# THREE WAYS TO MASTER DISASTER SIMULATIONS WITHOUT BREAKING A SWEAT!

MICHELLE AEBERSOLD PHD RN CHSE FAAN

CLINICAL ASSOCIATE PROFESSOR

DIRECTOR OF SIMULATION AND EDUCATIONAL

INNOVATION

## LEARNING OUTCOMES

- UNDERSTAND WHAT IT TAKES TO PUT ON AN EFFECTIVE
   DISASTER SIMULATION
- LEARN HOW TO INCORPORATE TECHNOLOGY INTO DISASTER SIMULATIONS
- LEARN A DEBRIEFING METHOD CALLED AFTER ACTION
   DEBRIEFING
- DISCLOSURE-I HAVE NO RELEVANT INTEREST IN ANY TECHNOLOGY PRODUCTS

## TYPES OF DISASTER OR EMERGENCY PREPAREDNESS SIMULATIONS

- **TABLETOP EXERCISE (TTX):** A TABLETOP EXERCISE INVOLVES KEY PERSONNEL DISCUSSING SIMULATED SCENARIOS IN AN INFORMAL SETTING. TTXS CAN BE USED TO ASSESS PLANS, POLICIES, AND PROCEDURES.
- GAMES: A GAME IS A SIMULATION OF OPERATIONS THAT OFTEN INVOLVES TWO OR MORE TEAMS, USUALLY IN A COMPETITIVE ENVIRONMENT, USING RULES, DATA, AND PROCEDURE DESIGNED TO DEPICT AN ACTUAL OR ASSUMED REAL-LIFE SITUATION.
- DRILL-A DRILL IS A COORDINATED, SUPERVISED ACTIVITY USUALLY EMPLOYED TO TEST A SINGLE, SPECIFIC OPERATION OR FUNCTION WITHIN A SINGLE ENTITY (E.G., A FIRE DEPARTMENT CONDUCTS A DECONTAMINATION DRILL).
- FULL-SCALE EXERCISES (FSE): A FULL-SCALE EXERCISE IS A MULTI-AGENCY, MULTI-JURISDICTIONAL, MULTI-DISCIPLINE EXERCISE INVOLVING FUNCTIONAL (E.G., JOINT FIELD OFFICE, EMERGENCY OPERATION CENTERS, ETC.) AND "BOOTS ON THE GROUND" RESPONSE (E.G., FIREFIGHTERS DECONTAMINATING MOCK VICTIMS).

https://www.calhospitalprepare.org/post/types-exercises

## **DISASTER LIFE CYCLE**





# SIMULATION







 $\bigcirc$ 

Clinical Simulation in Nursing (2016) 12, S5-S12



Clinical Simulation in Nursing

www.elsevier.com/locate/ecsn

Standards of Best Practice: Simulation

#### INACSL Standards of Best Practice: Simulation<sup>SM</sup> Simulation Design

#### **INACSL Standards Committee**

**KEYWORDS** 

pedagogy; simulation design; simulation format; needs assessment; objectives; prebriefing; debriefing; fidelity; facilitation

#### Cite this article:

INACSL Standards Committee (2016, December). INACSL standards of best practice: Simulation<sup>SM</sup> Simulation design. *Clinical Simulation in Nursing*, *12*(S), S5-S12. http://dx.doi.org/10.1016/j.ecns.2016.09.005.

© 2016 International Nursing Association for Clinical Simulation and Learning. Published by Elsevier Inc. All rights reserved.

As the science of simulation continues to evolve, so does the need for additions and revisions to the INACSL Standards of Best Practice: Simulation<sup>SM</sup>. Therefore, the INACSL Standards of Best Practice: Simulation are living documents.



## BRAINSTORM





### USE AN EVENT THAT OCCURRED IN YOUR AREA OR SOMETHING THAT WAS IN THE NEWS THAT YOU CAN GATHER ENOUGH INFORMATION ABOUT

N.Y. / REGION

THE BLACKOUT OF 2003: The Overview; POWER SURGE BLACKS OUT NORTHEAST, HITTING CITIES IN 8 STATES AND CANADA; MIDDAY SHUTDOWNS DISRUPT MILLIONS

By JAMES BARRON AUG. 15, 2003

### IDEAS # 2 & 3

- USE RESOURCES LIKE MED ED PORTAL, JOURNAL ARTICLES, CDC, FEMA OR OTHERS TO GET IDEAS ON PLANNING A SIMULATION
- LOOK FOR AREAS OF VULNERABILITY OR AREAS OF NEEDS OR REQUIREMENTS IN YOUR OWN ORGANIZATION OR LEARNER GROUP AND PLAN AROUND THAT



## WHO/PAHO



https://www.paho.org/disasters/index.php?option=com\_content&view=artic le&id=1637:guidelines-for-developing-emergency-simulations-anddrills&Itemid=807&lang=en

## TRIAGE ALGORITHMS

	START Triage							
	Assess, Treat, (use bystanders)							
	When you have a color							
	STOP - TAG - MOVE ON							
	Move Walking Wounded							
	D	No RESPIRATIONS after head tilt						
		I	B	sreathing but UNCONSCIOUS				
			R	Respirations - over 30				
			P	erfusion Capillary refill > 2				
м			or NO RADIAL PULSE					
T	C	M	Control bleeding Mental Status Unable to follow simple commands					
Ň	E	F						
0	A	D						
R	S	I	D	Otherwise				
	E D	A T E	E	REMEMBER:				
				Respirations - 30				
			I	Perfusion - 2				
			E	Mental Status - Can Do				
			ען					

Γ

## **TRIAGE ALGORITHMS**



## **DISASTER CATEGORIES**

Triage category	Priority	Color	Conditions
Immediate	1	RED	Chest wounds, shock, open fractures, 2-3 burns
Delayed	2	YELLOW	Stable abdominal wound, eye and CNS injuries
Minimal	3	GREEN	Minor burns, minor fractures, minor bleeding
Expectant	4	BLACK	Unresponsive, high spinal cord injury





 $\bigcirc$ 

# SIMULATE SOCIAL MEDIA



#### Instantly Informed: the First #SMEM-driven Training Exercise

Created in 03/19/2014 Posted by Simulationdeck In Case Study , Comments 0

Adam Crowe, author of Emergency Management's Disasters 2.0 blog, brought in Nusura's SimulationDeck to add much needed realism to a first-of-its-kind exercise supporting the Toledo-Lucas County Advanced Practice Center. The unique exercise concept required participants to respond to an emergency scenario - a tornado that hit a nuclear power plant in northwest Ohio - using social media as their only tools.

http://simulationdec

The #SMEM exercise, called Instantly Informed, was part of a longer seminar on social media's role in emergency management. The program and exercise were broadcast across the country to public health advanced practices centers and emergency management agencies.

The video below, produced by the Toledo-Lucas County Advanced Practice Center, has been excerpted with permission.

## APP FOR FIRST RESPONDERS OR HELP WITH TRIAGE



#### **First Aid: American Red Cross**

**American Red Cross** 

★★★★★ 4.5, 147 Ratings Free



# PATIENT TRACKING APPLICATION



#### EMTrack Mobile 4+

#### EMSystems, LLC

Free



is used as a strap for our innovative patient wrist tag.

https://youtu.be/TtjSvikvfCk

## NOTE TAKING APPLICATIONS





## **OTRIAGE APPS**





## DISASTER SCENARIO EXEMPLARS



## SIMULATION CENTER DRILLS

- OBJECTIVES WILL VARY
- TRIAGE
- TREATMENT
- COORDINATION



- MULTIDISCIPLINARY/MULTI-PROFESSIONAL
- VARIOUS PHASES

## FRESHMAN-MASS CAUSALITY SIM





## LEARNING TRIAGE



## GRADUATE ACUTE CARE NURSE PRACTITIONERS





## START TRIAGE

- SIMPLE TRIAGE AND RAPID TREATMENT
- MOST COMMON MCI TRIAGE SYSTEM IN USE
- DESIGNED FOR INDIVIDUALS WITH ONLY FIRST AID SKILLS
   TO BE ABLE TO UTILIZE
- EXAMPLES OF START TRIAGE ALGORITHMS:

HTTP://WWW.REMM.NLM.GOV/STARTADULTTRIAGEALGORIT HM.PDF

Wallus & Ko

## **TRIAGE CATEGORIES**

- FOUR COMMON TRIAGE CATEGORIES
  - IMMEDIATE (RED TAG)
  - DELAYED (YELLOW TAG)
  - MINIMAL (GREEN TAG)
  - EXPECTANT (BLACK TAG)

Wallus & Ko

## **DNP LEADERSHIP STUDENTS**



## ESTABLISHING COMMAND

- NOTIFY OTHER RESPONDERS.
- REQUEST NECESSARY RESOURCES.
- COMMAND SYSTEM ENSURES RESOURCES ARE COORDINATED
- COMMUNICATIONS: OFTEN THE KEY PROBLEM AT A MASS CASUALTY INCIDENT (MCI) OR DISASTER
- PROBLEMS SHOULD BE WORKED OUT BEFORE A DISASTER HAPPENS.
- PLAIN ENGLISH SHOULD BE USED.
  - AVOID USE OF SIGNALS AND CODES.

Wallus & Ko

## PARTNERING WITH SCHOOL OF INFORMATION



## **DISASTER SCENARIO**

- TRAIN DERAILMENT
- MULTIPLE VICTIMS
- MUSCULOSKELETAL INJURIES
- HEAD TRAUMA
- LACERATIONS
- PEDIATRICS AND ADULTS

## **TECHNOLOGY CHALLENGES**

- LENGTHY DATA ENTRY TRAUMA NARRATOR
- LACK OF DATA ENTRY POINT OF CARE STATIONS
- MOBILE TECHNOLOGY
- PAPER BACK UP

### DISASTER SCENARIO WALKTHROUGH



## AMBULANCE ENTRANCE



## SECONDARY TRIAGE





## **TRIAGE CONDITIONS**





## **EMERGENCY ROOM CARE**





## AFTER ACTION DEBRIEF



Question	Purpose
<ul> <li>What was supposed to happen?</li> <li>What actually happened?</li> <li>Why were there differences?</li> </ul>	These questions establish a common understanding of the work item under review. The facilitator should encourage and promote discussion around these questions. In particular, divergences from the plan should be explored.
<ul><li>What worked?</li><li>What didn't?</li><li>Why?</li></ul>	These questions generate reflection about the successes and failures during the course of the project, activity, event or task. The question `Why?' generates understanding of the root causes of these successes and failures.
<ul> <li>What would you do differently next time?</li> </ul>	This question is intended to help identify specific actionable recommendations. The facilitator asks the team members for crisp and clear, achievable and future- oriented recommendations.

## QUESTIONS/THOUGHTS/IDEAS

