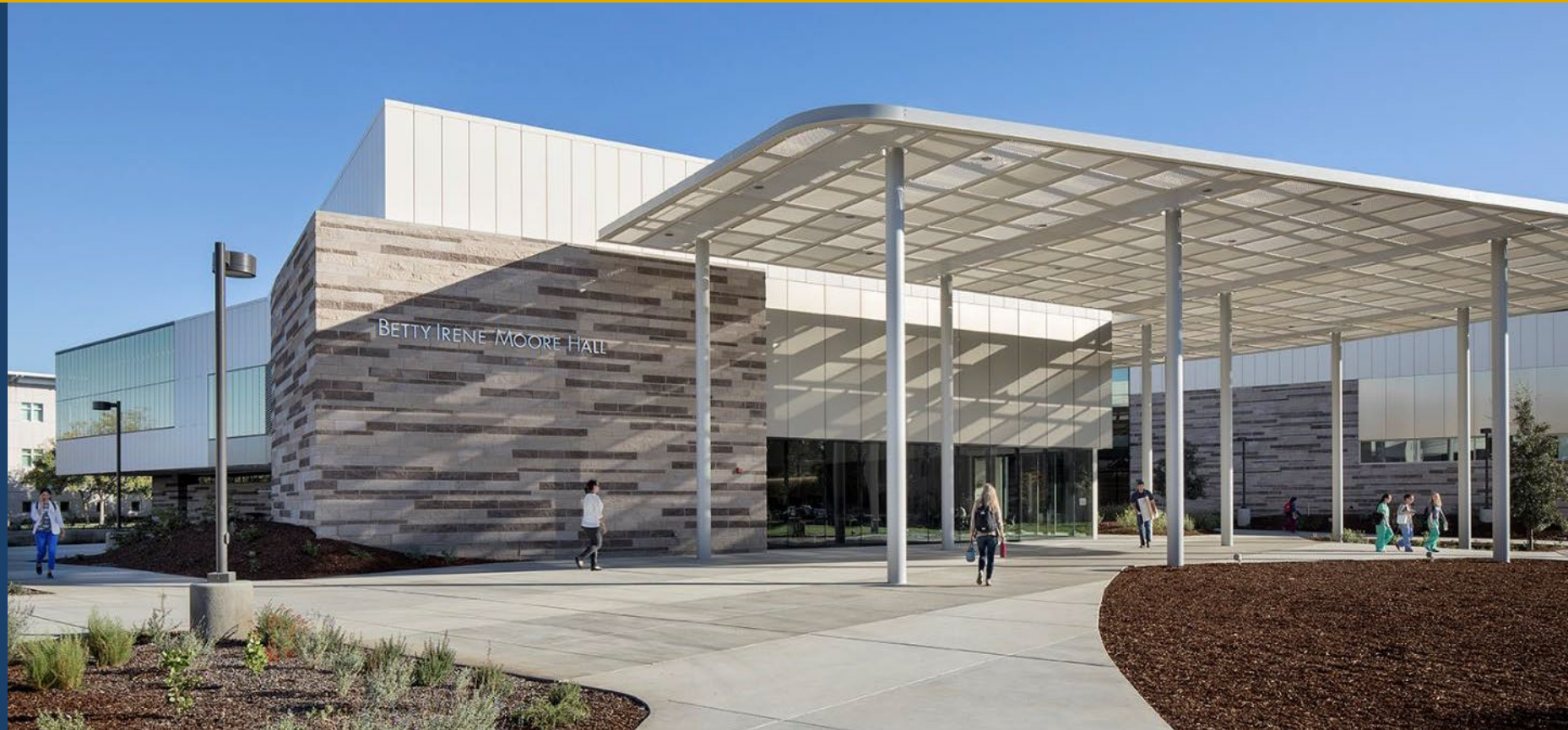




COVID-19 Enhanced CPR Safety Mock Code Blue Training Simulations

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Background

CORONAVIRUS IMPACT

- Code Blue- patients are in cardiac or respiratory arrest
- Before COVID-19 – average survival rate 10-23.9%.
- Personal Protective Equipment- PPE
- **Enhanced Airborne PPE:**
 - Fitted N95 respirator or PAPR-Powered Air Purifying Respirator, goggles, face shield, long-sleeved gown and gloves



Code Blue



Literature Review

Three themes:

1. Reducing Provider Exposure
2. Decision Making and goals of care
3. Simulation Training

Literature Review Themes

1. Reducing Provider Exposure

- Minimizing team members inside the room
- Aerosol generating procedures (AGP)
- PPE- PAPRs for AGP
- Chest Compressions-only CPR
- Airway management





Literature Review Themes:

2. Decision Making and goals of care

- Early discussions about goal of care

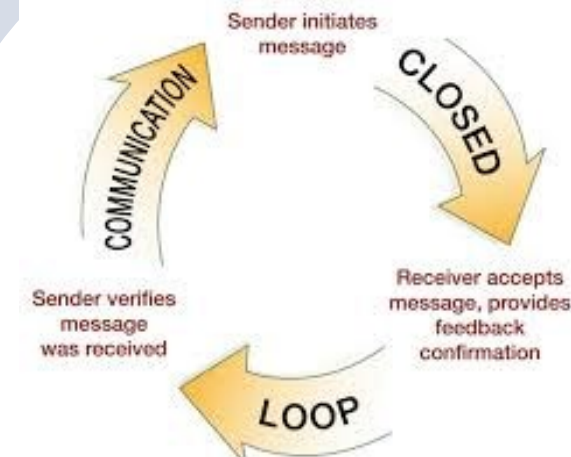
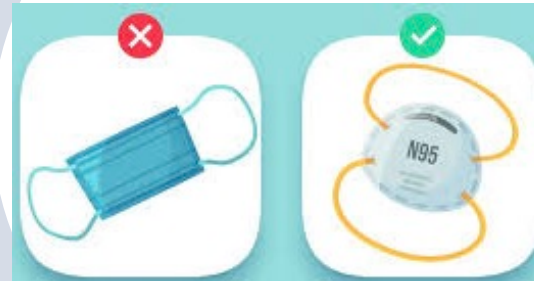
3. Simulation Training

- Communication
- PPE
- Debriefing



Gaps

- PPE varied
- Team members inside and outside the room
- Closed-loop communication with a closed door



Description of the Project

- Enhanced CPR Safety Mock Code Blue Training
 - National League of Nursing (NLN) Jeffries Simulation Framework
 - New AHA guidelines with CDC recommendations for enhanced precautions
- Limiting essential staff inside the room– Roles
- Code PPE Cart– PAPRS for PPE
- Closed–loop communication
- First Responder vs 5 essential members inside



Implementation and Evaluation

Staff Roles Guide for COVID-19 Mock Code Blue Simulations

Objectives:

1. Understand the key components of enhanced CPR safety
2. Recognize a cardiac emergency, activate RRT/code blue button/call for help
3. Understand PPE protocol for COVID Isolations during intubation/CPR
4. Demonstrate to start compressions-only CPR
5. Understand Essential Staff roles inside and outside the room

Instructions:

Participant goals:

1. First Responder- Activates a Code Blue, starts compression-only CPR (leaves room when essential staff arrives)
2. Limit 5 Essential Staff inside the room with PAPRS
3. Use SBAR communication and closed-loop communication

Situation: Billy Johnson, a 62-Year-old male uses the call light and states he is having dizziness, sweating and trouble breathing. Upon arrival to the room, the nurse notices that the patient is gray and diaphoretic. Billy clutches his chest, and his eyes roll back. He does not appear to be breathing.

Background: Billy Johnson was admitted with chest pain and NSTEMI e. He has a history of smoking, diabetes, and PCI with 2 stents placed 2 years ago. In the ED he stated having intermittent chest pain over the past week, but the chest pain has resolved. EKG showed ST inversion in V1 through V4. Initial troponins 3 hours prior was 1.15.



Implementation

Essential Staff:

Roles Inside the Room:

<p><u>First Responder:</u> (Bedside RN)</p> <p><u>RN leaves room after Essential Staff arrive</u></p>	<ul style="list-style-type: none"> ● Calls out, "I need help in here!" ● Pushes (states) Code Blue button ● Checks pulse/Compressions (CPR 3-5 minutes until staff arrives) ● Stands by Recorder (outside room) ● Gives SBAR to RRT/Provider when arrives
<p>1. <u>RN:</u> (Compressor #1)</p>	<ul style="list-style-type: none"> ● Brings Crash Cart (COVID-19- stays outside of room) ● Unstraps Zoll off cart (<u>Wait for PPE CODE CART</u> before entering room) ● Brings in backboard - Assists RRT placing 2nd zoll patch and backboard ● Relieves First Responder- Starts compressions
<p>2. <u>RRT:</u> (Medication/Defibrillator)</p>	<ul style="list-style-type: none"> ● Calls Recorder using wireless earbuds prior to entering the room ● Brings Zoll and into room-Places patches and backboard ● Communicate rhythms/meds/ defibrillation/joules to recorder as needed
<p>3. <u>RT #1:</u> (Airway/Intubation)</p>	<ul style="list-style-type: none"> ● Brings Ambu bag with Viral filter (<u>Do NOT bag pt until RT #2 arrives for complete seal!</u>) ● Place back board and 2nd defibrillator patch while 1st and 2nd Responder rolls patient.
<p>4. <u>RT #2:</u> (Compressor #2)</p>	<ul style="list-style-type: none"> ● Assist RT #1 with complete seal for bag, valve, mask respirations
<p>5. Provider</p>	<ul style="list-style-type: none"> ● Team Leader, receives SBAR from Primary RN, Intubation, directs medications given.



Implementation

Essential Staff:

Roles Outside the Room:

1. First Responder: (Bedside RN)	<ul style="list-style-type: none"> Stands by Recorder giving SBAR patient report to Inside Staff
2. Recorder: (Assistance from 2nd RRT)	<ul style="list-style-type: none"> Retrieves a WOW computer to document- Start CODE Navigator Record and communicate times for rhythm checks (after 2 min CPR) next med (Q 3 min) CLOSED LOOP COMMUNICATION (speak into phone connected to Inside RRT)
3. Charge RN for unit	<ul style="list-style-type: none"> Calls RRT to notify of Code Blue AND pt is COVID (prompts quicker response) Gatekeeper until Nursing Supervisor arrives Assists inside Essential Staff with PAPR when PPE Code Cart arrives
4. Nursing Supervisor: (Gatekeeper)	<ul style="list-style-type: none"> Ensures 5 essential staff in the room has proper PPE in use Coordinate ICU bed with Patient Placement RN Ensures proper doffing of PPE after Code Blue
5. Rover (RN/PCT)	<ul style="list-style-type: none"> Assists Essential Staff by placing PAPRS and role badges from PPE Cart Retrieves equipment and supplies for inside Essential Staff
6. RT #3	<ul style="list-style-type: none"> ABG kit, equipment, retrieves and sets up ventilator
7. Pharmacist: (Mixes all medication drips PRN)	<ul style="list-style-type: none"> Anticipate and gives RRT emergency medications and flushes as needed



Implementation

Facilitator/Trainer Guide for Mock Code Blue Simulations

Overview: The simulations are expected to last 10 minutes each followed by 5-10 minutes of debrief reflections. Lead a group of 5 floor RNs/4 RTs with an RRT, nursing supervisor, provider, and pharmacist through a Code Blue, and 8 students observing (4 inside the room and 4 outside the room). Following the debrief, participants observing will switch roles and run through the simulation a second time.

Prebrief Instructions: Please remind participants to act out each role verbally prior to the start of the simulation. Encourage and give examples of closed-loop communication and SBAR. Explain this is a safe practice environment.

1. Review each role prior to the start of the mock code so they understand their role and placement during the simulation. Please prompt the staff on roles and actions to be taken during the code.
2. Explain that the 1st Responder RN will go inside the room, activate/states “Code Blue,” starts compression-only CPR.
3. ONCE ACTIVATION occurs, please wait two minutes for the PPE Code Cart to arrive. Prompt staff to detach Zoll & backboard, don gowns, and assist Inside Staff with PAPRS and Role badges when PPE Cart arrives.
4. Recorder calls RRT on the earbuds before RRT enters room.

Explain that we will “run the code” with the following constraints:

1. Disposable gowns will be used, place PAPER belts/hoses on with motors on (NO hoods).
2. Participants will place Zoll monitor facing Provider/RRT, (PRETEND) to place both patches on, (REALLY) place backboard and TURN ON the defibrillator.
3. Prompt compressors to switch out with each other every 2 minutes and retrieve outside meds/supplies
4. Recorders & 1st Responder RN will work with each other to communicate times of compressions, medications, rhythm and have closed loop communication with each team member. If unable to establish Code Documentation in computer-Recorder will document on paper and continue closed-loop communication.

INSIDE ROLES: Are the roles filled?

1. 1st Responder RN (compression-only CPR)
2. RRT (Trainer)- med/defibrillator
3. RN/PCT- Compressor #1
4. RT #1- Airway/assists provider
5. RT #2- Compressor #2
6. Provider (Trainer)

OUTSIDE ROLES: Are the roles filled?

1. Recorder: RN
2. First Responder stands by Recorder
3. Charge RN
4. Rover RN
5. Nursing Supervisor RN (Trainer)
6. RT #3 (ventilator/ABG/supplies)
7. Pharmacy (Trainer)

Implementation

Facilitator/Trainer Guide for Mock Code Blue Simulations

Scenario Instructions:

Monitor will show V-Tach, NO pulse. Participants will perform interventions such as compressions, NO bag-valve mask ventilations unless 2-hand seal & viral filter (**ask/prompt:** defibrillate? Joules? Oxygen off? Compressions? Medications to be given? **Is Epi ready at the door?**) Compressor 1 or 2 retrieves meds/supplies at the door.

Provider intubates-video laryngoscope, viral filter, hold compressions during intubation/defib. Asks for ventilator. RRT places ETCO₂-reads 24.

After 2 min of Compressions (switch compressors)- Pulse check, rhythm check. **“Pt is in PEA.”** (ask: Epi? Continue CPR)-Compressor 1 or 2 retrieves meds/supplies from outside staff.

Next pulse check: Sinus tachycardia with a pulse. BP 150/90.

Debriefing Guide:

Discuss what went well, and what could have been done differently

Observers: any feedback? what was observed inside and outside?

Do participants understand learning objectives?

- Recognizing a cardiac or respiratory emergency- what to do?

- First responder does compression-only CPR

- 5 Essential staff inside the room with PAPRs

- Outside Essential staff- roles to assist Inside Essential Staff

- How did they feel about participating in a code blue after the simulation?

- What is one takeaway that you have after participating in the mock codes?

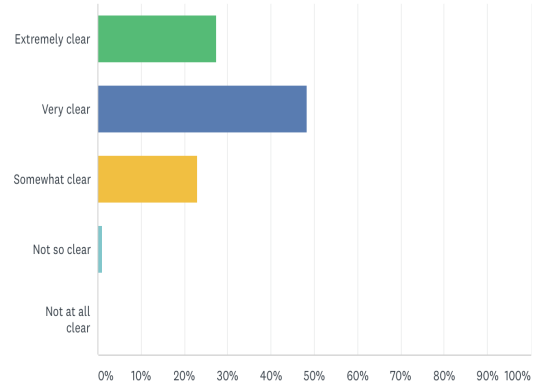
Discussion

- Healthcare workers- highest risk for contracting COVID-19
- Debrief reflections
- Survey Monkey Evaluations



How clear were the objectives of the Enhanced CPR Safety Mock Code Blue training?

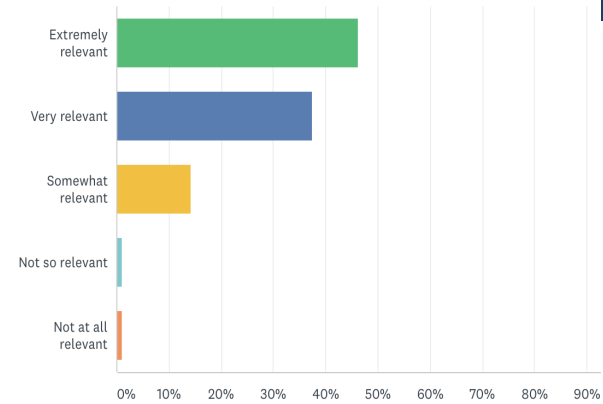
Answered: 91 Skipped: 0



ANSWER CHOICES	RESPONSES
Extremely clear	27.47% 25
Very clear	48.35% 44
Somewhat clear	23.08% 21
Not so clear	1.10% 1
Not at all clear	0.00% 0
TOTAL	91

How relevant was the mock code blue to your own work?

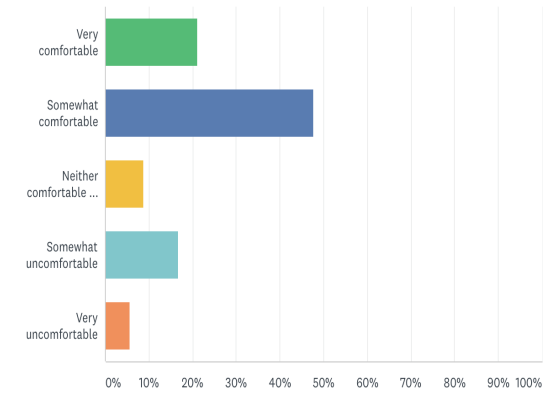
Answered: 91 Skipped: 0



ANSWER CHOICES	RESPONSES
Extremely relevant	46.15%
Very relevant	37.36%
Somewhat relevant	14.29%
Not so relevant	1.10%
Not at all relevant	1.10%
TOTAL	91

After the mock code training, how comfortable do you feel participating in a code blue?

Answered: 90 Skipped: 1



ANSWER CHOICES	RESPONSES
Very comfortable	21.11% 19
Somewhat comfortable	47.78% 43
Neither comfortable nor uncomfortable	8.89% 8
Somewhat uncomfortable	16.67% 15
Very uncomfortable	5.56% 5
TOTAL	90

Evaluations

Conclusion

- **Aim: Safety for healthcare workers**
 - minimize rescuers inside the room
 - practice placing PPE
 - airway techniques to reduce aerosolization
- **Simulation training–**
 - Created a platform for all code blue resuscitations



Questions?

Thank you!