Development of an Inter-Professional Patient Safety Curriculum in Emergency Medicine Using Simulation
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PURPOSE
• To develop a simulation-based patient safety curriculum relevant to Emergency Medicine (EM) which engages the entire patient care team.

BACKGROUND
• Since the release of the Institute of Medicine report, “To Err is Human: Building a Safer Health System”, hospitals have become increasingly focused on improving patient safety.
• Simulation is an effective tool for inter-professional education.
• However, few examples of patient safety curricula relevant to EM exist.

METHODS: Curriculum Development

NEEDS ASSESSMENT
• From Emergency Department (ED) anonymous, time-out incident report improvement system (IRIS), identified types of patient safety error/concerns most often reported
• Medication errors, procedural errors, concerns about inter-professional communication and oversight during transitions of care appeared frequently in our database.

CURRICULAR DESIGN
• Developed goals and objectives from needs assessment data
• Created 5 simulated patient encounter modules
  1. Case 1: Identifying Opportunities for Patient Advocacy during Central Line Placement and Developing Skills to Become a Patient Advocate
  2. Case 2: Unrecognized Pre-Hospital Esophageal Intubation
  3. Case 3: Inadvertent Kaycikel (oral potassium) Order in a Hyperkalemic Patient and Other Threats Posed By Electronic Medical Order Entry
  4. Case 4: Incorrect Epinephrine During a Case Of Pediatric Anaphylaxis
  5. Case 5: Transitions of Care and Voice Orders: Patient Safety Threats

CURRICULAR STRATEGY
• Scenarios performed in-situ in the ED
  Simulation involves the entire patient care team (Attending, Residents, Narrator, Respiratory Therapists and Patient Care Technicians)
• Patient care team activated in typical fashion for critically III patient, arrives to find SimMan in room
• Error built into case using a confederate nurse, pharmacist or physician, offering opportunity for patient advocacy and error correction
• debrief session follows scenario for reflection of improvement of ED patient safety culture

METHODS: Curriculum Development

NEEDS ASSESSMENT
• Patient Safety Threats

• Inadvertent Kaycikel (oral potassium) Order in a Hyperkalemic Patient and Other Threats Posed by Electronic Medical Order Entry

• Case Narrative:
  A 68-year-old woman with a heart rate in the 30’s/40’s, complaining of epigastric pain and not feeling well for 1-2 weeks.
  Vital signs: BP in the 90’s/40’s, HR high 60’s, T 98.6°F, stable, oxygen saturation 97% on 2 l/min nasal cannula.
  The patient placed on monitor, wide complex tachycardia, chest pain.
  Check electrolytes: Ca, Potassium,钠, glucose, insulin, bicarbonate.
  The patient was started on IV calcium, bicarbonate, insulin, glucose to stabilize the patient.
  The nurse identified possible hyperkalemia, ordered Kaycikel and calcium, but the order was not filled.
  The patient received transvenous Kaycikel.
  The patient became bradycardic and the nurse stopped calcium.
  The nurse identified possible hyperkalemia, ordered Kaycikel and calcium, but the order was not filled.

• Critical actions checklist:

  1. Place IV, CV, Monitor
  2. Obtain ERX or resuscitation wide complex on Monitor
  3. Identify signs of hyperkalemia in the breastsquent patient on ECG
  4. Place paper order
  5. Treat patient for hyperkalemia or check bedside point of care labs and then treat
  6. Give Calcium, bicarbonate, insulin, glucose and monitor patient and lab results
  7. Nurse identifies possible medication order error
  8. Nursing speaks up about error to resident/nursing/physician

EVALUATION PLAN
• Measurement of participant perceptions of the curriculum using evaluations completed by each participant after each scenario
• Measurement of change in departmental culture of patient safety post curriculum implementation using abbreviated version of AMH2 Hospital Survey on Patient Safety Culture.
• Survey sent to all ED faculty and staff one month prior to curriculum launch for baseline measurement
• Repeat surveys planned at 1 and 6 months after curriculum completion
• Comparison of incidence of reported threats to patient safety before and after curriculum implementation

DISSEMINATION
• Planned dissemination of curriculum through MedEdPortal and curriculum intervention results through academic EM conferences

PROGRESS/NEXT STEPS
• Curriculum launched in April 2014 to run through June 2014
• Each Case to run 5-10 times with the intention of each ED staff member participating in at least 2 scenarios.
• Baseline survey data collected
• Curriculum evaluation data collection ongoing
• Completion of data collection planned July and December 2014

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