Using Simulation to Develop QSEN Competencies

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Using simulation to teach QSEN competencies does allow for ...

- **Innovation** to create better/more effective educational offerings, processes, teaching technologies and ideas that are accepted by markets and society.

  in order to provide

- **Transformation** of how we educate and prepare our learners to be *collaborative practice ready* form, appearance, structure condition, nature or character; metamorphose.
All health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics.

Committee on Health Professions Education
Institute of Medicine (2003)
Root Causes of Sentinel Events
(All categories; 1995-2004)

- Communication
- Orientation/training
- Patient assessment
- Staffing
- Availability of info
- Competency/credentialing
- Procedural compliance
- Environ. safety / security
- Leadership
- Continuum of care
- Care planning
- Organization culture

Percent of 2966 events
Root Cause Analysis of Sentinel Events Reviewed by The Joint Commission (2009–2011)
Lecture alone will not create the behavior change required
If we are teaching as we were taught, then we’re preparing students for a health care system that no longer exists!

Diekelmann, 2002; NLN, 2003; Oesterle & O'Callaghan, 1996; Porter– O'Grady, 2003
Simulation defined

a technique used “to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner”

Simulation as teaching strategy

- Ethical imperative to keep people safe
- Since 1999 IOM report *To Err is Human* & subsequent reports
  - Changing every aspect of healthcare delivery and patient care
- Teach how to apply national standards to practice
- Move from “do no harm” as an individual responsibility to a system responsibility\(^1\)
- Understand and apply different terminology i.e. SBAR, handoffs, root cause analysis
- Immersion with intraprofessional and interprofessional teams to apply teamwork and collaboration

\(^1\)Finkelman & Kenner (2007). *Teaching IOM*, ANA
INACSL– Standards of Best Practice: Simulation

- Standard I: Terminology
- Standard II: Professional Integrity of Participant
- Standard III: Participant Objectives
- Standard IV: Facilitation Methods
- Standard V: Simulation Facilitator
- Standard VI: The Debriefing Process
- Standard VIII: Evaluation of Expected Outcomes

The INASCL Board of Directors (2011, August). Standards of Best Practice: Simulation, Clinical Simulation in Nursing, 7(4S), s3–s7.
The Nursing Education Simulation Framework

Teacher
- Demographics
  - Program
  - Level
  - Age
- Active Learning
  - Feedback
  - Student/Faculty Interaction

Student
- Collaboration
  - High Expectations
  - Diverse Learning
  - Time on Task

Educational Practices

Outcomes
- Learning (Knowledge)
- Skill Performance
- Learner Satisfaction
- Critical Thinking
- Self-Confidence

Simulation Design Characteristics
- Objectives
- Fidelity
- Problem Solving
- Student Support
- Debriefing

Integrating QSEN Competencies

- QSEN in all
- Talk/Think out loud
- Highlight QSEN
- Examine current labs & simulations
- Re-envision
- Small changes
Core Competencies for Interprofessional Collaborative Practice

Sponsored by the Interprofessional Education Collaborative*

Report of an Expert Panel
May 2011

*IPEC sponsors:
American Association of Colleges of Nursing
American Association of Colleges of Osteopathic Medicine
American Association of Colleges of Pharmacy
American Dental Education Association
Association of American Medical Colleges
Association of Schools of Public Health
Interprofessional Collaboration

- Effective IPE prepares a **collaborative practice-ready workforce**
  - Received effective training in interprofessional education
    - Students from two or more professions
      - learn about, from and with each other
      - collaborate to improve outcomes
  - **Key to strengthening health systems moving them from fragmentation to collaboration to improve health outcomes for patients**

*WHO Framework for Action on Interprofessional Education & Collaborative Practice*
Interprofessional Education (IPE)

“When two or more professionals* learn about, from, and with each other to enable effective collaboration and improve health outcomes”

(WHO, 2010, p.13)

* Professional is an all-encompassing term that includes individuals with the knowledge and/or skills to contribute to the physical, mental and social well-being of a community.

Inter–Professional Teamwork & Communication Course
Interprofessional Course-Logistics

- 3 credit hour elective
  - Afternoon/Evening
  - Approval required from Curriculum Committees

- Student Learners
  - 2nd year Medicine, 2nd year Nursing, 3rd year Pharmacy

- Faculty and Staff
  - Faculty Course Director from each profession
  - Teaching Assistants
Interactive Class Sessions
- TeamSTEPPS – simulation cases
- Medical Error & Error Disclosure
- Patient Handoffs using Standardized Patients
- Just Culture
- Root Cause Analysis
- Administrative Reviews for each discipline
- Medical Malpractice Case with Mock Trial
- Basic Life Support (BLS)
- Tears to Transparency Video– Lewis Blackman
Competency Domains for Interprofessional Collaborative Practice

Domain 1
Values/Ethics for Interprofessional Practice

Domain 2
Roles/Responsibilities

Domain 3
Interprofessional Communication

Domain 4
Teams and Teamwork
Exemplar from Class: Interactive lecture

- Address professional stereotypes and myths
- Discuss how each profession is educated
- Discuss scope of practice for each profession
- Finish with a discussion about patient safety from the perspective of each profession
Domain 2
Roles/Responsibilities

Exemplar from Class: Simulation

- Case Based on the Libby Zion case¹
- Patient “Sarah Tomlin”
  - Post–opp (appendectomy)
  - Patient decompensating due to serotonin syndrome

Domain 3: Interprofessional Communication

- Exemplar from Class: Error Disclosure
  - Interactive lecture on error disclosure
  - Teach students the HEEAL pneumonic
    - HEEAL = Honesty, Explanation, Empathy, Apology, and Lessen Chance for future error
  - Ask student teams to disclose an error to a standardized patient
  - Standardized patients grade students and provide feedback
Domain 4
Teams and Teamwork

TeamSTEPPS used throughout course

General Competency Statement

- Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan and deliver patient-/population-centered care that is safe, timely, efficient, effective, and equitable.
Teamwork & Collaboration

- Function effectively within nursing and inter-professional teams, fostering open communication, mutual respect, and shared decision-making to achieve quality patient care

- qsen.org
Team STEPPS

Team Strategies and Tools to Enhance Performance and Patient Safety
Use information and technology to communicate, manage knowledge, mitigate error, and support decision making.
Basic Pharmacology Competency Exam

Coumadin
- Drug/Food Interaction
You are working in on an inpatient medicine floor taking care of Ildaura Murillo, a 65-year-old retired minister who has a history of deep vein thrombosis. The client was placed on Coumadin 5 days ago after a course of Lovenox SQ. The client had his/her INR drawn this morning. It is now 1700 and time for his/her Coumadin dose. Lab values are available to you now.
Just Culture

- defined as a “culture which seeks to identify and balance system events and personal accountability. A Just Culture organization seeks information on all its occurrences, near misses and events as a way to learn and avoid occurrences and incidents in the future. In a Just Culture, employees are able to report patient occurrences or non clinical errors because there is a clear line drawn between human error, at-risk behavior, and reckless behavior. It is a culture where all employees are accountable for their behavioral choices.”

David Marx, JD (2007a)
Behavioral Choices

◦ Human error
  • inadvertent action, slip lapse, mistake

◦ At–risk behavior
  • choice that increases risk, risk not recognized or believed to be justified

◦ Reckless behavior
  • deliberate disregard of unjustifiable risk
Teaching Assistant made an error – distributed expired saline to students for administration
Quality Improvement

Just Culture in **ACTION**

- Injection lab
- Error made . . .
- *Walk the Talk*

http://www.ihi.org/IHI/Topics/PatientSafety/SafetyGeneral/Literature/WhenThingsGoWrongRespondingtoAdverseEvents.htm
Quality Improvement

Teaching Box
Error Disclosure

- Teaching Assistant to Lab Director
- Director to Infectious Disease and Supervisors
- Teaching Assistant to Students
Root cause analysis

- Data Collection
- Casual factor analysis
- Root cause identification
- Recommendation generation
- Implementation
Why was this successful?

Patient Safety

Our intent is to do no harm – so why do errors happen?

Carol F. Durham, EdD, RN, ANEF
Jennifer Dwyer, MSN, RN, BC, CNRN, FNP BC
Making the connections
Putting faces to errors
The Faces of Medical Error…From Tears to Transparency

The Story of Lewis Blackman

Transparent Health®, 2009

- Chronicles the care trajectory of a vibrant, gifted, healthy 15-year-old boy who entered the hospital for what was believed to be a low-risk elective surgery and who died 100 hours later due to medical errors.
Lewis Blackman

- 15-year old, asthmatic
- Pectus Excavatum
- 2 hour – surgery – all went well
- Epidural catheter – Ketrolac 30mg
Recognize the patient or designee as the source of control and full partner in providing compassionate and coordinated care based on respect for patient’s preferences, values, and needs.
Involving family

- Newspaper new, safe min invasive – offered perfection – talked of promise not risk.

- Surgery expected to be hard, intensive and recovery arduous but less invasive.
Thursday, November 2 – Day 1

- In OR no urine in bladder.
- In recovery room noted low urine output.
- Staff concerned but not relayed to family

- Due to bed situation admitted to pediatric oncology versus pediatric surgical floor.

- N&V and low urine output.
Reason’s Swiss Cheese Model

Defenses prevent error

http://patientsafetyed.duhs.duke.edu/module_e/swiss_cheese.html
Application to Simulation

- Train our learners to effectively communicate with patients and families regarding
  - expectations of a normal hospital course?
  - possible deviations?
Friday, November 3 – Day 2

- Some better
- Increase IVs and increase output
- Chest pain 2–4 100/50 80 bpm
- No one noted he was not eating/drinking although diet was being advanced.

- Patient–centered Care – seeing the person that is the patient and their individual response to what is happening
Knew pain management would be difficult

How help family differentiate between expected and unexpected pain?
  ◦ in this case – abdominal pain, groin pain
Progressing Well?

- Would you agree??
- What concerns you?
112/56 70–80 bpm
sips of water and nausea
Pain 2–4 Scale of 5
Epidural analgesic Ketorolac – increasing amounts of pain
- Train our learners to collaborate
Family vigilant – care & SAFETY

- Staffing differences on weekends
- Coverage differences on weekends/July
- Who is who?

- Family thought Lewis had turned corner because he was urinating.

- Name our concerns to enlist family’s help in surveillance instead of global statements.
5 out of 5 severe, sudden abdominal pain
No water, no solid food

What questions do we train our learners to ask?
  ◦ Embed in simulated experiences
- Pain in chest different, lower abdomen groin and penis, penile foley cath pain – gas or constipation

- Nurse seems alarmed and leaves the room. She returns later and reports that his pain is due to gas and constipation.
What do you imagine made her dismiss her intuition?

Why premature close on a diagnosis of gas and constipation?

Train our students to
- always be re-examining
- to consider three possible diagnosis
Power Gradients

- Who?
- Have knowledge but not confidence in reporting what they know
- Important to overcome hesitancy
- Include all team members in patient care discussion and decision-making – including patient and family
Progression of Case

- 124/70 111 bpm
- Foley cath and epidural cath discontinued
- Pain moving – sit up, take a bath, walk – held up and half dragged around ward – stop every 3 steps to lean on mom because pain so bad –

- 152/86 115 bpm
- Pain due to constipation – oxycodone added

- Train our learners to call for a huddle – ask each member of the team – What are you most WORRIED about???
Calling for Help

- Mother asks for physician
- Nurse rolled eyes – exasperated

- Exhausted intern show up an hour later

- Attending on call not called
  - strong culture of not calling for help if you do not need it
  - and even looked down upon if asked for help
Preparing safety workers

- How do we create a culture in health care where “Calling for Help” is not seen as a sign of weakness but as a symbol of “Safety Excellence”?

*The Faces of Medical Error…From Tears to Transparency
The Story of Lewis Blackman*  Transparent Health®, 2009
On island with bird’s eye view

- Lewis crashing
- Mom felt like on an ISLAND no one paying attention –
- Taking VS recording in chart

- Who is taking VS? making observations that you as nurse may not see – How do we train our graduates to garner Mutual Support – empowering NAs to report what they observe? (black circles under eyes, diaphoresis, distended abdomen)
Mutual Support

- Team members ask for and offer support
- Important to patient safety
- Protects team members from work overload situations that
  - may reduce effectiveness
  - increase the chance of errors

Adapted from TeamSTEPPS: Team Strategies and Tools to Enhance Performance and Patient Safety
How do we **train** our learners to become active listeners, recognizing the value and insight family members add to our knowledge and clinical assessment of the patient?

*The Faces of Medical Error...From Tears to Transparency  The Story of Lewis Blackman*  
Transparent Health®, 2009
Anatomy of Premature Closure

- 10 PM MD mother believes “on call attending” – physical exam HR 80s while nurse notes HR 126 and BP 131/94
- How should we train our learners to handle this kind of discrepancy? – CUS words/ Two Challenge Rule
Please Use CUS Words

but "only" when appropriate!
Invoked when an initial assertion is ignored…

- It is your *responsibility* to assertively voice your concern at least *two times* to ensure that it has been heard
- The member being challenged must acknowledge
- If the outcome is still not acceptable
  - Take a stronger course of action
  - Use supervisor or chain of command
Advocacy and Assertion

- Advocate for patient
- Be respective but firm
- State concern
- Describe data that supports concern
- Assert your concern twice before moving to another avenue
- Know you can “Stop the Line”
Anatomy of Premature Closure continued

- Distended abdomen, tender and HARD, pale skin, diaphoretic – probable ileus secondary to the narcotics given for pain management – premature closure

- Individual pieces of problem
  - instead of putting together were individually discounted
  - premature disclosure
    - jump to conclusion = constipation – distention/pain = mental model
  - ignored impending SHOCK and circulatory collapse
Post-op expectations

- 2.5 day post surgical procedure

What should you expect?
Expectations

- Up and about – diet advanced, pain under control

- Revising Patient-centered Care
  - Do we tell family what should be expected so that they will KNOW when the picture is wrong?
What is the **Worse it can be**?

- Pain decreased but Vital Signs not matching – HR double, chest and belly tense

- **Train** our learners to ask What is the **WORSE** it can be?????
  - constipation and gas – young boy on floor
Correct diagnosis never given consideration
Look at data want to reassure our diagnosis and thus ignore data that conflicts.
May remain confident about diagnosis despite conflicts
Certain of diagnosis – patient harm – ileus/gas pain – ride it out –

Confident – reassure to family
Monday, November 6 – Day 5

- SpO2 85 applied O2, 137/85 HR 142
- WHAT DOES drop in pulse ox mean at this point – other VS????

- 4 am Severe abd pain 140/100 HR 140, R 28, pale nausea/weak – see on morning rounds

- What is missing?
- What does not fit?
- How do we train our learners to be able to think this way?

- Change plan ??
  - Momentum for any plan – once started so inconvenient to change
Uncertainty

- We are uncomfortable disclosing uncertainty – don’t want to look indecisive
- Confidence valued over uncertainty

- How do we help our learners express their uncertainty?

The Faces of Medical Error…From Tears to Transparency
The Story of Lewis Blackman       Transparent Health®, 2009
Things are not as they seem

- Pain suddenly gone away – family relieved
- As clinician what questions should our learners be asking?
  - What has changed to relieve the pain?
  - Could the absence of pain indicate something ominous?
  - Signs and symptoms: No bowel sounds, no urine

- Lewis – frantic – My pain has stopped
- Healthcare provider states “oh good”
Lining up the Swiss Cheese holes

- Night nurse concerned but never let on
- Healthcare team understood his condition serious but never let family know

- 8:30 am NO BP – for 2 hours searched for BP cuff that worked and tried 12 different times with 7 difference cuffs

- STOP and think – what is going on?? What are the signs and symptoms telling us.
- Why go to equipment failure?

- 9:30 am Attending in surgery – message not doing well – diffused because previous report he doing well
- 10:45 am 110/58 HR 163 ECG
- 12 pm cannot find a vein
Reason’s Swiss Cheese Model
Holes line-up and Error Occurs

Some holes due to active failures
Other holes due to latent conditions

Accident

SUCCESSIVE LAYERS OF DEFENSES
Lewis states “It’s going black”
Cardiac arrest
Chief resident – seizures – pneumothorax
One hour not able to revive

1:21 pm time of death Monday November 6

Doctor states “We lost him”
Nonsensical to family – fit into nothing
Autopsy

- 2000cc blood in abd – 800 cc blood clot
- Duodenum ulceration – perforation posterior wall – eroded into gastro duodenum artery
- 4 year before Ketorolac identified as post-op GI bleed
- Numerous Case report – caregivers not mindful of this association
- Black box warning
  - Train our learners to call for help to collaborate with pharmacy – pharmacist will have brought forward different data to change outcome
If Lewis had been ANYWHERE but in a hospital he would be alive today – The hospital was the one place We were not able to get him the medical attention he needed

Helen Haskill, mother
We expect our learners to go beyond learning knowledge to application of the knowledge.
“What is essential for nursing educators is helping students make the connections between acquiring and using knowledge. We call this teaching for a sense of salience.”

Structured simulations encourage students to think as opposed to memorize.

Prepare Nurses to...

Inquiry
Practice based on inquiry

EBP
Uses evidence based standards and interventions

System
Investigate outcomes and critical incidents from a system perspective
Acknowledgements

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Using Simulation in TeamSTEPPS® Training

http://teamstepps.ahrq.gov/abouttoolsmaterials.htm#simulation
Objectives

- To apply the Event Based Approach to Training
- To develop TeamSTEPPS training scenarios
- To develop TeamSTEPPS performance measures
- To conduct effective debriefs of team performance
Web Links

- Interprofessional Education and Healthcare Simulation References [https://sites.google.com/site/ipehcss/](https://sites.google.com/site/ipehcss/)
- Core Competencies for Interprofessional Collaborative Practice [http://www.aacn.nche.edu/education-resources/ipecreport.pdf](http://www.aacn.nche.edu/education-resources/ipecreport.pdf)
- Transparent Health Videos (e.g., Lewis Blackman) [http://www.transparentlearning.com/](http://www.transparentlearning.com/)
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