

FROM SIMULATION TO PRACTICE: PREPARING STUDENTS FOR REAL WORLD NURSING PRACTICE

C. Cummings, RN, MS, EdD

University of North Florida

OBJECTIVES

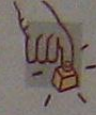
- At the completion of this presentation, the participant will be able to:
 - Discuss some possible deficit clinical areas identified by simulation
 - Identify simulation examples determined to be needed by nursing educators
 - Identify skills and equipment that should be utilized in simulation scenarios
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SIMULATION EXPERIENCE

- History:
 - Our school had a simulation lab for a number of years, however the use of the lab was sporadic at best.
 - Our adult health faculty decided to concentrate on utilization of the simulation lab in order to assess our students' clinical competence and readiness for practice
 - Equipment included:
 - Laerdal Sim Man
 - Video/Debriefing room
 - Med cart, IV pump, Defibrillator, Suction and Oxygen equipment, medications and disposable supplies
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NOT FOR MEDICAL USE



EMERGENCY BUTTON

PUMP 2

TO ENSURE PROPER SET LOADING:

Load tubing from top to bottom

PUMP 1

TO ENSURE PROPER SET LOADING:

Load tubing from top to bottom

Lull-Rom

Lull-Rom

PUTTING THE PLAN TO WORK

- Decided to change the adult health curriculum to incorporate simulations at the Junior and Senior level
 - Studied other sample scenarios and utilized pre-simulation preparation.
 - Agreed to have all adult health students attend two simulation sessions.
 - Incorporated Pre and Post activities with the scenarios
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SIMULATION SCENARIOS

- Utilized developed scenarios and revised our own based on faculty input.
- Worked with our technology department to add trends and handlers to the scenarios.
- Incorporated voices, xrays, labs, etc for realism.



SCENARIO DEVELOPMENT

- Started with already developed scenarios and used our own voices
 - The scenarios were based on topics were covered in adult health, some examples were:
 - Asthma- 33 yr old female admitted with asthmatic attack
 - Diabetes- 60 yr old homeless man with hyperglycemia and a foot ulcer
 - Renal Failure- 82 yr old female with renal failure, breast cancer and medication needs
 - Cardiac- 50 yr old male with chest pain and potential myocardial infarction
 - Abdominal mass- 60 yr old female with possible abdominal cancer requiring and NGT and pain medication
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STUDENT RESPONSIBILITIES

- ▶ The students were to arrive 15 minutes prior
 - ▶ Dressed in their clinical uniform and bring their stethoscope, watch, paper, and pen
 - ▶ Students were required to go on the class site for that week and look up the scenario prior to their session
 - ▶ Complete the online Pre-simulation exercises
 - ▶ Following the simulation, they were to complete the Post simulation exercises
 - ▶ These were evaluated for completeness and comprehension.
 - ▶ The students were not given a letter grade, but if the student had problems, they were required to repeat the lab.
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SENIOR EXPERIENCES

- ▶ Seniors were in their final Professional Role integration course
 - ▶ They did not know the scenario ahead of time
 - ▶ They came to the session individually and chose their scenario from a “bag” of 10 possible scenarios
 - ▶ The scenarios had uniform interventions and lab results, so that each student experienced the same situation
 - ▶ Grading Rubric was developed and made up 10% of their final grade.
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GRADING RUBRIC

- ▶ Seniors utilized the following rubric:
 - ▶ Introduction, explanation of events 10%
 - ▶ Assessment and Review of Systems 20%
 - ▶ Plan and Communication with MD/Staff 15%
 - Utilization of SBAR (situation, background, assessment and recommendations) and readback
 - ▶ Implementation of Interventions 25%
 - ▶ Evaluation of actions and reassessment 10%
 - ▶ Documentation 20%
 - Using computer documentation system
 - Admission assessment
 - SBAR form
 - Plan of Care with priorities
 - Simulation reflection

QUALITY IMPROVEMENT ON STUDENT READINESS

- Decided to evaluate senior student performance through the Grading Rubric
 - Evaluated 80 senior students during one semester
 - Only one faculty reviewer
 - Looked at problem areas identified through the rubric
 - In addition, we then, surveyed the area nurse educators for their concerns with student readiness and what simulation activities they felt were important.
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QI FROM GRADING RUBRIC (N=80)

- 43 not remember a medication usage, side effects or implications
- 26 not readback
- 22 incomplete ROS, missed allergies, meds at home and past medical history
- 15 not know lab values
- 12 not know the rhythm strip
- 12 not follow correct priority
- 11 not follow correct procedure for IV medications
- 10 not follow correct procedure for respiratory equipment
- 9 not perform assessment correctly (listened over patient gown)
- 5 not follow medication rights
- 4 not follow universal precautions

QI SURVEY WITH AREA NURSE EDUCATORS

- After we looked at our student performance, we decided to investigate whether the scenarios we were using were adequate in preparing our students and was there anything we were missing.
 - This information was shared with our undergraduate faculty and we looked at how and where medication information, SBAR skills and assessment skills were taught in the curriculum
 - In addition, we wanted to determine if local educators felt that our graduates were prepared and what practice areas may be lacking.
 - We developed a basic survey and sent it out to 22 local nurse educators at all of the major hospitals in our area.
 - Results helped us to determine scenario, skill and equipment changes.
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QI ON SURVEY OF NURSE EDUCATORS

- Results of the Simulation Education Survey (N=22)
- 1. Rank the following scenarios for clinical importance: (this was the educator rankings)
 - 1. Resuscitation
 - 2. Insulin administration
 - 3. Acute myocardial infarction with chest pain
 - 4. Sepsis with need for IV antibiotic
 - 5. Postoperative patient with PCA pump
 - 6. COPD patient with nebulizer and oxygen
 - 7. Deep vein thrombosis patient on a heparin drip
 - 8. Thoracotomy patient with a chest tube
 - 9. Asthma patient with respiratory disease
 - 10. CHF patient with multiple meds and discharge teaching
 - 11. Ostomy patient needing equipment change

1: 1. PLEASE RANK THE FOLLOWING SCENARIOS FOR CLINICAL IMPORTANCE FROM 1-11, WITH 1 BEING THE MOST IMPORTANT.

RESPONDENTS WERE ASKED TO RANK THEIR CHOICE(S).

		1	2	3	4	5	6	7	8	9	10	11	Total	Mean
code blue	Count	7	3	1	2	1	2	1	0	0	3	2	22	4.545
	% by Row	31.8%	13.6%	4.5%	9.1%	4.5%	9.1%	4.5%	0.0%	0.0%	13.6%	9.1%	100.0%	
insulin administration	Count	5	4	2	3	3	3	0	0	0	1	1	22	3.864
	% by Row	22.7%	18.2%	9.1%	13.6%	13.6%	13.6%	0.0%	0.0%	0.0%	4.5%	4.5%	100.0%	
post op patient with a PCA pump	Count	0	1	2	3	2	5	5	1	3	0	0	22	5.909
	% by Row	0.0%	4.5%	9.1%	13.6%	9.1%	22.7%	22.7%	4.5%	13.6%	0.0%	0.0%	100.0%	

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RESPONDENTS WERE ASKED TO RANK THEIR CHOICE(S).

CONTINUED FROM PREVIOUS SLIDE

		1	2	3	4	5	6	7	8	9	10	11	Total	Mean
COPD patient with nebulizer treatment and oxygen t...	Count	2	1	1	1	2	2	0	6	4	1	2	22	6.77
	% by Row	9.1%	4.5%	4.5%	4.5%	9.1%	9.1%	0.0%	27.3%	18.2%	4.5%	9.1%	100.0%	
patient with a DVT and on heparin therapy	Count	0	2	4	3	2	2	3	5	1	0	0	22	5.45
	% by Row	0.0%	9.1%	18.2%	13.6%	9.1%	9.1%	13.6%	22.7%	4.5%	0.0%	0.0%	100.0%	
thoracotomy patient with a chest tube	Count	0	1	3	0	2	2	3	4	2	3	2	22	7.09
	% by Row	0.0%	4.5%	13.6%	0.0%	9.1%	9.1%	13.6%	18.2%	9.1%	13.6%	9.1%	100.0%	

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RESPONDENTS WERE ASKED TO RANK THEIR CHOICE(S).

CONTINUED FROM PREVIOUS SLIDE

		1	2	3	4	5	6	7	8	9	10	11	Total	Mean
asthmatic patient with respiratory disease	Count	0	0	3	0	2	0	4	1	6	4	2	22	7.77
	% by Row	0.0%	0.0%	13.6%	0.0%	9.1%	0.0%	18.2%	4.5%	27.3%	18.2%	9.1%	100.0%	
AMI patient with chest pain and in need of NTG	Count	4	4	2	3	2	1	2	2	1	1	0	22	4.31
	% by Row	18.2%	18.2%	9.1%	13.6%	9.1%	4.5%	9.1%	9.1%	4.5%	4.5%	0.0%	100.0%	
CHF patient with multiple medications and discharg...	Count	4	3	1	1	3	0	1	2	0	2	5	22	5.90
	% by Row	18.2%	13.6%	4.5%	4.5%	13.6%	0.0%	4.5%	9.1%	0.0%	9.1%	22.7%	100.0%	

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RESPONDENTS WERE ASKED TO RANK THEIR CHOICE(S).

CONTINUED FROM PREVIOUS SLIDE

		1	2	3	4	5	6	7	8	9	10	11	Total	Mean
ostomy patient with need for equipment change and ...	Count	0	0	1	0	1	1	2	1	3	5	8	22	9.13
	% by Row	0.0%	0.0%	4.5%	0.0%	4.5%	4.5%	9.1%	4.5%	13.6%	22.7%	36.4%	100.0%	
patient with sepsis and in need of IV antibiotics	Count	0	3	2	6	2	4	1	0	2	2	0	22	5.22
	% by Row	0.0%	13.6%	9.1%	27.3%	9.1%	18.2%	4.5%	0.0%	9.1%	9.1%	0.0%	100.0%	
Total	Count	22	22	22	22	22	22	22	22	22	22	22	242	N/A
	% by Row	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	100.0%	

SIMULATION EDUCATION SURVEY

- 2. Are there any other patient examples you feel would be helpful?
 - Any deteriorating patient scenarios that would require a rapid response or immediate action by the nurse without being a complete code.
 - Restraint situations
 - End-stage renal patient new to hemodialysis in need of teaching
 - IV's, monitoring patient post sedation
 - Recognizing Diabetic Hypoglycemia and treatment in the medical and ICU adult. Recognize Diabetic Ketoacidosis and manage patients on an insulin pump
 - Patient having a seizure, importance of safety precautions
 - Bathing a patient who had hip surgery and the basics of care and turning/transfers

SIMULATION EDUCATION SURVEY

- 3. Which of the following skills do you believe has the greatest chance for error and should be covered in simulation? (order of importance)
 - 1. insulin administration
 - 2. heparin administration
 - 3. narcotic administration
 - 4. tracheostomy care and suctioning
 - 5. sterile dressing change with central line
 - 6. technique for IV insertion
 - 7. antibiotic administration
 - 8. fall prevention
 - 9. foley insertion

SIMULATION EDUCATION SURVEY

- 4. Do you feel that graduate nurses are prepared in the following areas:
 - **Somewhat prepared:** medications, IV's, communication, SBAR, family interaction and basic skills
 - **Not very prepared:** documentation, EKG, organization of care, emergencies and delegation
- The good news is that the educators do feel that they are somewhat prepared in a number of areas. They did not chose very prepared or not prepared for any areas. The educators did believe they were prepared in med administration and skills, which are what the schools tend to focus on.

5: 5. DO YOU FEEL THAT GRADUATE NURSES ARE PREPARED IN THE FOLLOWING AREAS? PLEASE RATE THEM 1-5, WITH 1 BEING THE MOST PREPARED TO 5 NOT BEING PREPARED

		very prepared	somewhat prepared	neutral	not very prepared	not prepared	Total	Mean
documentation	Count	0	7	1	11	2	21	3.38
	% by Row	0.0%	33.3%	4.8%	52.4%	9.5%	100.0%	
EKG interpretation	Count	0	1	2	11	7	21	4.14
	% by Row	0.0%	4.8%	9.5%	52.4%	33.3%	100.0%	
organization of care	Count	0	5	4	6	5	20	3.55
	% by Row	0.0%	25.0%	20.0%	30.0%	25.0%	100.0%	

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CONTINUED FROM PREVIOUS SLIDE

		very prepared	somewhat prepared	neutral	not very prepared	not prepared	Total	Mean
medication administration	Count	3	15	1	2	0	21	2.095
	% by Row	14.3%	71.4%	4.8%	9.5%	0.0%	100.0%	
IV therapy	Count	1	11	4	5	0	21	2.619
	% by Row	4.8%	52.4%	19.0%	23.8%	0.0%	100.0%	
communication skills	Count	1	10	4	6	0	21	2.714
	% by Row	4.8%	47.6%	19.0%	28.6%	0.0%	100.0%	

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CONTINUED FROM PREVIOUS SLIDE

		very prepared	somewhat prepared	neutral	not very prepared	not prepared	Total	Mean
SBAR technique	Count	1	6	6	6	2	21	3.095
	% by Row	4.8%	28.6%	28.6%	28.6%	9.5%	100.0%	
emergency situations	Count	0	3	3	12	3	21	3.714
	% by Row	0.0%	14.3%	14.3%	57.1%	14.3%	100.0%	
delegation	Count	0	2	5	11	3	21	3.714
	% by Row	0.0%	9.5%	23.8%	52.4%	14.3%	100.0%	

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CONTINUED FROM PREVIOUS SLIDE

		very prepared	somewhat prepared	neutral	not very prepared	not prepared	Total	Mean
family interactions	Count	1	9	4	6	1	21	2.857
	% by Row	4.8%	42.9%	19.0%	28.6%	4.8%	100.0%	
skills and procedures	Count	0	15	5	1	0	21	2.333
	% by Row	0.0%	71.4%	23.8%	4.8%	0.0%	100.0%	
Total	Count	7	84	39	77	23	230	N/A
	% by Row	3.0%	36.5%	17.0%	33.5%	10.0%	100.0%	

6: 6. WHAT EQUIPMENT DO YOU FEEL IS MOST IMPORTANT FOR NURSING STUDENTS TO HAVE EXPERIENCE USING? PLEASE RANK FROM 1-5 WITH 1 BEING MOST IMPORTANT TO 5 BEING NOT IMPORTANT

		most important	somewhat important	neutral	not very important	not important	Total	Mean
IV pump	Count	17	2	2	0	0	21	1.28
	% by Row	81.0%	9.5%	9.5%	0.0%	0.0%	100.0%	
PCA and epidural pump	Count	7	9	4	1	0	21	1.95
	% by Row	33.3%	42.9%	19.0%	4.8%	0.0%	100.0%	
Tube feeding pump	Count	5	12	4	0	0	21	1.95
	% by Row	23.8%	57.1%	19.0%	0.0%	0.0%	100.0%	

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CONTINUED FROM PREVIOUS SLIDE

		most important	somewhat important	neutral	not very important	not important	Total	Mean
oxygen equipment	Count	13	7	1	0	0	21	1.429
	% by Row	61.9%	33.3%	4.8%	0.0%	0.0%	100.0%	
IV therapy equipment	Count	12	9	0	0	0	21	1.429
	% by Row	57.1%	42.9%	0.0%	0.0%	0.0%	100.0%	
suction equipment	Count	14	7	0	0	0	21	1.333
	% by Row	66.7%	33.3%	0.0%	0.0%	0.0%	100.0%	

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CONTINUED FROM PREVIOUS SLIDE

		most important	somewhat important	neutral	not very important	not important	Total	Mean
ostomy equipment	Count	0	13	5	3	0	21	2.524
	% by Row	0.0%	61.9%	23.8%	14.3%	0.0%	100.0%	
wound care supplies	Count	3	13	4	1	0	21	2.143
	% by Row	14.3%	61.9%	19.0%	4.8%	0.0%	100.0%	
chest tubes	Count	5	11	5	0	0	21	2.000
	% by Row	23.8%	52.4%	23.8%	0.0%	0.0%	100.0%	

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CONTINUED FROM PREVIOUS SLIDE

		most important	somewhat important	neutral	not very important	not important	Total	Mean
telemetry	Count	7	13	1	0	0	21	1.714
	% by Row	33.3%	61.9%	4.8%	0.0%	0.0%	100.0%	
patient lifts	Count	5	8	7	1	0	21	2.190
	% by Row	23.8%	38.1%	33.3%	4.8%	0.0%	100.0%	
Total	Count	88	104	33	6	0	231	N/A
	% by Row	38.1%	45.0%	14.3%	2.6%	0.0%	100.0%	

WHERE DO WE GO FROM HERE?

- ▶ Continue to work on scenario development
 - ▶ Incorporate educator suggestions into our scenarios
 - ▶ Modify our scenarios to reflect institutional needs
 - ▶ Develop a Resuscitation scenario, utilizing multiple disciplines
 - ▶ Develop a Sepsis and blood clot scenario
 - ▶ Decrease focus on ostomy and wound management
 - ▶ Develop a delegation and priority setting scenario
 - ▶ Obtain monies for purchase of new simulation manikin, IV, PCA and enteral feeding pumps
 - ▶ Work with institutions on collaborative use of simulation labs and simulation groups to develop best practice in the area
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FINAL THOUGHTS

- Need to work with other disciplines, such as therapies, graduate students and volunteers for more realistic scenarios
 - Help institutions with scenario development and student preparation
 - Incorporate quality and safety more thoroughly into curriculum development
 - Resurvey the educators to assess for graduate nurse changes
 - Continue to monitor student success with the simulation experience through evaluation of the senior simulation lab
 - Evaluate student preparedness with medication usage, SBAR and patient assessment
 - Incorporate simulation experiences throughout the curriculum and train more faculty in use of the simulation lab
-