Rapid Development of Hospital Based Simulation Programs: Fact or Fancy?

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Objectives

• Analyze targets for development of hospital based simulation programs
• Describe development of the components of a hospital based program
• Review evaluation and assessment methods for a hospital based simulation program
UPMC Passavant

Pitt School of Nursing (partner)

UPMC McKeesport

ISMETT

Children’s Hospital of UPMC

SMART Van

UPMC Children’s Hospital of UPMC (partner)
Outline

• Introduction to hospital-based simulation
• Approaches to rapid course development
• Course examples
Hospital-Based Simulation
Authentically representing a skill, process, situation or problem

Who are the customers?
Professional Groups and Their Silos

- RNs
- LPNs
- GNs

- MDs

- PharmDs

- Therapists
  - PT
  - OT
  - RRT

- EMT/Medics
Hospital-Based Simulation

- Is unique because pressures are different
  - Service (to patients) is #1
  - Timeframes are limited
  - Outcome measures (ROI)
  - Developers may be transient workers (SMEs)
  - Important to get it right (mostly)
Development of the UPMC Passavant Simulation Program

Standardized Medical – Surgical Orientation (SMSO)
Swan/Pacer/Central Line Courses
Central venous catheterization
Central line lab draws and dressing change
First Five Minutes/ Next Five Minutes
ED Sexual Assault exam
ED RN and NA comps
Moderate Sedation Competency

BSC^3
Basic Simulation Critical Care Course

Intro to Moderate Sedation

Providing safe patient care

Care of the ostomy patient
NA/PCT orientation
Pre-hospital employment screening
Airway Management- Hospitalists
ACLS and PALS
DAM for CRNAs
Cardiac Monitoring Introduction
Setting Development Priorities

- Introduction of Courses
  - BSC\(^3\)
  - 1\(^{st}\) Five Minutes
  - Back-injury prevention

- Later development
  - DAM- anesthesia
  - Med-Surg Orientation
  - Swans/Pacers
  - Central line dressings/Lab draws
  - Central Line Insertion
  - Airway Management for Hospitalists
  - Airway Pressure Release Ventilation/ARDS Ventilatory Mgmt
Factors Supporting Course Development

• Risk and Quality Data
  – Most common ICU admission diagnosis groups
  – Central line infection rates
  – Back injury rates (US and system)
• National patient safety goals (TJC)
• Nursing competencies
• Specific needs identified by Nursing Leadership team
• Health plan input
Programs Incorporated into Orientation

- 1st Five Minutes
- Back Injury Prevention
- Cardiac Monitoring Principles
- Central Line Dressing and Lab Draws
- Introduction to Moderate Sedation
- BSC3
- EDSAE
UPMC Passavant Course Examples

Central Line Course

Moderate Sedation Course
Leadership support
Form working teams
Develop objectives

Development Process

Literature review
Course content - didactics, videos, props etc
Assessment/evaluation tools
Vendor interaction/support
Train the trainers (standardize)
Alpha test/run the course
Evaluate and refine
Course Examples

• Moderate sedation

• Central line
Central Line Dressing Change and Lab Draws

• **Driver: Central Line Infection Rate on Rise**
• QI data and Patient Safety reports; NPSG
• Team: IV Team, Lab, Pharmacy, SMEs from multiple units and Educators
• **Objectives: The learner will**
  • demonstrate central line dressing change
  • demonstrate drawing labs from central line
• **Literature Review**
Central Line Dressing Change and Lab Draws

• Developed content
  All central lines
  – Protocols for dressing/tubing/caps changes
  – Protocols for lab draws and labeling
• Assessment/Evaluation: demo and return demo
• Train-the trainer
• Run course
• Evaluate

• Outcome: Zero infections house wide for 6 months!
Moderate Sedation: Team Members and Department – Specific findings

• Major policy revision and increased number of cases not being identified as Moderate Sedation
  – Team: Anesthesia, Pharmacy, GI Lab, ED, ICUs, Cath Lab, DIR, Radiology, Educators, and Sim Specialists
  – High realism (had to be close to actual cases)
  – EBP approach
  – Objectives: Process/Medications/Documentation
Moderate Sedation cont.

• Identified problems:
  • Documentation different in each dept
  • Medication outliers

• Course Content
  • Power Points (2)
  • 4 Scenarios (Normal, Over-sedated, Allergic Reaction, and Pediatric)

• Train the trainer

• Evaluation by written pre and post tests and performance in simulations

• Course Evaluation

• Outcome: Pretest 53.9%; Post test 88.1%! Plus participant satisfaction
Instructor Preparation

• Orient instructor to simulation equipment as needed
  – Review high fidelity mannequin functions
  – Have instructors practice roles to get comfortable with teaching with simulation

• Role play debriefing and make sure instructors know how to debrief effectively

• Stress consistency with teaching content
Enhancing Course Development Speed

• Use previous course materials whenever possible
  – Videos
  – Objectives
  – Evaluations
  – Scripts
  – Protocols

• Document all development steps
Lessons Learned

• Adhere to a timeline
  – Rome was not built in a day
• Deploy when course is reasonably ready
  – Perfect is the enemy of good
• Get the right people on board
  – Be prepared to ask some people to get on and some people to get off the train
Lessons Learned (cont)

• Evaluation is absolutely necessary - course, content, instructors (and clinical outcome if possible)

• Develop objectives and stick with them
  – Content creep is a constant problem
  – People have their loves and will teach them no matter what the course is......
Questions ??