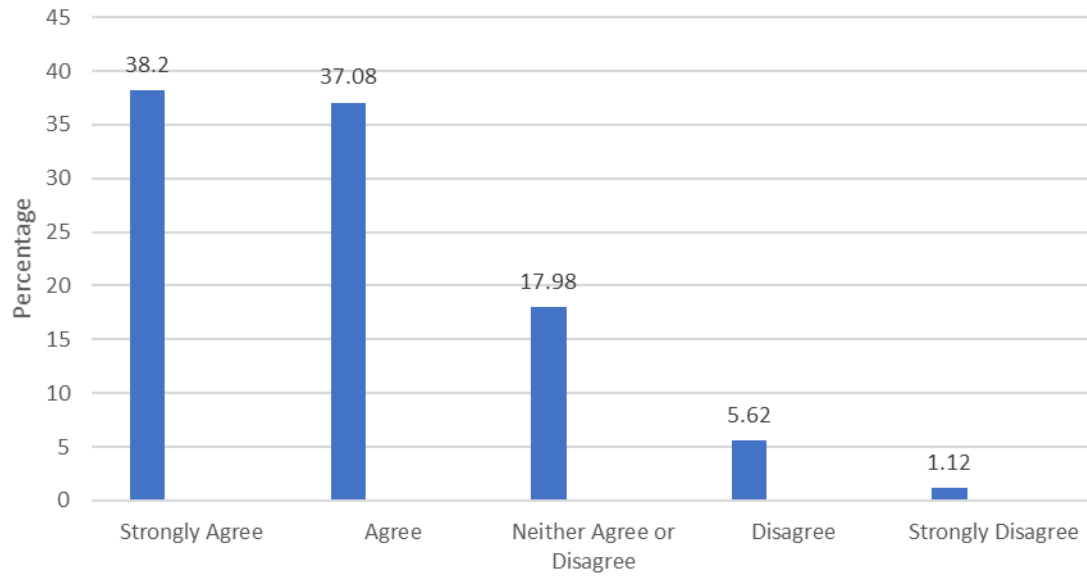
The disaster simulation supported the objectives.



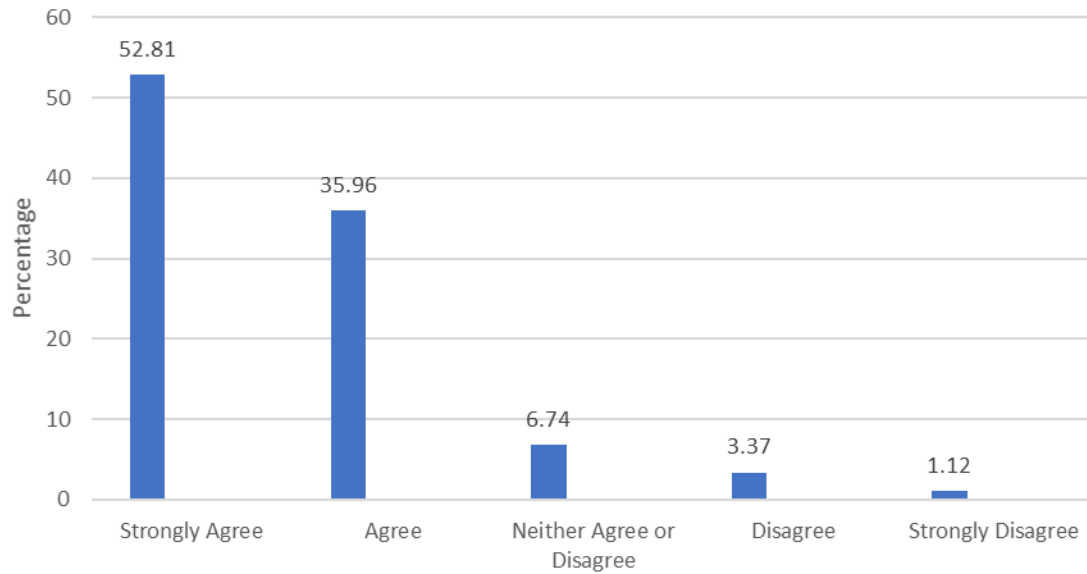
Teaching methods were effective for learning about disaster management.



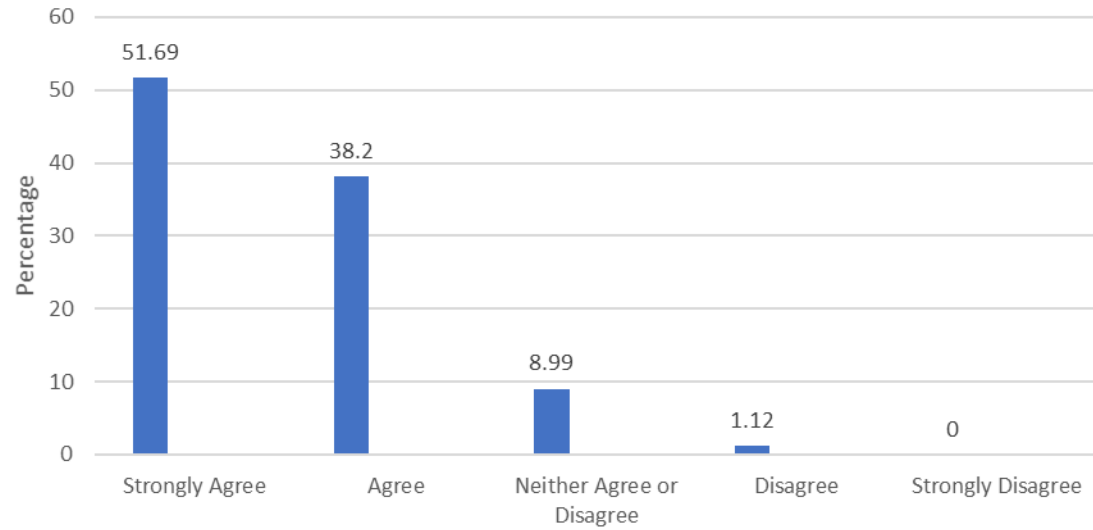
The disaster simulation was a realistic experience.



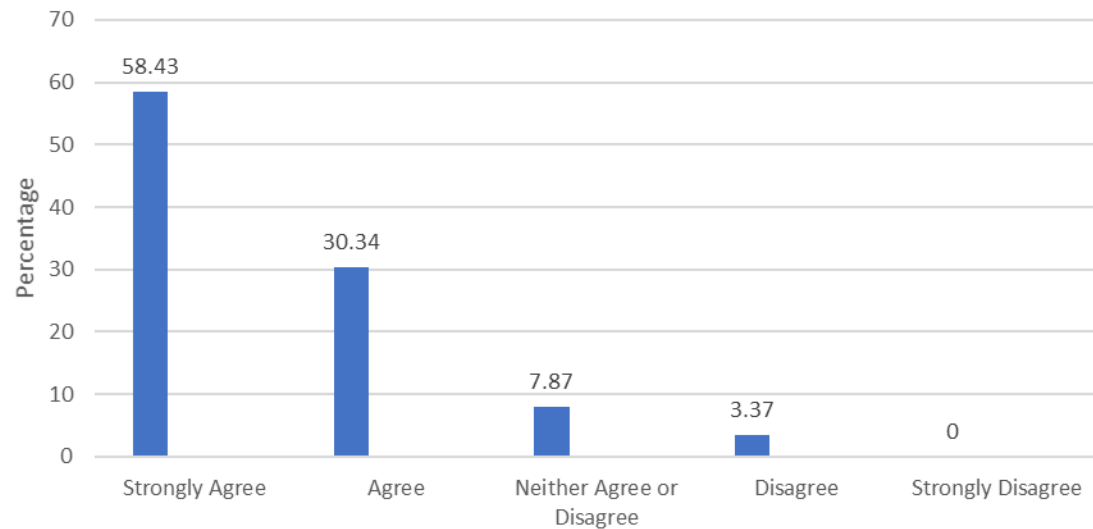
The disaster simulation added to my knowledge.

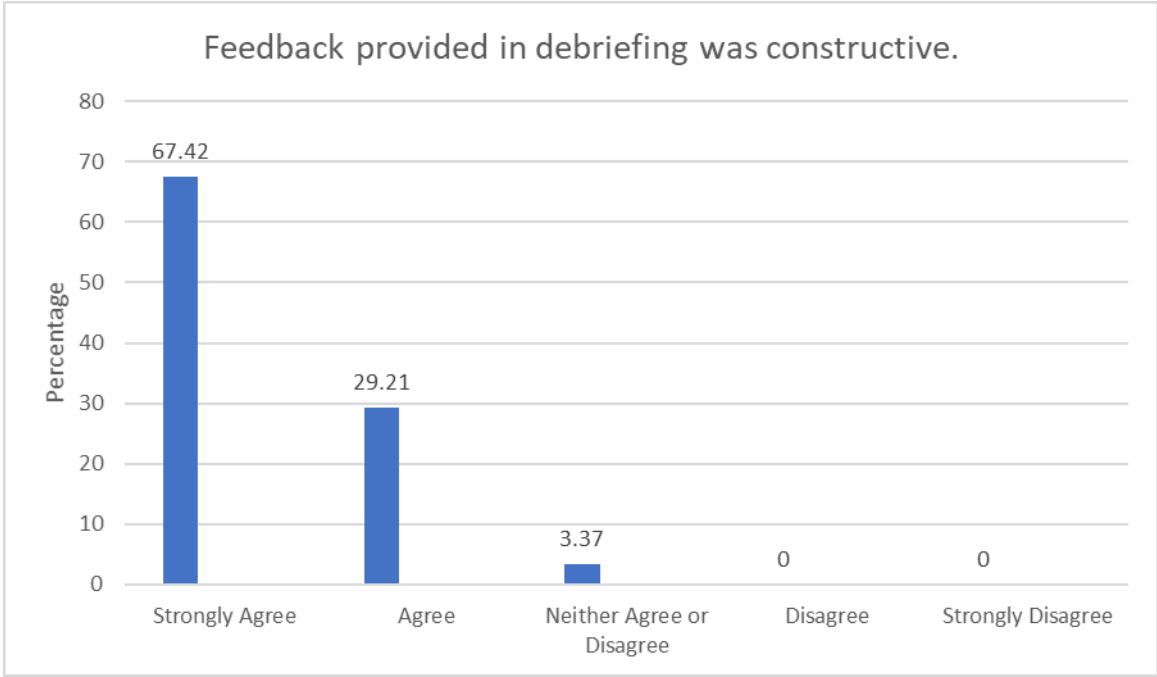


This learning experience will have a positive effect on my professional practice.



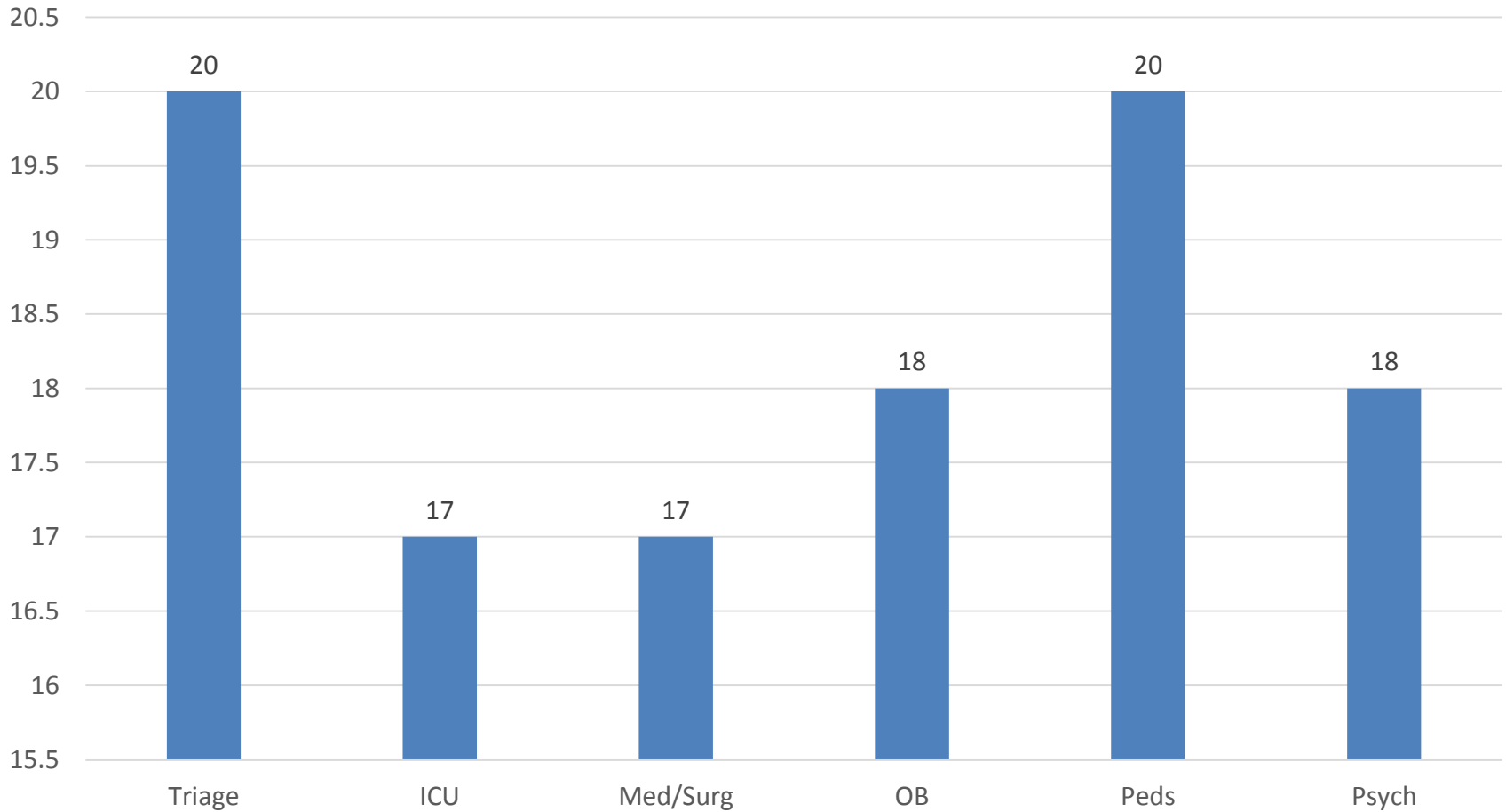
I felt supported by the faculty's assistance during the simulation.





Faculty evaluations

Overall Student Performance



Student comments

“This was a great learning experience for a real disaster. I wasn’t able to see other parts of the management team since I was so busy, but it was an eye opener for the real world. I really enjoyed this and it will be beneficial for future experiences.”

“The preparation the management team had was good and had a positive impact on how the BSN students ran the drill. I loved the disaster drill and think that I was additionally well-prepared having precepted in an ER.”

“I feel that I have learned how fast-paced a disaster is and affects a hospital. I also did not think in terms of basic first aid leading into the drill. I feel that I have gotten most of my anxiety related to dealing with a disaster over with and will be better prepared to go into a disaster with a level head.”

“I believe this preparation of the disaster drill and participating in the disaster drill will help me tremendously in my nursing practice during a disaster. This drill helped me realize what I was good at and what I was weak at. It makes me realize how as a unit nurse I have to change my thinking from doing head-to-toe assessments and taking the time to talk to patients to doing a quick 30-second assessment and figuring out what is wrong with them in a short period of time.”

Disaster Simulation

Comments:

Tx - Albuterol - crackles
 Lasix - Pleural effusion
 OX Lung CA - PTSD

Ativan for seizures - Evaluate
 for seizures 8yr old.

suicide Safety Contract -
 wants to transfer out for safety -
 checked pt for items pt could
 use to hurt herself.

hearing voices - appropriate request for Geodon

Called for security appropriately - pt
 had stolen niters in bag.

Disaster Simulation Faculty Evaluation

Faculty Coach Area (please circle): Triage, Med-Surg, ICU, Pediatrics, OB, <u>Psych</u>	0 - does not demonstrate competency 1 - demonstrates competency N/A - not applicable	Comments:
Management Team (ICS staff, nursing) Evaluator: Date:		
Assessment: 1. Obtains pertinent data 2. Reassesses as needed 3. Assesses the environment	0 (0) N/A 0 (0) N/A 0 (0) N/A	Continues to reassess and evaluate environment.
Communication: 1. Communicates effectively with other staff 2. Communicates effectively with victims and significant others 3. Documents concisely and accurately 4. Responds to abnormal findings appropriately 5. Acts in a professional manner	0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A	Calms patient Asks appropriate questions
Clinical Judgment: 1. Interprets physical findings - VS, injuries, past medical history 2. Interprets subjective/objective findings - recognizes relevant from irrelevant data 3. Prioritizes appropriately - 4. Performs evidence based interventions 5. Provides evidence based rationale for interventions 6. Evaluates interventions and outcomes 7. Delegates appropriately - 8. Observes confidentiality and HIPPA regulations - <i>as best you can in psych -</i>	0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A	Prioritize less critical patients to be just monitored ^{rather} to be able to care for more critical pt. Delegates for pt safety - SI pt - Tries to keep pt in their own room.
Patient Safety: 1. Uses available patient identifiers 2. Utilizes universal precautions including hand washing/sanitizing 3. Administers meds safely 4. Identifies infection control issues 5. Performs procedures correctly 6. Identifies potential hazards and errors	0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A 0 (0) N/A	

- Handwashing/gloving issues
- Good head-to-toe assessments; could improve systematic approach
- Incomplete hand-off reports
- Critical thinking skills spot-on
- Need to work on patient follow-up during chaos
- Situational awareness

- Deficient number of student participants
 - 20 management team roles
 - 5-7 victims: 1 staff member
 - 100-140 participants needed
 - Volunteers unreliable
- Evaluation of student performance
 - Limited faculty to participate
 - Faculty knowledge of disaster response